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**Final Report**

Montserrat Port Development Project  
Environmental and Social Impact Assessment - *Addendum*  
*for the Alternative K Port Layout*

**PREPARED FOR:**  
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September 15, 2021





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Project**

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### Executive Summary

The Government of Montserrat (GOM) is proposing to expand current facilities at the Port of Little Bay (the Port), in Little Bay, Montserrat, to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and commercial fishing vessels. The Montserrat Port Authority (the Port Authority) is the Proponent for the Montserrat Port Development Project (the Project), with the Ministry of Communications, Works and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department. The GOM has secured funding in support of the Project from the Caribbean Development Bank (CDB) – United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF).

The Project is subject to certain environmental and social assessment requirements to adhere to the GOM's legislative requirements as well as to qualify for funding from the CDB. An Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) must be completed for the Project in accordance with the requirements of the GOM and CDB.

An ESIA and ESMP were previously completed for the Project and were revised and formally submitted to the GOM on September 6, 2019 following a draft review by the GOM and CDB. These previous ESIA and ESMP documents (Stantec 2019a, 2019b), which are referred to herein as the "Original ESIA" and "Original ESMP", respectively, had been prepared based on an initially preferred layout for the Port (Alternative A) that included an offshore breakwater, quay, and associated works. The GOM subsequently decided, in February 2020, to proceed with the Project based on a modified Port layout (Alternative K) that entails development of a new pier structure at the Port, including adjacent berths, mooring dolphin, and roll-on/roll-off (ro-ro) ramp, as well as associated dredging, causeway and access road construction, coastal protection, and slope stabilization. An addendum to the ESIA and a revised ESMP are required to reflect the modified Port layout; these are referred to herein as the "ESIA Addendum" and "Revised ESMP", respectively.

In December 2020, a preliminary draft ESIA Addendum was prepared by Stantec Consulting International Ltd. (Stantec; the Consultant), an independent third-party consultant that has been engaged by the GOM to assist with environmental and social assessment and management, Port engineering, geotechnical engineering, climate change risk and vulnerability assessment, performance specifications, procurement and construction management, and monitoring and evaluations in support of the Project. The Team of Consultants for this Project also includes Dr. Janice Cumberbatch, who has been sub-contracted by Stantec as a Social and Gender Specialist to lead the social and gender impact assessment (SIA) portion of the Original ESIA and ESIA Addendum, as well as Heather Auld of Risk Sciences International (RSI), who has been sub-contracted by Stantec as the Climate Change Specialist for the Original ESIA and Climate Risk and Vulnerability Assessment (CRVA).

This is the Executive Summary of the ESIA Addendum for the Project as it is presently proposed (i.e., based on Alternative K as the preferred Port layout); accordingly, for the remainder of this summary, "the Project" refers to the components and activities associated with the Alternative K Port layout unless otherwise noted. However, the terms "the Current Layout" (referring to the Alternative K Port layout) and "the Original Layout"



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(referring to the Alternative A Port layout) are also used where necessary to distinguish between the two Port layouts.

The ESIA Addendum relies substantially on the Original ESIA (Stantec 2019a) to the extent that it remains applicable for the Current Layout and focuses on updating only those aspects of the Original ESIA that have changed substantively and/or that are relevant to support an understanding of potential Project-related environmental and social impacts and how they may or may not differ from those previously assessed (i.e., in the Original ESIA) for the Original Layout.

The Revised ESMP (Stantec 2021) for the Current Layout is provided in Appendix A of the ESIA Addendum.

Design and engineering work for the Project is ongoing. The Project includes construction of the following main components:

- a double berth pier structure, with a 130-metre (m) long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead or cells; an approximately 20-m long ramp for ro-ro cargo operations at the inshore end of the pier; and a mooring dolphin located approximately 40 m beyond the offshore end of the pier
- access from the pier to the shore and existing Port via a 10-m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill
- slope stabilization works
- coastal protection consisting of concrete armour units and/or rip rap at the seaward and leeward sides of the filled causeway at the north (inshore) end of the pier
- a vessel approach channel and maneuvering basin dredged to a water depth of at least -8.0 m chart datum (CD) for vessels berthing at the leeward side of the pier. Maintenance dredging to a depth of - 5.0 m CD will also be completed at the existing Port (jetty).

The main differences between the two Port layouts are that the Current Layout has no breakwater and consists of a pier structure rather than a quay. It also has a shorter pier, an additional berth (on the seaward side of the pier), a shorter access road/causeway, a smaller total dredging area and reduced dredging quantities; the pier is located closer to Rendezvous Bluff; and the outer end of the pier has been rotated from approximately 10 to 24 degrees to accommodate the vessel approach channel and maneuvering basin. As a result of moving the access road for the Current Layout, a catchment ditch abutting the Rendezvous Bluff and the access road is now required for drainage during rainfall.

Operation of the Project will support a variety of cargo and passenger operations, including:

- discharge and loading of containers using ro-ro, ships gear and mobile harbour crane
- discharge and loading of break-bulk and project cargo using ro-ro, ships gear and mobile harbour crane
- discharge of fuels (gasoline, diesel, etc.) directly to tanker trucks via flexible hose
- disembarkation and embarkation of passengers from pocket cruise ships and ferries
- mooring of coast guard and police vessels

Montserrat has suffered major natural disasters in the recent past, including a series of eruptions from the Soufrière Hills Volcano (beginning in 1995 following a period of increased seismic activity from 1992 to 1995) that destroyed the former capital city of Plymouth and rendered the southern part of the island



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uninhabitable (GOM 2016). An “emergency jetty” was constructed in Little Bay in 1997 as a temporary replacement for the port infrastructure lost at Plymouth and is still used today (JBC and BEHI 2017) as key infrastructure at the Port. The Project will allow for the safe reception of vessels that are currently restricted by limited berthing capacity, insufficient water depths, and inadequate ancillary facilities at the existing Port. It will also allow for improved container handling and will help meet the growing demands of the Port.

The CDB has approved a grant of £14.4 million Great Britain Pounds (GBP), with funds provided through the United Kingdom Department for International Development (DFID) under UKCIF, to assist in financing the Project (CDB 2017a). The Project is consistent with CDB’s strategic objective of supporting inclusive and sustainable growth and development, as well as its corporate priority of strengthening and modernizing social and economic infrastructure (CDB 2017a). The Project is also a key element in the achievement of the targets set in various GOM economic development strategies and plans, including the National Tourist Strategy and Plans (2003), the Medium Term Development Strategy (2008-2012), the Sustainable Development Plan (2008-2010) and the National Tourism Policy and Master Plan 2015-2025 (May 2016) (JBC and BEHI 2017). Counterpart financing of £7 million GBP will be provided by the GOM (CDB 2017a).

Like the Original ESIA, the ESIA Addendum focuses on the identification and assessment of potential adverse environmental (biophysical) and social impacts of the Project on Valued Components (VCs). VCs are components of the natural and socio-economic environment that have potential to be impacted by the Project and that are of value or interest because they have been identified to be of concern by regulatory agencies, the Proponent, resource managers, scientists, key stakeholders, and/or the general public.

Table E.1 identifies the following VCs that were selected for the Original ESIA and have been carried forward for the ESIA Addendum, as well as the potential environmental and social impacts of the Project on each VC.

**Table E.1 Valued Components and Associated Potential Project-related Impacts**

Valued Component	Potential Impact(s)
<b>Environmental VCs</b>	
Atmospheric Environment	<p>The Atmospheric Environment VC includes consideration of potential effects on air quality, greenhouse gases and acoustics (including vibration). These components constitute a VC due to:</p> <ul style="list-style-type: none"><li>• Emissions from the Project may present a pathway for humans and biota to be exposed to air contaminants</li><li>• There exist regulatory requirements for air contaminants under the Draft <i>Montserrat Release of Substances and Pollutants Regulations</i> under the <i>Conservation and Environmental Management Act</i></li><li>• Emissions of GHG and their accumulation in the atmosphere influence global climate and reduction targets</li><li>• Noise emissions from the Project may influence community health</li><li>• There exist regulatory criteria regarding noise emission, specifically the guidelines under the Draft <i>Montserrat Release of Noise Pollutants Regulations</i></li><li>• The atmosphere functions as a pathway for the transport of air contaminants, greenhouse gases and sound to the freshwater, marine, terrestrial, and human environments.</li></ul>



**Table E.1 Valued Components and Associated Potential Project-related Impacts**

Valued Component	Potential Impact(s)
Coastal Features	The Coastal Features VC includes the physical attributes of Little Bay and Carr's Bay (situated further south from Little Bay) that may be impacted as a result of the Project. This includes the beaches which have been identified as valuable for tourism and recreation (Little Bay Beach, Carr's Bay Beach, Rendezvous Beach) and nesting turtles (Rendezvous Beach); Rendezvous Bluff which provides bat habitat and may require slope stability measures as a result of Project construction; various ghauts that direct runoff into Little Bay and Carr's Bay and impact the marine environment; and other coastal features such as Gun Hill, which has historical significance.
Marine Habitat and Fauna	<p>Environmental effects on marine habitat and fauna (including marine plants, corals, fish, mammals, and sea turtles as well as applicable species at risk (SAR) are included in the Marine Habitat and Fauna VC. This VC is included in consideration of its ecological importance; the socio-economic importance of fisheries resources (i.e., target fish species); the legislated protection of marine fauna and their habitat and applicable SAR; and the nature of potential Project-VC interactions, including the direct loss of coral habitat due to the spatial overlap of the Project Footprint with approximately 3,340 m<sup>2</sup> of Little Bay Reef.</p> <p>Several species of marine fish, corals, mammals, and sea turtles (including SAR) are known to occur in the vicinity of the Project and surrounding area and have potential to be affected (including effects on the marine environment) by Project activities and components, as well as potential accidental events from construction activities.</p>
Avifauna	The Avifauna VC includes marine and terrestrial species found on Montserrat, including SAR. These include resident species (occur year-round) and migratory species. This VC also includes important habitat components, such as nesting areas. This VC is considered because of the high ecological and cultural value of avifauna, and because of possible adverse impacts of the Project. The Rendezvous Bluff provides nesting habitat for at least two marine birds: the red-billed tropicbird and Audubon's shearwater. Avifauna may be adversely impacted by the noise and/or lights during construction. The Project could affect habitat quality, quantity or use. It could also cause mortality and/or physical injury to birds.
Terrestrial Flora and Fauna	This VC includes wildlife (plants and animals), including SAR. It also includes sensitive habitat components. The terrestrial environment is an important environmental component not only for local wildlife, but also for people, who value the terrestrial environment for its recreational and aesthetic importance. The most sensitive component of this VC is the Antillean fruit-eating bat ( <i>Brachyphylla cavernarum</i> ) colony that roosts in sea caves at the base of the Rendezvous Bluff. These bats are sensitive to disturbance. The caves at the Rendezvous Bluff support the only known colony of males, females and juveniles of this species of bats on Montserrat, and no other roosting sites are known to exist on the island. The Antillean fruit-eating bat maternity cave is in close proximity to the proposed pier. These bats may be adversely impacted by the noise and lighting produced during construction and operation of the Project.



**Table E.1 Valued Components and Associated Potential Project-related Impacts**

Valued Component	Potential Impact(s)
<b>Social VCs</b>	
Public Health and Safety	There are several Project components during both the construction and operational phases that cause dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads. This can adversely affect Port employees and clientele; Little Bay commercial enterprises and clientele; fishers using Little Bay area; divers, tour operators and others using Little Bay marine area; the general public using Little Bay Beach and area, as well as visitors/tourists. There is also the possibility of the influx of workers during construction and risks associated with sexually transmitted infections and gender-based violence.
Occupational Health and Safety	Working on jetties is a high-risk occupation and therefore there is a concern about the occupational health and safety of the workers. Workers are also at risk of becoming infected with the COVID-19 virus and spreading the virus to others if they do not observe and adhere to health restrictions and protocols.
Community Infrastructure and Services	There is potential for adverse effects on community infrastructure and services. During the construction phase additional construction workers could be imported which would increase the demand on the already limited short-term housing stock. During the operations phase, increased arrivals of vessels could potentially lead to security issues associated with trafficking in humans and illicit materials.
Employment	<p>This Project will create jobs during both the construction and operational phases. In the mining industry the use of local aggregate could increase income and possibly employment in that sector. In the construction industry there will be temporary job opportunities for skilled and semi-skilled workers. There could also be some gender inequality because of the male-dominated construction sector. Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat could benefit from increased sales from construction workers. The influx of labour could increase the short-term home accommodation rentals; as well as short-term guest house and apartment rentals and hotel occupancy. In the transportation sector there is the potential for increases in vehicle rentals and taxis usage.</p> <p>During the operations phase there could be permanent skilled jobs for workers on the new pier. Nationally, there could be jobs associated with increased commercial activity and increased visitor arrivals because of safer and more consistent port calls from cargo and cruise vessels.</p>
Visual Amenity	During the construction phase, dust, dredged material, damaged roads, etc. are among several factors that have the potential to reduce visual amenity that could affect residents, businesses and visitors to the island.
Business Growth and Development	The Project could create positive growth in the Montserratian economy through increased cruise ship visitors, more consistent cargo deliveries, and potential investor interest.
Little Bay Business Community	<p>This business community is closest to the port and could experience temporary adverse effects of noise and reduced visual amenity during the construction phase. This includes the restaurants, bars, stores and boutiques, government offices, and dive operators.</p> <p>These businesses could also benefit from increased sales from workers during both the construction phase as well as from increased arrivals at the port during the operations phase of the project.</p>





**Table E.1 Valued Components and Associated Potential Project-related Impacts**

<b>Valued Component</b>	<b>Potential Impact(s)</b>
Divers and Other Users of the Little Bay Reef	The spatial overlap of the Project Footprint with approximately 3,340 m <sup>2</sup> of Little Bay Reef means that this portion will no longer be accessible to local dive and other reef tour operators and their clientele. However, there will be continued use of rest of the Little Bay Reef during both the construction and operations phases of the Project. During the operations phase, there could be increased business for these tour operators due to more consistent cruise vessel arrivals.
Tourism	The project design will result in the loss of access to a small section of the Little Bay Reef but access to the rest of the reef will remain for use by visitors to the island. Tour operations associated with the bat caves or bird tours will continue, but could be adversely affected because construction and operation activities will take place in closer proximity to sensitive bat and marine bird habitat on Rendezvous Bluff. The provision of a safer port could lead to more consistent cruise vessel arrivals and a potential boost to the tourism sector.
Fishers	The removal of the existing mooring buoys from Little Bay during the construction phase will displace the fishers who currently moor there. After the dredging works, five permanent buoys will be installed near to the existing jetty, to alleviate some of the displacement during and after project completion.
Community Aesthetics	The construction of the Project will be noisy. In addition, there could be disruption of historical and culturally important features / sites in the Little Bay / Carr's Bay area that reduce the residents' recreational enjoyment of the area.
Shipping and related services	During construction, there is the potential for temporary interruption of regular ship traffic and resulting impacts on residents and businesses. However, there is the possibility for increased convenience / quality of life to residents if the operational phase allows for steady and reliable shipping to the Island.

A new marine benthic habitat survey program was undertaken within the Project Footprint for the Current Layout in late November and early December 2020 to provide updated information regarding baseline conditions in support of the environmental component of the ESIA Addendum for the Project. The updated marine benthic survey program included:

- quantitative transect surveys of the seabed to collect field data for the coverage of benthic marine habitat and health of a marine ecosystem, including corals, within the Project Footprint for the Current Layout
- a qualitative tow survey to provide a general description and identification of the relative abundance of corals and dominant taxa (e.g., soft corals (sea fans), seagrasses, sponges, etc.) and characterize the benthic habitat within the Project Footprint for the Current Layout
- identification of coral species on the IUCN Red List of Threatened Species within the Project Footprint for the Current Layout that would be proposed for relocation and potentially larger coral colonies (> 30 cm) that are not species at risk



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In addition, stakeholder interviews were conducted in support of the social component of the ESIA Addendum. Interviewees included most, if not all, members of the following stakeholder groups:

- Fishers who own boats moored in Little Bay
- Crew who work on boats that are moored in Little Bay
- Tour operators who include the Little Bay Reef in their tours
- Employees of tour operators who assist with the Little Bay Reef tours
- Tour operators who include the Bat Cave in their tours
- Operators who conduct bird watching tours at Rendezvous Bluff
- The owners of the three businesses whose premises are immediately adjacent to the Port

The environmental and social baseline conditions described in the Original ESIA (Stantec 2019a) otherwise remain generally valid and applicable with respect to the Current Layout.

As was done for the Original ESIA, the assessment methods used in the ESIA Addendum include an evaluation of the potential environmental and social impacts for each VC that could arise from routine activities during the construction phase and the operation and maintenance phase of the Project, as well as from non-routine accidental events. For the environmental component of the ESIA, also considered are the potential cumulative impacts that could arise from the residual impacts of the Project in combination with the residual impacts from other past, present, or likely future physical activities, as well as the potential impacts of the environment on the Project. The ESIA Addendum also proposes mitigation/management measures that are technically and economically feasible to reduce, control, or eliminate potential Project-related impacts and impacts of the environment on the Project. The assessment was conducted within defined spatial and temporal boundaries and in consideration of defined residual environmental impact rating criteria for the characterization of residual impacts as well as defined thresholds for the significance of residual environmental impacts (i.e., impacts that occur after planned mitigation is applied).

Project construction activities associated with the Current Layout will be relatively less intensive and shorter in duration than they would have been for the Original Layout due to the smaller footprint of proposed Project infrastructure as well as the reduced total dredging area and dredge volumes. Construction vehicle, vessel, and equipment requirements; potential blasting and pile driving requirements; material requirements (including the importation of aggregates from an existing quarry as well as local concrete production); and associated transportation requirements and marine and land-based traffic impacts will also be reduced for the Current Layout. Nonetheless, certain Project construction activities based on the Current Layout have potential to cause a relative increase in Project-related adverse impacts on the sensitive marine habitat and corals of Little Bay Reef, sensitive habitat for cliff-nesting marine birds on Rendezvous Bluff, and sensitive maternity and bachelor roost habitat for the colony of Antillean fruit-eating bats (*Brachyphylla cavernarum*) on Rendezvous Bluff.

Operation and maintenance activities associated with the Current Layout will be similar to those associated with the Original Layout, except with the addition of a second berth, smaller design vessel capacity, reduced Port lighting, and increased downtime at the Port in the absence of a breakwater. When the Port is operating at full capacity (i.e., during periods when the two berths are both operating simultaneously and receiving vessels on a regular basis), it is possible that certain Project activities associated with the Current Layout



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(i.e., vessel traffic to and from the Port and the loading/offloading of supplies and passengers) will be relatively more intensive than they would have been for the Original Layout. However, such circumstances would only be expected to occur rarely or sporadically due to the increased downtime at the Port, and any potentially associated relative increases in adverse impacts would be further offset by the smaller size of the vessels using the Port and are therefore anticipated to be negligible. As noted above for the construction phase, Project operations based on the Current Layout similarly have potential to cause a relative increase in Project-related adverse impacts on Little Bay Reef, cliff-nesting marine birds, and bats.

Most potential adverse Project-related impacts will be addressed by the engineering design, best management practices, and standard mitigation measures that were previously identified for the Original Layout in the Original ESIA, as well as additional measures that have been proposed to mitigate the potential adverse changes in environmental impacts associated with modification of the Project based on the Current Layout. With implementation of the mitigation measures proposed in the Original ESIA, ESIA Addendum, and Revised ESMP, the adverse residual environmental and social impacts of Project activities and components, accidental events, cumulative impacts, and impacts of the biophysical environment on the Project are predicted to be not significant for all VCs, with one exception. Potential significant effects are possible for the colony of Antillean fruit-eating bats that roost in caves at the base on the Rendezvous Bluff. The proposed bat monitoring program and adaptive management approach outlined in the Original ESIA and Revised ESMP will reduce the potential for a significant impact. These conclusions are consistent with those of the Original ESIA that was previously conducted for the Original Layout.

With respect to the social environment, a number of benefits and potential adverse impacts have been identified. There are three fundamental changes associated with the Current Layout that have the potential to result in adverse social and gender impacts. Firstly, there is the decision to remove the moorings that are currently used by 12 fishers at the existing anchorage in Little Bay during the construction period. After the dredging works, five permanent buoys will be installed near to the existing jetty, to alleviate some of the displacement during and after project completion. Secondly, the Current Layout is associated with a 14% relative increase in the amount of reef habitat that will be directly lost, in comparison with the Original Layout. Thirdly, construction will now take place closer to the bat caves and the sensitive marine bird habitat on Rendezvous Bluff. These project design changes mean that fishers currently mooring vessels in Little Bay will be displaced from their current location, and will have fewer berthing options during and after project completion. The various users of the Little Bay Reef will lose access to an additional 14% of the reef habitat, and tours that include the bat caves or bird watching will continue at Rendezvous Bluff, but could potentially be adversely affected depending on the construction impacts on the bats, birds and their habitat and the effectiveness of the proposed mitigation measures.

The Current Layout has a shorter construction schedule than the Original Layout (i.e., reduced from 16 months to 11 months) and a smaller spatial footprint. Several adverse effects associated with construction, such as dust, noise, vibrations and visual impacts, would be the same as those that were previously identified in the Original ESIA for the Original Layout, but may be less problematic because of the relatively shorter duration as well as the relatively less intensive nature of construction (e.g., fewer construction vehicles, less construction equipment, less potential requirements for blasting and/or pile driving, etc.). In some cases, the frequency of those negative effects may also be relatively reduced for the Current Layout (e.g., if potential blasting and/or pile driving occurs less frequently). Likewise, the positive impacts of



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construction-related jobs and economic construction benefits would still be realised but again for a shorter duration. In addition to the reduced duration, the magnitude of the positive benefits of construction-related jobs may also be relatively reduced for the Current Layout if fewer construction workers are required.

During operation, most of the Project effects also remain the same as those that were previously identified for the Original Layout; however, there is the addition of a second berth and the relatively smaller size of the vessels berthing at the pier. This could enhance economic benefits because of the increased capacity, but it could potentially also increase adverse impacts such as congestion in the terminal when two vessels are berthing at the pier. The loss of the breakwater associated with the Original Layout reduces the protection of the pier, the bay, and the beach, although the pier still offers safe harbour for boats under the right conditions.



## Abbreviations

AOI	Area of Influence
CAC	criteria air contaminant
CARICOM	Caribbean Community
CD	Chart Datum
CDB	Caribbean Development Bank
CDF	Controlled Density Fill
CEM	<i>Coastal Engineering Manual</i>
CRVA	Climate Risk and Vulnerability Assessment
DFID	Department for International Development
DWL	design water level
DWT	deadweight tonne(s)
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental Social Management Plan
FAO	Food and Agriculture Association of the United Nations
GBP	Great Britain Pound(s)
GBV	gender-based violence
GHG	greenhouse gas
GOM	Government of Montserrat
GRM	Grievance Redress Mechanism
H	horizontal
HIV/AIDS	human immunodeficiency virus / acquired immunodeficiency syndrome
HSE	Health, Safety and Environment
IUCN	International Union for Conservation of Nature
km	kilometre(s)
LAT	Lowest Astronomical Tide
LOA	length overall
m	metre(s)
m <sup>2</sup>	square metre(s)
m <sup>3</sup>	cubic metre(s)
mm	millimetre(s)
MSL	Mean Sea Level
PAX	passenger(s)
Port Authority, the	Montserrat Port Authority
Project, the	Montserrat Port Development Project
Proponent, the	Montserrat Port Authority
RAP	Resettlement Action Plan



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ro-ro	roll-on/roll-off
RP	return period
RSA	Regional Study Area
RSI	Risk Sciences International
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SLR	sea level rise
SMP	Social Management Plan
t	tonne(s)
T <sub>c</sub>	Time of Concentration
TEU	twenty-foot equivalent unit
TSS	total suspended solids
UKCIF	United Kingdom Caribbean Infrastructure Partnership Fund
V	vertical
VC	Valued Component
VIC	Volcano Interpretation Centre
XCD	East Caribbean Dollar(s)



# MONTserrat PORT DEVELOPMENT PROJECT

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## 1.0 INTRODUCTION

The Government of Montserrat (GOM) is proposing to expand current facilities at the Port of Little Bay (the Port), in Little Bay, Montserrat, to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and commercial fishing vessels. The Montserrat Port Authority (the Port Authority) is the Proponent for the Montserrat Port Development Project (the Project), with the Ministry of Communications, Works and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department. The GOM has secured funding in support of the Project from the Caribbean Development Bank (CDB) – United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF).

The Project is subject to certain environmental and social assessment requirements to adhere to the GOM's legislative requirements as well as to qualify for funding from the CDB. An Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) must be completed for the Project in accordance with requirements of the GOM and CDB.

An ESIA and ESMP were previously completed for the Project and were revised and formally submitted to the GOM on September 6, 2019 following a draft review by the GOM and CDB. These previous ESIA and ESMP documents (Stantec 2019a, 2019b), which are referred to herein as the "Original ESIA" and "Original ESMP", respectively, had been prepared based on an initially preferred layout for the Port (Alternative A) that included an offshore breakwater, quay, and associated works. The GOM subsequently decided, in February 2020, to proceed with the Project based on a modified Port layout (Alternative K) that entails development of a new pier structure at the Port, including adjacent berths, mooring dolphin, and roll-on/roll-off (ro-ro) ramp, as well as associated dredging, causeway and access road construction, coastal protection, and slope stabilization. An addendum to the ESIA and a revised ESMP are required to reflect the modified Port layout; these are referred to herein as the "ESIA Addendum" and "Revised ESMP", respectively.

This document is the ESIA Addendum for the Project as it is presently proposed (i.e., based on Alternative K as the preferred Port layout); accordingly, for the remainder of this document, "the Project" refers to the components and activities associated with the Alternative K Port layout unless otherwise noted. However, the terms "the Current Layout" (referring to the Alternative K Port layout) and "the Original Layout" (referring to the Alternative A Port layout) are also used where necessary to distinguish between the two Port layouts.

This ESIA Addendum relies substantially on the Original ESIA (Stantec 2019a) to the extent that it remains applicable for the Current Layout and focuses on updating only those aspects of the Original ESIA that have changed substantively and/or that are relevant to support an understanding of potential Project-related environmental and social impacts and how they may or may not differ from those previously assessed (i.e., in the Original ESIA) for the Original Layout.

The Revised ESMP (Stantec 2021) for the Current Layout is provided in Appendix A.





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## 1.1 Project Overview and Rationale

Design and engineering work for the Project is ongoing. The Project includes construction of the following main components:

- a double berth pier structure, with a 130-metre (m) long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead or cells; an approximately 20-m long ramp for ro-ro cargo operations at the inshore end of the pier; and a mooring dolphin located approximately 40 m beyond the offshore end of the pier
- access from the pier to the shore and existing Port via a 10-m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill
- slope stabilization works
- coastal protection consisting of concrete armour units and/or rip rap at the seaward and leeward sides of the filled causeway at the north (inshore) end of the pier
- a vessel approach channel and maneuvering basin dredged to a water depth of at least -8.0 m chart datum (CD) for vessels berthing at the leeward side of the pier. Maintenance dredging to a depth of - 5.0 m CD will also be completed at the existing Port (jetty).

Operation of the Project will support a variety of cargo and passenger operations, including:

- discharge and loading of containers using ro-ro, ships gear and mobile harbour crane
- discharge and loading of break-bulk and project cargo using ro-ro, ships gear and mobile harbour crane
- discharge of fuels (gasoline, diesel, etc.) directly to tanker trucks via flexible hose
- disembarkation and embarkation of passengers from pocket cruise ships and ferries
- mooring of coast guard and police vessels

Montserrat has suffered major natural disasters in the recent past, including a series of eruptions from the Soufrière Hills Volcano (beginning in July 1995 following a period of increased seismic activity from 1992 to 1995 [Smithsonian Institution 2013]) that destroyed the former capital city of Plymouth and rendered the southern part of the island uninhabitable (GOM 2016). An “emergency jetty” was constructed in Little Bay in 1997 as a temporary replacement for the port infrastructure lost at Plymouth and is still used today (JBC and BEHI 2017) as key infrastructure at the Port. The Project will allow for the safe reception of vessels that are currently restricted by limited berthing capacity, insufficient water depths, and inadequate ancillary facilities at the existing Port. It will also allow for improved container handling and will help meet the growing demands of the Port.

The CDB has approved a grant of £14.4 million Great Britain Pounds (GBP), with funds provided through the United Kingdom Department for International Development (DFID) under UKCIF, to assist in financing the Project (CDB 2017a). The Project is consistent with the CDB’s strategic objective of supporting inclusive and sustainable growth and development, as well as its corporate priority of strengthening and modernizing social and economic infrastructure (CDB 2017a). The Project is also a key element in the achievement of the targets set in various GOM economic development strategies and plans, including the National Tourist Strategy and Plans (2003), the Medium Term Development Strategy (2008-2012), the Sustainable Development Plan (2008-2010) and the National Tourism Policy and Master Plan 2015-2025 (May 2016) (JBC and BEHI 2017). Counterpart financing of £7 million GBP will be provided by the GOM (CDB 2017a).



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## 1.2 Proponent Information

Table 1.1 provides contact information for the Proponent and the Consultant.

**Table 1.1 Project, Proponent, and Consultant Information**

<b>Project Title</b>	Montserrat Port Development Project
<b>Project Proponent</b>	Montserrat Port Authority
<b>Proponent Contact</b>	Joseph O'Garro, Port Manager
<b>Project Coordinator</b>	Dion Weeks, Public Works Department, Ministry of Communications, Works, Energy and Labour, Government of Montserrat
<b>Consultant</b>	Stantec Consulting International Ltd.
<b>Consultant Contact</b>	Harold Westerman, Team Leader

## 1.3 Purpose and Scope of this ESIA Addendum

The Project is subject to Montserrat environmental and social assessment requirements through the GOM's *Physical Planning Act*. As the GOM is also seeking funding from the CDB and the Project has been screened and assigned to Category A by the CDB, the Project also requires an ESIA that meets the requirements of the CDB. The Project specifically requires an Environmental Impact Assessment (EIA), a Social and Gender Impact Assessment (SIA), and an ESMP. These assessments and plans have been prepared in accordance with the CDB's *Environmental and Social Review Procedures* (2014), *Sourcebook on the Integration of Natural Hazards into the Environmental Impact Assessment Process* (2015), and Project-specific Environmental and Social Screening Memorandum (CDB 2017b).

The scope of this ESIA Addendum includes construction, operation, and maintenance of the Project, along with consideration of the accidental events and natural hazards (i.e., impacts of the environment on the Project) that may occur during these phases of the Project.

This ESIA Addendum updates and completes the Original ESIA (Stantec 2019a) by providing:

- revised Project description information to reflect the change in the preferred Port layout, including clarification of the differences between the Original Layout and the Current Layout;
- identification of the potential changes to environmental (biophysical) and social impacts that may be associated with the change in the Project description (i.e., new impacts and/or impacts that differ substantively, in nature and/or extent, from those previously assessed in the Original ESIA for the Original Layout);
- identification of new and changed mitigation, management, and monitoring recommendations;
- assessment of potential changes to residual impact characteristics, determinations of significance, and prediction confidence;



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- inclusion of information from an updated marine benthic survey program conducted in November 2020; and
- completion of the Social Impact Assessment (SIA) that includes a Revised Environmental and Social Management Plan (ESMP), amendments in the ESMP to the Attachments (i.e., the SEP, GRM, the Social and Gender Risk Assessment and Action Plan, the training materials and the guidelines), and the addition of a Resettlement Action Plan (RAP) as Attachment F of the Revised ESMP.

Content in the Original ESIA is referred to wherever it remains applicable.

### 1.4 Team of Consultants

This ESIA Addendum was prepared by Stantec Consulting International Ltd. (Stantec; the Consultant), an independent third-party consultant that has been engaged by the Proponent to assist with environmental and social assessment and management, Port engineering, geotechnical engineering, climate change risk and vulnerability assessment, performance specifications, procurement and construction management, and monitoring and evaluations in support of the Project. The Team of Consultants for this Project also includes Dr. Janice Cumberbatch, who has been sub-contracted by Stantec as a Social and Gender Specialist to lead the SIA portion of the Original ESIA and this ESIA Addendum, as well as Heather Auld of Risk Sciences International (RSI), who has been sub-contracted by Stantec as the Climate Change Specialist for the Original ESIA and Climate Risk and Vulnerability Assessment (CRVA).

## 2.0 PROJECT DESCRIPTION

This ESIA Addendum focuses on the completion of the SIA and updating only those sections of the original Project description (i.e., from the Original ESIA) in which:

- Project description details regarding the Current Layout are substantively different from Project description details regarding the Original Layout
- and/or
- Project description details regarding the Current Layout are relevant to support an understanding of potential Project-related environmental and social impacts and how they may or may not differ from those previously assessed (i.e., in the Original ESIA) for the Original Layout

Table 2.1 below provides a comparative overview of key Project characteristics for the Original Layout and the Current Layout. Sections 2.1 to 2.12 of this ESIA Addendum provide detailed Project description information for the Current Layout, with references to the Original ESIA where appropriate (i.e., where the information in the Original ESIA remains generally valid and applicable with respect to the Current Layout).

The Project Footprint for the Current Layout is depicted in Figure 2.1. Concept plan drawings of the Original Layout and the Current Layout are presented in Figures 2.2 and 2.3, respectively. To facilitate further comparison of the spatial differences between the two Port layouts, Figure 2.4 illustrates the Project Footprint for the Current Layout overlaid on the footprint for the Original Layout.



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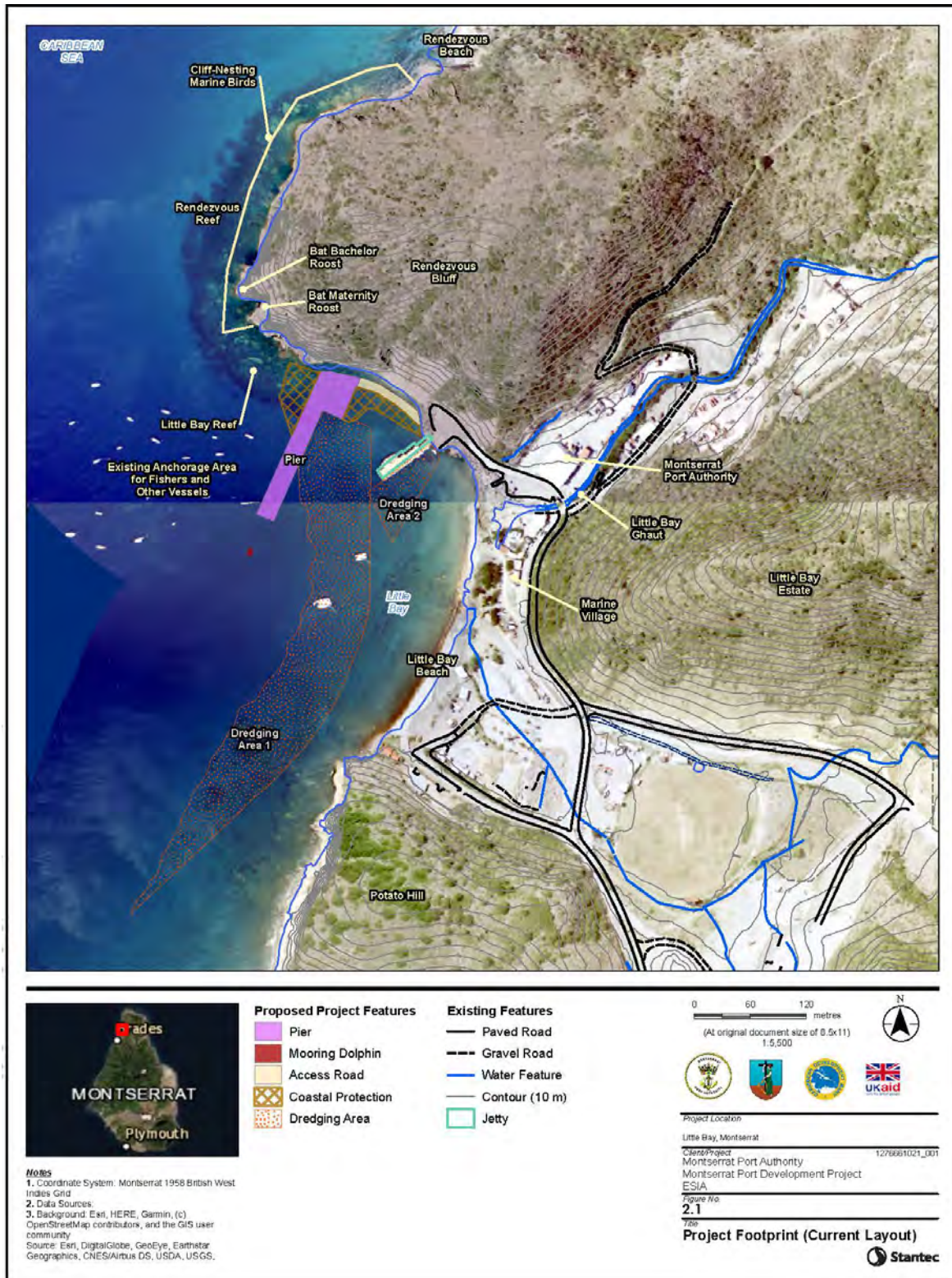


Figure 2.1 Project Footprint (Current Layout) and Proximity to Sensitive Receptors





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Figure 2.4 Comparison of Project Footprints for Original Layout and Current Layout





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**Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout**









Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
<b>Project Overview</b>				
Key Project Components	<ul style="list-style-type: none"><li>• A combined offshore breakwater and single berth structure, with a 160-m long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead; an approximately 20-m long ramp for ro-ro cargo operations at the inshore end of the quay; and approximately 220 m of breakwater protection along the seaward side of the berth</li><li>• Access from the quay to the shore and the existing Port via a 10-m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill</li><li>• Slope stabilization works</li><li>• Coastal protection consisting of concrete armour units and/or rip rap at the leeward side of the filled causeway road at the north (inshore) end of the quay</li><li>• A vessel approach channel and maneuvering basin dredged to a water depth of at least -9.0 m chart datum (CD) for vessels berthing at the quay</li></ul>	<ul style="list-style-type: none"><li>• A double berth pier structure, with a 130-m long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead or cells; an approximately 20-m long ramp for ro-ro cargo operations at the inshore end of the pier; and a mooring dolphin located approximately 40 m beyond the offshore end of the pier</li><li>• Access from the pier to the shore and the existing Port via a 10-m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill</li><li>• Slope stabilization works</li><li>• Coastal protection consisting of concrete armour units and/or rip rap at the seaward and leeward sides of the filled causeway road at the north (inshore) end of the pier</li><li>• A vessel approach channel and maneuvering basin dredged to a water depth of at least - 8.0 m chart datum (CD) for vessels berthing at the leeward side of the pier. Maintenance dredging to a depth of -5.0 m CD will also be completed at the existing Port (jetty).</li></ul>	Variable (refer to rows below)	The main differences between the two Port layouts are that the Current Layout has no breakwater and consists of a pier structure rather than a quay. It also has a shorter pier, an additional berth (on the seaward side of the pier), a shorter access road/causeway, a smaller total dredging area and reduced dredging quantities; the pier is located closer to Rendezvous Bluff; and the outer end of the pier has been rotated from approximately 10 to 24 degrees to accommodate the vessel approach channel and maneuvering basin. As a result of moving the access road for the Current Layout, a catchment ditch abutting the Rendezvous Bluff and the access road is now required for drainage during rainfall.
Key Project Activities	<ul style="list-style-type: none"><li>• Causeway and access road construction, including vegetation clearing, grubbing, potential blasting, infilling, grading and paving, slope stabilization, and landscaping</li><li>• Dredging, potential underwater blasting, and potential disposal at sea</li><li>• Breakwater and quay construction, including potential pile driving</li><li>• Operation of expanded Port facilities, (i.e., including access road, new quay with single berth, and ro-ro ramp), including vessel berthing along the existing jetty and the new quay; cruise and ferry passenger embarkation and disembarkation; loading and unloading of containers, ro-ro cargo, and breakbulk cargo; truck transportation and general vehicle use and parking; and security checks, immigration, customs, and administration</li><li>• Maintenance activities may require periodic dredging, as well as regular inspection and maintenance, and occasional repairs, of Port infrastructure and facilities including the quay / breakwater, access road, drainage systems, and Port buildings.</li></ul>	<ul style="list-style-type: none"><li>• Causeway and access road construction, including vegetation clearing, grubbing, potential blasting, infilling, grading and paving, slope stabilization, and landscaping</li><li>• Dredging, potential underwater blasting, and potential disposal at sea</li><li>• Pier construction, including potential pile driving</li><li>• Operation of expanded Port facilities (i.e., access road, new pier with two berths, and ro-ro ramp), including vessel berthing along the existing jetty and the new pier; cruise and ferry passenger embarkation and disembarkation; loading and unloading of containers, ro-ro cargo, and breakbulk cargo; truck transportation and general vehicle use and parking; and security checks, immigration, customs, and administration</li><li>• Maintenance activities may require periodic dredging, as well as regular inspection and maintenance, and occasional repairs, of Port infrastructure and facilities including the pier, coastal protection, access road, drainage systems, and Port buildings.</li></ul>	Variable (refer to rows below)	<p>Project construction activities associated with the Current Layout will be relatively less intensive and shorter in duration than they would have been for the Original Layout due to the smaller footprint of proposed Project infrastructure as well as the reduced total dredging area and dredge volumes. Construction vehicle, vessel, and equipment requirements; potential blasting and pile driving requirements; material requirements (including the importation of aggregates from an existing quarry as well as local concrete production); and associated transportation requirements and marine and land-based traffic impacts will also be reduced for the Current Layout.</p> <p>Operation and maintenance activities associated with the Current Layout will be similar to those associated with the Original Layout, except with the addition of a second berth, smaller design vessel capacity, reduced Port lighting, and increased downtime at the Port in the absence of a breakwater.</p>



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Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout





Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
Project Footprint (refer to Figure 2.4)				
Total Project Footprint Area (approximate)	90,480 m <sup>2</sup>	46,350 m <sup>2</sup>		There is an approximately 49% decrease in the total Project Footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Dredge Footprint Area (approximate)	62,230 m <sup>2</sup>	37,760 m <sup>2</sup> (34,370 m <sup>2</sup> in Dredging Area 1 and 3,390 m <sup>2</sup> in Dredging Area 2)		There is an approximately 39% decrease in the total dredge footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Quay / Pier and Berth Footprint Area (excluding breakwater / coastal protection; approximate)	6,047 m <sup>2</sup>	4,610 m <sup>2</sup>		There is an approximately 24% decrease in the pier and berth footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Breakwater / Coastal Protection Footprint Area (approximate)	16,660 m <sup>2</sup>	3,160 m <sup>2</sup>	 and 	The Original Layout included a large breakwater, whereas the Current Layout does not include any breakwater. Both alternatives include coastal protection along the shoreline. There is an approximately 81% decrease in the total breakwater / coastal protection footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7). However, the smaller footprint of the coastal protection works is also expected to reduce the potential positive impacts that the introduction of new or additional hard multi-dimensional substrate could have on the Marine Habitat and Fauna VC. Furthermore, the relative increase in downtime at the Port associated with the absence of a breakwater may adversely impact certain social VCs.
Access Road / Causeway Footprint Area (approximate)	2,530 m <sup>2</sup>	700 m <sup>2</sup>		There is an approximately 72% decrease in the total access road / causeway footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Dimensions of Marine Project Components				
Length of Leeward Berth Face	160 m	130 m	 and 	There is an approximately 19% decrease in the length of the leeward berth face associated with the Current Layout. As a result, the capacity of the pier to accommodate larger vessels is reduced. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7). However, this change also reduces the potential benefits of the operational phase of the Project for multiple social VCs.



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Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout





Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
Length of Seaward Berth Face	Not applicable	100 m	 and 	The Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay). This additional berthing capacity could cause an increase in the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs, especially at times when two vessels berth simultaneously during Project operations. However, this potential change in impacts will likely be substantially or fully offset by the smaller size of the vessels using the Port, as well as the increased downtime at the Port in the absence of a breakwater. Conversely, the additional berthing capacity increases the potential positive impacts of the operational phase of the Project on multiple social VCs (refer to Chapters 6 and 7).
Distance of Mooring Dolphin Offset	Not applicable	40 m	NO SUBSTANTIVE CHANGE	The addition of a mooring dolphin to the offshore end of the pier is not going to result in substantive change to potential Project-related impacts.
Relative Length of Offshore Structure	Longer	Shorter		This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Width of Quay/Pier Apron	20 m	20 m	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Relative Width of Offshore Structure	Wider	Narrower		This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental VCs (refer to Chapter 6).
Width of Ro-Ro Ramp	25 m	23 m	NO SUBSTANTIVE CHANGE	The width of the ro-ro ramp is reduced by 2 m in the Current Layout.
Length of Ro-Ro Ramp	20 m	20 m	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Deck Elevation of Ro-Ro Ramp	+1.3 m CD	+1.3 m CD	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Deck Elevation at Berth Face	+3.0 m CD	+3.0 m CD	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Dimensions of Land-Based Project Components				
Roadway Lane Width	3.5 m	3.5 m	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Roadway Shoulder Width	1.5 m	1.5 m	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Minimum Drainage Cross Fall	1%	1%	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.



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Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout

Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
Dredging Considerations				
Dredging Location(s)	Vessel approach channel and maneuvering basin, comprising a total dredge footprint area of approximately 62,230 m <sup>2</sup> (as noted above)	Vessel approach channel and maneuvering basin (Dredging Area 1) and adjacent to existing jetty (Dredging Area 2), comprising a total dredge footprint area of approximately 37,760 m <sup>2</sup> (as noted above)		<p>The Current Layout includes the addition of a second, smaller dredging area (i.e., Dredging Area 2 for maintenance dredging adjacent to the existing jetty), whereas the Original Layout only included a single dredging area. This change could cause an increase in the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on environmental and social VCs with sensitive features or receptors in proximity to Dredging Area 2 (e.g., Little Bay Ghaut). However, this potential change in impacts will likely be substantially or fully offset by the smaller size of the total dredge area footprint, the reduced overall dredge volume, and the reduction in land-based Project activities near Dredging Area 2.</p> <p>As noted above, there is an approximately 39% decrease in the total dredge footprint area associated with the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).</p>
Total Dredge Volume (approximate)	120,000 m <sup>3</sup>	66,500 m <sup>3</sup> (63,000 m <sup>3</sup> from Dredging Area 1 and 3,500 m <sup>3</sup> from Dredging Area 2)		Although the total dredge volume associated with the Current Layout will be determined by the selected dredging contractor, it is estimated by Stantec to be approximately 45% lower than the total dredge volume that was estimated for the Original Layout due to the relative reductions in the total dredge footprint area and dredging depth. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Dredging Depth	-9.0 m CD	-8.0 m CD (Dredging Area 1) -5.0 m CD (Dredging Area 2)		This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Type of Dredger	To be determined, but likely clamshell and/or cutter-suction (hydraulic)	To be determined, but likely clamshell and/or cutter-suction (hydraulic)	NO SUBSTANTIVE CHANGE	This aspect of the Project description remains unchanged for the Current Layout.
Disposal of Dredged Materials	Incorporation into Project design (i.e., as fill) to the extent feasible, with potential disposal at sea for surplus and/or geotechnically unsuitable material	Incorporation into Project design (i.e., as fill) to the extent feasible, with potential disposal at sea for surplus and/or geotechnically unsuitable material	NO SUBSTANTIVE CHANGE	Although the total dredge volume associated with the Current Layout will be determined by the selected dredging contractor, it is estimated by Stantec to be approximately 45% lower than the total dredge volume that was estimated for the Original Layout due to the relative reductions in the total dredge footprint area and dredging depth. Accordingly, the total amount of material to be incorporated into Project design and/or disposed of at sea is predicted to be lower for the Current Layout.
Artificial Night Lighting Considerations				
Pier Lighting	High-mast lighting for illumination of quay and ro-ro ramp	No high-level illumination of pier or ro-ro ramp, low-level lights embedded in pier curb		This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental VCs (refer to Chapter 6). However, this change also reduces the potential benefits of the operational phase of the Project for multiple social VCs (refer to Chapter 7).
Navigation Lighting	Navigation lighting at each end of the quay and at the breakwater head	Navigation lighting at the offshore corners of the pier and dolphin	NO SUBSTANTIVE CHANGE	This aspect of the Project description has changed slightly for the Current Layout but is generally equivalent for both layouts.



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Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
Roadway Lighting	Single davit lighting poles with LED luminaries installed at the side of the access roadway and west (back) side of the quay	Single davit lighting poles with LED luminaries installed along the north side of the access roadway	NO SUBSTANTIVE CHANGE	This aspect of the Project description has changed slightly for the Current Layout but is generally equivalent for both layouts.
Direct Impacts to Little Bay Reef				
Area of Overlap with Little Bay Reef	1,890 m <sup>2</sup>	3,340 m <sup>2</sup>	↑	There is an increase in the size of the area of overlap with Little Bay Reef for the Current Layout in comparison to the Original Layout. This change is generally expected to increase the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on the Marine Habitat and Fauna VC and on the fishers, divers, tour operators and any others who use the reef for commercial or recreational purposes (refer to Chapters 6 and 7).
% of Reef Habitat Lost	18%	32%	↑	There is a 14% increase in the percentage of reef habitat lost associated with the Current Layout. This change is generally expected to increase the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on the Marine Habitat and Fauna VC and on the fishers, divers, tour operators and any others who use the reef for commercial or recreational purposes (refer to Chapters 6 and 7).
Proximity to Sensitive Receptors (refer to Figure 2.1)				
Sensitive Environmental (Biophysical) Receptors				
Distance to Bat Caves on Rendezvous Bluff (approximate)	101 m	69 m (distance measured from seaward coastal protection works during Project construction) 97 m (distance measured from pier)	↑	Project construction and operation activities will take place in closer proximity to sensitive bat habitat on Rendezvous Bluff. This change is generally expected to increase the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on the Terrestrial Habitat and Fauna VC (refer to Chapter 6).
Distance to Cliff-Nesting Marine Birds (approximate)	145 m	97 m	↑	Coastal protection works on the seaward side of the proposed pier are located approximately 48 m closer to the southern limit of sensitive bird habitat on Rendezvous Bluff than the breakwater associated with the Original Layout would have been. This change is generally expected to increase the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on the Avifauna VC (refer to Chapter 6).
Sensitive Social Receptors				
Fishers Who Moor in Little Bay	No decision had been made regarding relocation of the fishers with respect to the Original Layout	The GOM has decided to provide trailers to all of the fishers who moor in Little Bay and do not currently own trailers, so that they can launch and haul up their boats. There will also be five permanent moorings available in the Bay during the operational phase of the Project.	↑	The decision to provide trailers as well as the five permanent moorings means that the fishers can continue to fish during the construction and operation of the Current Layout. Specific considerations to reduce the potential adverse effects of this process are addressed in the Resettlement Action Plan provided in Attachment F of the Revised ESMP (Stantec 2021), which is appended to this ESIA Addendum (see Appendix A).
All Users of Little Bay Reef	The footprint of the Original Layout overlaps approximately 2,650 m <sup>2</sup> of Little Bay Reef	The footprint of the Current Layout overlaps approximately 3,340 m <sup>2</sup> of Little Bay Reef	↑	There is a relative increase in the loss of area for all marine-based tours (e.g., diving, snorkelling, etc.). The reduction in associated habitat means a loss to the fishers as well.
All Users of Bat Caves on Rendezvous Bluff	The breakwater/quay is located approximately 101 m away from the nearest bat cave	The seaward coastal protection works are located approximately 69 m away from the nearest bat cave and the pier is located approximately 97 m away from the nearest bat cave	↑	The relatively increased likelihood of adverse impacts on the bats means that stricter protection measures may be required. This could include stricter rules regarding the quantity and length and type of tours. This could have an adverse effect on the income of those who include the bat caves in their tours.










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**Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout**





<b>Project Characteristic</b>	<b>Original Layout</b> as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	<b>Current Layout</b> as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	<b>Potential Change in Impacts of Current Layout Relative to Original Layout *</b>	<b>Comments</b>
Businesses in Little Bay	The total Project Footprint area occupies approximately 90,480 m <sup>2</sup> and the estimated duration of construction activities is approximately 16 months	The total Project Footprint area occupies approximately 46,350 m <sup>2</sup> and the estimated duration of construction activities is approximately 11 months		The construction associated nuisance of dust, noise, vibrations and visual impacts will be reduced in duration and extent. Some of the economic benefits associated with construction will decrease.
Port Operations and All Commercial or Domestic Activities That Rely on The Port	The breakwater / coastal protection footprint area occupies approximately 16,660 m <sup>2</sup>	The coastal protection footprint area occupies approximately 3,160 m <sup>2</sup>		The relative increase in downtime at the Port associated with the absence of a breakwater will lead to a reduction in the benefits to all residents and commercial operators and sectors in Montserrat.
<b>Sources of Construction Materials</b>				
Imported Aggregate	Aggregate materials will be brought to site from an existing quarry	Aggregate materials will be brought to site from an existing quarry	<b>NO SUBSTANTIVE CHANGE</b>	This aspect of the Project description remains unchanged for the Current Layout.
Re-use of Excavated Materials	Materials excavated during site preparation and slope stabilization activities may be used for infilling the road-side slope, protecting the shoreline, and/or constructing the breakwater.	Materials excavated during site preparation and slope stabilization activities may be used for infilling the causeway, infilling the caissons, and/or protecting the shoreline.	<b>NO SUBSTANTIVE CHANGE</b>	This aspect of the Project description has changed slightly for the Current Layout but is generally equivalent for both layouts.
Source of Concrete	A concrete plant may be established on-site or nearby to construct Project elements that are required to be cast-in-place, potentially including concrete armour units for the breakwater and concrete caissons or blocks for the quay.	A concrete plant may be established on-site or nearby to construct Project elements that are required to be cast-in-place, potentially including concrete armour units for coastal protection and concrete caissons or blocks for the pier.		Due to the absence of the large breakwater associated with the Original Layout, concrete production requirements will be relatively lower for the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, and duration of potential residual adverse impacts on multiple environmental and social VCs (refer to Chapters 6 and 7).
<b>Project Scheduling Considerations for Physical Construction Activities (excludes design)</b>				
Total Duration of all Project Construction Activities (approximate)	16 months	11 months		The estimated Project construction schedule is anticipated to be 5 months shorter for the Current Layout. This change is generally expected to reduce the relative frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Duration of Land-based Construction (approximate)	6 months	6 months	<b>NO SUBSTANTIVE CHANGE</b>	This aspect of the Project schedule remains unchanged for the Current Layout.
Duration of Dredging Activities (approximate)	6 months	4.5 months		The estimated duration of dredging activities is anticipated to be 1.5 months shorter for the Current Layout. This change is generally expected to reduce the relative frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Duration of Coastal and Marine Construction (approximate)	16 months	11 months		The estimated duration of coastal and marine construction is anticipated to be 5 months shorter for the Current Layout. This change is generally expected to reduce the relative frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7).
Timing of Construction Activities	Generally limited to between the hours of 7:00 am and 10:00 pm	Generally limited to between the hours of 7:00 am and 10:00 pm	<b>NO SUBSTANTIVE CHANGE</b>	This aspect of the Project description remains unchanged for the Current Layout.



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Project Characteristic	Original Layout as previously proposed and assessed in Original ESIA (Alternative A Port Layout)	Current Layout as presently proposed and assessed in ESIA Addendum (Alternative K Port Layout)	Potential Change in Impacts of Current Layout Relative to Original Layout *	Comments
Operational Considerations				
Design Vessel Capacity	Single berth can accommodate vessels with an overall length of up to 162 m at the waterline (i.e., excluding bowsprit), a weight of up to 9,000 deadweight tonnes (DWT), a draft measurement of up to 8 m, and a beam measurement of up to 20 m.	Berth 1 (leeward berth) can accommodate vessels with an overall length of up to 162 m at the waterline (i.e., excluding bowsprit), a weight of up to 8,500 DWT, a draft measurement of up to 7.2 m, and a beam measurement of up to 20 m. Berth 2 (seaward berth) can accommodate vessels with an overall length of up to 108 m, a weight of up to 450 deadweight tonnes, a draft measurement of up to 7.2 m, and a beam measurement of up to 14 m.	 and 	<p>The capacity of the pier to accommodate larger vessels is reduced in the Current Layout. This change is generally expected to reduce the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs (refer to Chapters 6 and 7). However, this change also reduces the potential benefits of the operational phase of the Project for multiple social VCs.</p> <p>The Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay). This additional berthing capacity could cause an increase in the relative magnitude, geographic extent, frequency, duration, and/or probability of the potential residual adverse impacts of certain Project activities on multiple environmental and social VCs, especially at times when two vessels berth simultaneously during Project operations. However, this potential change in impacts will likely be substantially or fully offset by the smaller size of the vessels using the Port, as well as the increased downtime at the Port in the absence of a breakwater. Conversely, the additional berthing capacity increases the potential positive impacts of the operational phase of the Project on multiple social VCs (refer to Chapters 6 and 7).</p>
* Potential Change in Impacts of Current Layout Relative to Original Layout				
	A green arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative reduction in potential Project-related adverse impacts</b> on one or more environmental and/or social VCs, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.			
	A red arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative increase in potential Project-related adverse impacts</b> on one or more environmental and/or social VCs, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.			
NO SUBSTANTIVE CHANGE	"NO SUBSTANTIVE CHANGE" indicates that modification to the Current Layout is anticipated to result in <b>no substantive change to potential Project-related impacts</b> , relative to the potential Project-related impacts that were previously assessed for the Original Layout in the Original ESIA.			





### 2.1 Background and Need for the Project

The information provided in Section 2.1 (Background and Need for the Project) of the Original ESIA (Stantec 2019a) remains generally valid and applicable with respect to the Current Layout and requires no updating other than to note that the Current Layout consists of a pier rather than a quay and does not include a breakwater.

### 2.2 Project Location

The information provided in Section 2.2 (Project Location) of the Original ESIA (Stantec 2019a) remains valid and applicable with respect to the Current Layout and therefore requires no updating.

### 2.3 Project Design Features

As outlined in Section 1.1, the Project involves the construction and operation of a new facility in the Port of Little Bay, consisting of a pier, mooring dolphin, filled causeway, and coastal protection, with adjacent dredged vessel approach channel and maneuvering basin connected to the existing Port facilities, and a roadway supported on the filled causeway (Figures 2.1 and 2.3).

The proposed offshore pier will have a 130-m long berth face at the leeward side and approximately 100 m of berth at the seaward side of the pier. A mooring dolphin will be located beyond the offshore end of the pier. The inshore end of the pier will have a ramp for ro-ro operations. A rock-filled causeway with adequate shoreline protection along the seaward and leeward sides of the causeway will support a two-lane roadway connecting the inshore end of the pier to the existing Port. A vessel approach channel and maneuvering basin will be dredged to at least -8.0 m CD for vessels berthing at the leeward side of the pier. Maintenance dredging will also be completed at the existing jetty during the construction phase of the Project.

The design life for Project equipment and structures will be as follows:

- New marine structures, including reinforced concrete, steel sheet piling and pipe piles, will be designed for a minimum service life of 50 years, subject to the appropriate levels of maintenance. Note that this service life does not apply to any previously installed structures that are not being modified.
- The new berth fender and mooring systems will be designed for a minimum service life of 25 years.
- Terminal pavements, including the pier, storage areas, roadways and parking lots, will be designed for a minimum service life of 15 years to support the anticipated traffic use, subject to the appropriate levels of maintenance.
- Coastal protection will be designed to a 50-year service life.
- Mechanical and electrical equipment will be designed to a 25-year service life.
- Cathodic protection and steelwork will be designed to a 50-year service life.
- Design classification will be “High” since the pier and appurtenances are essential to the region’s economy.



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### 2.3.1 Dredging

The main/capital dredging area is defined so that the depth will be at least -8.0 m CD at the leeward side of the pier (Dredging Area 1). A maintenance dredging area (Dredging Area 2) that extends eastwards from the main/capital dredging area will be dredged to a depth of -5.0 m CD adjacent to the existing jetty. Although the total dredge volume associated with the Current Layout will be determined by the selected dredging contractor, it is estimated by Stantec to be approximately 45% lower than the total dredge volume that was estimated for the Original Layout (refer to Table 2.1 above) due to the relative reductions in the total dredge footprint area and dredging depth.

The type and size of dredge to be used will be selected by the eventual successful contractor but will likely be a clamshell dredge. This mechanical dredger picks up material from the seafloor with a clamshell bucket. The bucket hangs from an onboard crane or crane barge, or is carried by a hydraulic arm, or is mounted on a dragline. If hard material is encountered above the dredge grade, a cutter-suction (hydraulic) dredger will likely be required. A cutter-suction dredger has a cutting mechanism at the suction inlet, which can loosen the seabed material and transport it to the suction mouth. The dredged material is then pumped out and discharged either through a pipeline or to a barge. A cutter-suction dredger could limit the need for underwater blasting in areas within the basin where hard material is suspected to occur.

### 2.3.2 Coastal Protection

Coastal protection consisting of concrete armour units will be constructed at the seaward side of the filled causeway at the north end of the pier (close to Rendezvous Bluff). Coastal protection consisting of concrete armour units or rip rap rock will be constructed along the leeward side of the filled causeway revetment.

The basis for design of the causeway coastal and revetment protection will be at least a 1 in 50-year return period for environmental factors such as waves, tides, currents and the maximum credible operating conditions for vessel factors such as passing ship wakes, surges, propeller wash, etc.

A 'no damage' criteria for slope materials will be used and a maximum of 5% percent of stone displacements is permitted.

The seaward coastal protection armour unit will be composed of concrete blocks using industry-standard recognized units (e.g., Stabit, Tetrapod, Core-Loc®, Xbloc®, etc.). The number of layers and placement pattern will follow the recommended guidelines for the selected concrete unit.

The seaward coastal protection crest height will not be less than 1 m above the top of the deck elevation at berth face of +3.0 m CD. The crest width will be governed by the recommended guidelines for the selected concrete unit. The armour unit slope at the seaward coastal protection will not exceed (be steeper) 1.5 Horizontal (H):1 Vertical (V).

Armour units at the leeward coastal protection will follow the same criteria of the seaward coastal protection. If rock protection is used, the slope will not exceed (be steeper) 2H:1V. The height of the leeward coastal protection will not be lower than the top of the causeway. The crest width will be governed by the recommended guidelines for the selected concrete unit or have a minimum of two rocks, if rocks are used.



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The seaward and leeward coastal protections will be composed of at least two underlayers (filter, bedding layer and/or core). The gradation of the underlayers will respect the internal stability criterion, retention criterion, and permeability criterion in accordance with the *Coastal Engineering Manual* (CEM) (USACE 2012). The minimum thickness of the filter layer(s) will be designed in accordance with the CEM.

The coastal protection will include a toe to support the armour layer and prevent scour. A no movement criterion (0-3%) will be used for the toe (CIRIA 2007). The number of concrete blocks and placing pattern will follow the recommended guidelines for the selected concrete armour unit. A toe composed by rocks may be used but will meet the same requirements.

Scour protection at the berth will be designed to be stable under marine propulsion equipment for the design vessel and dredging depth. Actual vessel properties will be considered, and the critical design jet velocities calculated in accordance with the CIRIA C683 Rock Manual (2007) and PIANC report no. 180 (2015a).

Scour protection at the leeward of the pier will be designed to be stable during waves with return period of at least 75 years.

The top elevation of any scour protection must be no higher than -9.0 m CD, including at the leeward face of the pier, to accommodate potential future dredging requirements (which may eventually be undertaken as a separate project that is outside of the scope of the current Project).

### 2.3.3 Pier, Ro-Ro Ramp, and Mooring Dolphin

Four options are being considered for the pier structure:

- **Concrete caisson structure:** This option would involve large open box precast/slip-formed units acting as a reinforced concrete gravity retaining structure, placed side-by-side on a prepared granular mattress pad after the area is dredged to suitable depth and founding level. Scour protection would be required at the toe of the caissons, and a concrete copewall would run longitudinally along the full perimeter of the top of the caissons to provide straight berth faces, to retain fill, and to provide support and anchorage for fenders, ladders and mooring bollards.  
The cells in the caissons would likely be filled with dredged materials to provide ballast to the caissons and aid in the overall stability of the caisson. If possible, depending on the method of dredging, dredged material would be sorted to extract the cobble and boulder sized materials. Finer grained dredged material would be placed at depth below the water level and coarser grained material would be selected for the upper backfill. Once the cells have been backfilled, it is possible that they would be compacted by vibro-flotation techniques. This vibro-flotation compaction method uses a vibrating pile hammer to install and remove an open-ended pipe to the bottom of the caisson. This would cause consolidation of the dredged sand and substantial settlement below the top of the caissons. This process of filling the caisson cells and compacting until surface settlement would be repeated until surface settlement is reduced.
- **Concrete block structure:** This option would be comprised of solid precast concrete blocks that are uniformly stacked to retain landward fills and provide a berth face. Scour protection would be required at the toe of the blocks, and a concrete cope beam would run longitudinally along the top of the blocks to retain fill and provide support and anchorage for fenders, ladders, and mooring bollards.



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- **Steel sheet pile bulkhead structure:** This option would involve the installation (vibration and impact driving) of Z or Combi-wall steel sheet piles to form a closed berth face and retain landward fills. The steel sheet pile bulkhead would be anchored at the top with tie rods and the bottom of the SSP may be supported with toe pins socketed into the underlying bedrock. A concrete cope beam would run longitudinally along the top of the bulkhead to provide support and anchorage for fenders, ladders, and mooring bollards.
- **Steel sheet pile cell structure:** This option would involve the installation (vibration and impact driving) of flat web steel sheet piles in a series of closed cells to form a berth face and retain landward fills. A concrete cope beam would run longitudinally along the top of the bulkhead to provide support and anchorage for fenders, ladders and mooring bollards.

An approximately 20-m long ramp for ro-ro operations will be located at the north (inshore) end of the pier.

The reference design includes a mooring dolphin located approximately 40 m beyond the offshore end of the pier. The reference design is based on the dolphin comprising steel pipe piles and a cast in place concrete pile cap. The dolphin will have a mooring bollard and ladder.

The pier, ro-ro ramp, and mooring dolphin will have the key measurements indicated in Table 2.2.

**Table 2.2 Key Measurements for Pier, Mooring Dolphin, and Ro-Ro Ramp**

Component / Feature	Measurement
<b>Pier (Excluding Mooring Dolphin)</b>	
Length of Leeward Berth Face	130 m
Width of Operating Pier Apron	20 m
Top of Pier Deck Elevation at Berth Face	+3.0 m CD
<b>Ro-Ro Ramp</b>	
Width of Ro-Ro Ramp	23 m
Length of Ro-Ro Ramp	20 m
Minimum Horizontal Clearance between Top of Ramp and Roadway	9 m
Deck Elevation at Seaward Face of Ro-Ro Ramp	+1.3 m
<b>Mooring Dolphin</b>	
North Edge of Mooring Dolphin Offset from Pier	40 m
Top of Mooring Dolphin Deck Elevation	+3.0 m CD

### 2.3.4 Civil Utilities

A water supply from the existing service and water main, the size and flow rates to be determined during the construction tender, to the Port will be required at the pier as well as storm water drainage systems to adequately allow drainage of the pier deck and causeway road, and to control run-off from the adjacent bluff.



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### **2.3.4.1 On Site Drainage**

Drainage systems will be designed to accommodate rainfall flows generated from a 1 in 50-year rainstorm. The rainfall depth for a 1 in 50-year rainstorm is increased by a factor of 20% to the end of the service life (50 years) of drainage infrastructure to account for climate change (Stantec 2019d). All collected drainage water will pass through oil interceptors to remove oil, grease, sand and other substances that are harmful or hazardous to the structure or to environment. Separators and traps will have sufficient capacity to retain all sludge between cleanings. Sizing of a separator facility will treat up to 100% of the 60-minute duration, 1 in 10-year return period rainfall (MOE 2003). Flows in excess of this will bypass the oil interceptors. The rationale to use a 60-minute duration, 1 in 10-year return period rainfall for the oil water separator is that during normal operations pollutants will be washed away in the first flush of rainfall and it is unlikely port operations would be occurring in events greater than 60-minute storms (equivalent to 106 mm of rainfall depth, which is projected in consideration of climate change for a 50-years end of service life) as that would be quite a heavy rainfall. Using a rainfall event above this becomes uneconomic for sizing the oil interceptors.

Grading contours, ridges and valleys will be parallel to any grounded container storage area. Where this is not possible, ridges and valleys will be in aisles or between containers. Storm drainage systems in grounded container storage areas will be designed to convey flows resulting from a 1 in 50-year return period without ponding.

Manholes, electrical vaults, pull boxes, catch basins and trench drains will be located in areas to avoid equipment operating areas, bulk stockpiles or container storage slots. However, all such structures will be designed to accommodate Project-specific pier structural loading criteria. Trench drains will be located more than 3 m from any light mast pole.

Slots for Safety grillage will be provided at junctions between trench and storm sewer pipe. Pipe material will be concrete or PVC for polyvinyl chloride pipe up to 1200 millimetres (mm) in diameter, DR35.

### **2.3.4.2 Little Bay Ghaut Drainage**

The Little Bay Ghaut watershed is approximately 5.9 hectares. with steep gradients and a watercourse with a 37% grade and a Time of Concentration ( $T_c$ ) of approximately 6.0 minutes.

The watershed will have an open channel drain at the base of the slope which will collect the water and transfer it to a culvert, north of the existing jetty at elevation +3.0 m which will be reviewed and sized as necessary for a 1 in 50-year, 24-hour duration storm event. The road will have a constant cross fall from towards the open channel drain.

### **2.3.4.3 Potable Water and Fire Protection**

A new 150-mm water supply will be required for the pier. There will be 50-mm water supply connections at three locations evenly spaced along the berth face.



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One fire hydrant will be provided along the line separating the main berth and ro-ro ramp so as to not interfere with vehicles or Port operations.

Fire hydrants, underground services, storm water drainage systems, and other civil utilities will be provided to service the expanded Port and the existing civil utilities are anticipated to require reconfiguration or replacement in some areas. It will be important to phase the civil utilities works as to not disrupt existing Port operations.

### 2.3.5 Pavements

New pavements with a 15-year design life, designed in accordance with the AASHTO Guide for Design of Pavement Structures, will be required that will be subject to a variety of loads. A concrete pavement structure, consisting of cast-in-place concrete top layer, granular base under layer, granular sub-base under layer and compacted sub-grade, is expected for the pier and roadway. Heavy duty pavement sections are required in all areas accessible by mobile harbor cranes and semi-trailer combinations, reach stackers, light duty pavement sections will be used in all other areas of paved terminal surfaces.

### 2.3.6 Road Works

#### 2.3.6.1 Causeway / Access Road

Roadworks will consist of a two-lane roadway, demarked with 100-mm wide solid painted lines, on a rock-filled causeway connecting the pier to the existing upland Port facilities. The roadway will have the key measurements indicated in Table 2.3.

**Table 2.3 Key Measurements of Roadway**

Component / Feature	Measurement
Roadway Lane Width	3.5 m
Roadway Shoulder Width	1.5 m
Minimum Drainage Cross Fall	1%

The road will have a 15-year design life and in addition to other referenced codes in this document be designed in accordance with the AASHTO (Green Book) A Policy on Geometric Design of Highways and Streets, and the TAC Geometric Design Guide for Canadian Roads.

Additional causeway width will be provided to accommodate armour, sub-armour and filter stone.

#### 2.3.6.2 Grading

The area of the proposed construction will be cleared and grubbed, including the removal of unsuitable materials. Grading of cut and fill slopes along the proposed construction will comply with geotechnical consultant recommendations and these criteria. Grading of cut and fill slopes to roadways and yard within Port facilities will be graded to match the existing slopes.



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Generally, the surfaces for the access road will be concrete consisting of concrete top layer, granular base under layer, granular sub-base under layer and compacted sub-grade. For the causeway, the road is expected to be reinforced concrete with a similar subbase and base course as for the asphaltic concrete road. Design of roadways and parking lots will be in accordance with TAC Geometric Design Guide for Canadian Roads. Normal cross slopes of 1.5% to be provided in non-super elevated areas to provide positive drainage. Heavy duty pavement sections will be required in areas accessible by the mobile harbour crane, terminal tractors and trucks. Light duty pavement sections will be used in other areas of paved terminal surfaces.

### 2.3.7 Lighting and Electrical Infrastructure

High-mast lighting may be provided in the future (as a separate project that is outside of the scope of the current Project) to accommodate the illumination of the pier and ro-ro ramp configuration. The pier will have low-level lighting encased in the concrete curb at 10 locations on each side of the pier. Navigation lighting will be provided at the two offshore corners of the pier and on the mooring dolphin. Single davit lighting poles with roadway luminaries will be installed along the north side of the access roadway. Ductwork for future high-mast lights on the seaward side of pier will be provided. The high-mast and roadway luminaries will be controlled through two outdoor, weatherproof rated, NEMA 4X lighting control panels. All new luminaries will be LED type. Electrical receptacles will be provided on the pier.

Lighting will be directed or shielded to as to reduce “light pollution” impacting bat colonies located within Rendezvous Bluff.

Underground lighting infrastructure, including conduits, junction boxes, and vaults, will be required to accommodate potential future lighting as follows:

- All duct banks will be concrete encased.
- All duct systems will have specific colour coding and line types on the site plans.
- After concrete encasing, all trenches in paved areas will be saw cut and backfilled with Controlled Density Fill (CDF).
- Accommodation for anticipated soil settlement will be provided.
- Electrical concrete junction boxes will be provided to run future power cables.

Electrical and communication infrastructure design will be provided as per the Canadian Electrical Code, latest adopted edition. The following items will be considered:

- All electrical distribution infrastructure will be underground. There will be no overhead lines.
- Step-down transformer and protective disconnect devices will be provided as required to feed the high-mast and roadway lighting.
- Electrical receptacles will be installed in the pier bull rail.



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### 2.3.8 Project Design Standards, Codes and Guidelines

The information provided in Section 2.3.8 (Project Design Standards, Codes and Guidelines) of the Original ESIA (Stantec 2019a) remains generally valid and applicable with respect to the Current Layout and therefore requires no updating other than to note the following additional guidelines, standards, and manuals:

- Caribbean Community Secretariat (1985): Caribbean Uniform Building Code
- PIANC (2015a): Guidelines for Protecting Berthing Structures from Scour Caused by Ships. Report n° 180
- PIANC (2015b): Design and Maintenance of Container Terminal Pavements
- OCDI Technical Standards and Commentaries (applicable to reinforced concrete caissons)
- USS (1984): Steel Sheet Piling Design Manual
- ArcelorMittal (2017): Design and Execution Manual, AS500 Straight Web Steel Sheet Piles
- Carl A. Thoresen (2014): Port Designer's Handbook: Recommendations and Guidelines

Code and guidelines are not limited to those identified above or in the Original ESIA and will be further adjusted based on progression of design from feasibility onward.

## 2.4 Project Schedule

It is estimated that physical Project construction activities will take approximately 11 months (excluding Port design) and will be completed by 2022. The following are the estimated timeframes for completion of major Project components. A final construction schedule will only be available once a design-build contractor is selected.

- Construction of the access road – approximately 6 months
- Dredging activities – approximately 4.5 months
- Pier construction and associated marine works – 11 months (i.e., the full extent of construction)

The Project is expected to operate efficiently and safely over its design life (50 years for new marine structures and 15 to 25 years for other Project components) and decommissioning of the Project is not currently envisioned. The estimated timing for the decommissioning phase of the Project has therefore not been determined at this time.

## 2.5 Construction

The construction phase of the Project will begin with causeway and access road construction (including associated site preparation) and simultaneous slope stabilization and reclamation activities as needed along Rendezvous Bluff and the shoreline. Materials excavated during site preparation and slope stabilization activities may be used for infilling the causeway, infilling the caissons, and/or protecting the shoreline. Aggregate materials will also be brought to the site from an existing quarry. Construction of the filled causeway and access road will be completed before pier construction commences, since the road will provide the main access for heavy equipment to the site. Dredging of the access channel and turning basin





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can also commence before pier construction starts since there will be a need to dredge the area under the pier structure. The existing jetty will be left in place.

Construction activities will generally be limited to between the hours of 7:00 am and 10:00 pm and are anticipated to take between 8 and 12 hours per day, 5 to 6 days per week.

A separate and temporary construction quay and/or barge and laydown area may be required at Carr's Bay and the Gunn's Hill/Piper's Pond area to reduce potential Project construction-related disruptions to ongoing Port operations. This may be required if the pier uses a caisson construction, but there is also potential for the caissons to be built off-island and shipped to Montserrat or for another option to be used for the pier construction (i.e., one of the options described in Section 2.3.3). If the design-build contractor determines that a separate and temporary construction quay is required, this activity would be subject to a separate assessment and permitting requirement.

### 2.5.1 Notice of Commencement of Activities

Prior to commencement of construction activities, the contractor will be responsible for notifying all identified users of the area of the proposed construction activities and the time frame under which they will be undertaken. The Stakeholder Engagement Plan provides detailed guidance on the phasing and processes to be used to notify and keep the diverse stakeholders informed about the Project. Notification will be provided to residential and business occupants in close proximity, particularly with respect to the timing of activities such as increased truck traffic and pile driving, if required. Maritime notifications will also be provided to the Port Authority of Montserrat for circulation to all identified users of the existing jetty. The contractor will be required to work closely with the Port Authority to locate and schedule activities to reduce disruption of on-going Port operations. This will include not interfering with the transfer of fuel to Montserrat, which currently occurs at the southern end of Carr's Bay via a single point mooring (SPM). The fluid transfer system for the SPM typically includes hose connections on the beach. Construction activities will avoid this infrastructure.

In 2019, when the Original ESIA (Stantec 2019a) was prepared, the GOM's Director of Agriculture and Fisheries confirmed that 16 vessels moored regularly in Little Bay. In 2020, during preparation of this ESIA Addendum, the Community Liaison Officer for the Project provided a list of 13 fishers who moor in the Bay. Fieldwork conducted subsequently in 2020 confirmed that two of these 13 previously identified fishers have since migrated and one additional fisher has been identified, so there are currently 12 fishers who are known to moor their vessels in Little Bay at the existing anchorage area shown on Figure 2.1. The fishers who use these moorings will likely be displaced during the construction phase of the Project and will require notification/coordination efforts. The GOM has determined that these fishers will be supplied with boat trailers, if required, to launch and haul up their boats. They will also have continued use of the slipway at the Port, as currently practiced. In addition, five mooring buoys will be installed in Little Bay for daily fishers after the dredging phase of the Project. Details of the fishers whose current moorings will be displaced because of the construction is provided in Section 5.2.2 and recommendations for their compensation is addressed in the Resettlement Action Plan provided in Attachment F of the Revised ESMP (Stantec 2021), which is appended to this ESIA Addendum (see Appendix A).



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### 2.5.2 Construction of the Access Road

A 10-m wide access road will be required along the south side of Rendezvous Bluff to the land start of the pier. Cutting of the back face is expected to remain stable based on measured parameters (JBC and BEHI 2017), assuming cuts are at a near vertical angle of about 70°. Depending on the final height of cutting to be undertaken, benching of the slope would be conducted, with a maximum height of 10 m between benches. Catchment channels will be constructed along the toe of the benches to facilitate falling debris from the face of the slope and to act as a drain for water runoff. Where possible, excavated materials will be used for infilling of the causeway and/or pier.

Unpaved areas of proposed roadway construction will be cleared and grubbed, including the removal of unsuitable materials. At present, the site is mostly covered by shrubs and bushes, which will likely be removed by bulldozers. The material will be collected and will be removed for disposal at an approved waste disposal site. The site will also be grubbed to remove topsoil in the root zone. This material will also be removed from the site, and either used beneficially at another site or disposed at an approved disposal site.

Grading of cut and fill slopes along the proposed construction will comply with geotechnical consultant recommendations and these criteria. Grading of cut and fill slopes to roadways and yard within Port facilities will be graded to match the existing slopes.

Sediment and erosion control measures will be in place to reduce the potential for silty water runoff from construction areas into the marine environment.

### 2.5.3 Dredging

One or more dredgers, along with support vessels and barges, will be used to remove material from the sea floor. Two types of dredgers are being considered: clamshell and cutter-suction (hydraulic).

Dredging activities are anticipated to take approximately 4.5 months. Cutter-suction dredges should be capable of dredging through any bedrock encountered, but there is a limited potential that underwater blasting might be required. If blasting is necessary, it would be undertaken and supervised by a specialist with acceptable qualifications. A seismographic survey would be undertaken to develop a blasting plan, and a blast monitoring plan would be developed prior to any blasting activities.

Dredged material will be incorporated into Project design to the extent feasible. Surplus and/or geotechnically unsuitable dredged material can be disposed at sea if not contaminated and as determined by chemical testing results and in accordance with relevant Multilateral Environmental Agreements extended to Montserrat regarding disposal at sea and with permission of the Department of Environment. If caissons are used for the pier construction, dredged material may be used to infill the caissons and to reclaim land. Initial assessment of available borehole data suggests that the dredged material could be suitable as fill. Prior to construction and as part of the detailed Project design phase, a geotechnical program, including boreholes, has been recommended to confirm this assumption and support other Port design criteria. If caissons are not used for pier construction, the dredged material can be used for fill, land reclamation, and/or disposal at sea of surplus material. Prior to dredging, the sediment would be tested for



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contaminants and compared to guidelines based on the intended reuse of the dredged material and if it is safe for industrial, commercial and/or parkland/residential land use and for disposal at sea, as required. For disposal at sea of surplus dredged material that is not contaminated and consisting of coarse sediment (e.g., rubble and coral rock), the location for the disposal and potential creation of artificial reefs would be determined by regulators and in consultation with fishers. The reuse of dredged material for potential coastal enhancement should be evaluated by a coastal engineer in consultation with the relevant GOM regulators (i.e., Department of Environment, Environmental Health Department, and the Ministry of Communication, Works, Energy and Labour). The option to place surplus uncontaminated dredged sand on Little Bay Beach and Carr's Bay Beach to replenish eroded beach sections should also be carefully evaluated.

If the dredged material is found to be unsuitable for reuse due to contamination, disposal in the existing GOM landfill site or a designated landside location should be considered in consultation with the relevant GOM regulators (Department of Environment, Environmental Health Department, and the Ministry of Communication, Works, Energy and Labour). If the dredged material is found to be unsuitable for disposal in the landfill, this material would need to be disposed in a landside location that is specifically identified and designed for that purpose to avoid any adverse impact on the environment. The location and design of the landside disposable location should be determined in consultation with the relevant GOM regulators.

### 2.5.4 Construction of the Pier, Ro-Ro Ramp, Mooring Dolphin, and Coastal Protection

The specifics of the pier construction are still being developed, as it is important that the construction plan take into account health and safety issues related to working in potentially high wave conditions. Coastal protection may be constructed by trucking material from the shoreline or by the use of marine equipment, such as cranes mounted on barges (likely one 2,000 t barge with a crane).

The primary option considered for the pier is a concrete caisson structure. Precast concrete caissons are a form of gravity-based structure comprised of large rectangular concrete hollow boxes that are constructed off site; floated to site and into position; and then ballasted down and seated on a prepared mattress bearing pad. To prepare the marine foundation, prior to placement of the caissons, the soft marine sediments underlying the site will be dredged down to firm bearing strata to reduce the potential for settlement and seismic liquefaction. Once dredging is complete, a rock mattress comprised of about 200 mm minus angular, durable rock fill is thereafter placed and levelled.

For this Project, rock is not expected to be sourced on-island from existing quarries as they do not produce large, crushed rock. The contractor will be responsible to source and import rock by barges from potentially neighboring islands in accordance with applicable regulatory requirements. These requirements include rigorous inspection and monitoring at the port of origin of all materials and supplies imported into Montserrat to limit the transportation and introduction of potentially invasive species.

It is likely that concrete units will be cast in Montserrat, since similar units were cast locally in the past. A concrete plant may be established on-site or nearby to construct Project elements that are required to be cast-in-place, including potentially the concrete caissons for the pier.



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### 2.6 Operation and Maintenance

During Project operations, the new pier will provide accessibility for larger vessels than can currently berth at the existing jetty. The wider pier deck will allow for safe mechanized cargo unloading and transportation. The final overall length and alignment of the pier will accommodate the maximum design vessels indicated in Table 2.4. These vessel characteristics were derived from Montserrat Little Bay Port Assessment – Specialist Port Engineering Advisory Appraisal Report dated January 31, 2017, review of vessel data plus the addition of the cruise ships “Windsurf” and “Sea Dream II”. It is noted that the Windsurf and Sea Dream II will overhang the berths.

**Table 2.4 Design Vessel Capacities for the Little Bay Port Development Project**

Vessel Type	Berth	DWT (tonnes)	Capacity (TEU/PAX)	LOA (m)	Maximum Draft (m)	Beam (m)
Container Ship	1	8,500	500	120	7.0	18.0
Ferry	1 and 2		300	50	5.0	10.0
Cruise Ship (1) Windsurf	1	1,654	386	187*	5.1	20.0
Cruise Ship (2) Sea Dream II	1 and 2	450	110	108	7.2	14.0
* Includes bowsprit, 162 m at waterline						

Operational activities at the expanded Port will include vessel berthing along the existing jetty and the new pier; cruise and ferry passenger embarkation and disembarkation; loading and unloading of containers, ro-ro cargo, and breakbulk cargo; truck transportation and general vehicle use and parking; and security checks, immigration, customs, and administration.

Maintenance activities may require periodic dredging, as well as regular inspection and maintenance, and occasional repairs, of Port infrastructure and facilities including the pier, coastal protection, access road, drainage systems, and Port buildings.

During the operations and maintenance phase, the communication strategies recommended in the SEP should be used to inform the stakeholders of the various activities and of any potential impacts. The GRM should always be used to address any issues or concerns that arise.

#### 2.6.1 Maintenance Dredging

Periodic dredging may be required so the Port is sufficiently deep to accommodate large vessels, such as cruise ships and cargo vessels, and to retain a navigational channel. While the intention is to design the Project in such a way as to reduce this requirement, the need for maintenance dredging will be monitored throughout Port operations. Should it be required, dredging operations would be conducted in a manner similar to the plan for construction (capital) dredging. To the extent technically and economically feasible, clean dredge materials will be re-used for infilling Port structures and/or enhancement of the beach to the extent feasible, rather than disposed of at sea. The feasibility of this potential option will be determined by



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the dredging contractor in consultation with the Department of Environment; the Ministry of Communications, Works, Energy and Labour; and/or the Port Authority.

### 2.6.2 General Maintenance

The Project is being designed to reduce maintenance requirements in the future. The pier and coastal protection should require little to no maintenance, except after extreme events where rocks or other material may need to be replaced or adjusted. Drainage systems may need periodic cleaning of sediment. Port buildings subjected to marine conditions will require general maintenance, such as painting or roofing repairs on a periodic basis. Maintenance will include regular inspections of the facility's equipment and infrastructure and carrying out the repairs necessary. This will include inspection of the slope stability measures for the bluff above the access road. Periodic pavement or repair of the access road's surface may also be required.

### 2.6.3 Vessel Berthing and Servicing

The Port currently operates 24 hours a day, 7 days a week and would continue to operate under this schedule in the future.

Vessel servicing at the new pier and existing jetty will include cruise and ferry passenger embarkation and disembarkation, loading and unloading of containers, ro-ro cargo, and breakbulk cargo. Large vessels typically do not refuel at Montserrat, but smaller vessels may refuel at the jetty or pier. This would be conducted via fuel truck and hoses. Procedures will be in place to reduce the potential for a spill during refueling events and to respond in a timely manner to a spill should it occur.

Discharges of grey and black water, as well as any oily discharges from vessels, will be prohibited in the Port area and coastal waters of Little Bay. These discharges will only be allowed to a proper receiving facility.

### 2.6.4 Port Operations

No expansion or changes to the landside Port facilities are being considered as part of the scope of this Project. The Port's existing Hazardous Materials Management Plan, Waste Management Plan and Spill Response Plan will be reviewed, updated and/or replaced by the Port Authority to accommodate changes in operations as a result of the new marine facilities. The GOM's Disaster Management Coordination Agency and Department of Environmental Health will be consulted as necessary with respect to the development and implementation of these plans. Storm receptors will be used to manage drainage from the pier, collecting and treating discharge before it is released to the sea.



### 2.7 Decommissioning

Decommissioning of the Project will be conducted following the end of useful service life of the Project components and will be carried out in accordance with applicable legislative, regulatory, and funding-related requirements in place at that time. The recommended communication strategies described in the SEP should be used to inform the stakeholders of the phases and activities associated with decommissioning. The GRM should always be used to address any issues or concerns that arise.

### 2.8 Anticipated Emissions, Discharges and Wastes

The information provided in Section 2.8.1 (Anticipated Emissions, Discharges and Wastes) of the Original ESIA (Stantec 2019a) remains generally valid and applicable with respect to the Current Layout and therefore requires no updating other than to note that potential surplus and/or geotechnically unsuitable dredged material that cannot be incorporated into Project design (if applicable) will be managed as described in Section 2.5.3 above.

### 2.9 Environmental and Social Protection Procedures

The CDB requires development of an ESMP for the Project. The draft ESMP that was previously prepared based on the Original Layout has been revised to reflect the Current Layout and is provided in Appendix A. In addition, the following management and monitoring plans will be developed and implemented after Project design is completed and prior to the initiation of Project-related construction activities and/or Port operations (as applicable):

- Air Quality Monitoring Plan
- Archaeological/Historical Resource Discovery Plan
- Bat Monitoring and Adaptive Management Plan
- Bird Monitoring Plan
- Coastal Features and Marine Biophysical Monitoring Plan
- Coral Transplantation and Monitoring Plan
- Disaster Risk Management Plan and Emergency Response Plan
- Environmental Protection Plan
- Hazardous Material Management Plan
- Health and Safety Management Plan
- Marine Mammal Monitoring Plan
- Noise Monitoring Plan
- Spill Prevention, Control and Response Plan
- Waste Management Plan
- Road Traffic Control Plan
- Workers Code of Conduct
- Stakeholder Engagement Plan



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- Grievance Redress Mechanism
- Social and Gender Risk Assessment and Social and Gender Action Plan
- Gender and Equal Employment Training
- Guidelines for Implementing Gender-Sensitive and Socially Inclusive Infrastructure Projects in Montserrat
- Resettlement Action Plan

The following social impact management plans, which were initially prepared for the Original Layout and attached to the Original ESMP (Stantec 2019b), have been updated as necessary based on the Current Layout and are attached to the Revised ESMP (Stantec 2021) that is appended to this ESIA Addendum (see Appendix A): the Stakeholder Engagement Plan (Attachment A in Appendix A), the Grievance Redress Mechanism (Attachment B in Appendix A), the Social and Gender Risk Assessment and Social and Gender Action Plan (Attachment C in Appendix A), the Gender and Equal Employment and Social Inclusion Training Package (Attachment D in Appendix A), and Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat (Attachment E in Appendix A). In addition, a Resettlement Action Plan (RAP) (Attachment F in Appendix A) has been prepared to address the fishers whose moorings will be displaced by the construction and operation of the pier, as well as users with the potential to be adversely impacted by the loss of habitat on Little Bay Reef. The RAP also deals with the fact that construction and operation of the pier associated with the Current Layout will be closer to the bat caves and Rendezvous Bluff, which feature in several tours conducted on the island.

Existing plans related to Port operations will also be updated to address the new Port infrastructure and any related changes to operations. The Port Authority will train Port employees on the contents of these plans as they relate to the work they are conducting.

The Revised ESMP in Appendix A provides recommended environmental and social protection procedures to be used during Project construction and operation. These procedures may be modified as the design of the Project progresses and becomes finalized.

## 2.10 Project Alternatives

The information provided in Section 2.10 (Project Alternatives Location) of the Original ESIA (Stantec 2019a) remains valid and applicable with respect to the previous scenarios and alternatives that were considered during Project planning, including the Original Layout. The differences between the Original Layout and the Current Layout are outlined in Table 2.1 and considered throughout this ESIA Addendum and therefore do not require special consideration in this section.

## 2.11 Occupational Health and Safety

In Montserrat, health and safety requirements for labour during the construction and operational phases of projects are located in Part 10 of the Labour Code 2012. This section of the Code is very comprehensive, addressing amongst other matters, protective clothing and devices, hazardous chemicals, special protection for pregnant employees, joint workplace safety and health committees, accident and safety



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programme, reports and duties of operators and records as evidence, in keeping with this, the following measures will be in place to address worker occupational health and safety:

- Implementation of applicable safety standards, governance requirements, and requirements of GOM regulatory agencies, including, but not limited to: FIDIC clause 6.7 on health and safety, including HIV/AIDS awareness training and training on gender-based violence; relevant COVID-19 public health requirements; and relevant requirements from the Labour Division of the GOM's Ministry of Communications, Works, Energy and Labour
- 'Good practices' will be employed to safeguard workers throughout the construction period.
- The Contractor will submit a Health and Safety Plan and designate a Safety Officer.
- Personnel will only be allowed onsite if they wear appropriate protective clothing, for example, hard hats, high visibility jackets, steel-toed boots, safety glasses, welding shades, etc.
- An on-site First Aid Station will be available and managed by trained personnel. An Emergency Response Plan, inclusive of a Medical Emergency Plan, will be developed to address the management of casualties, including transport of the injured to the nearest health facility.
- The Contractor's Health, Safety and Environment Manager will have full authority to advise Contractor personnel on safety and environmental rules.
- Construction workers will be required to exercise caution when working in proximity to watercourses and shorelines, including on platforms above the water in inshore coastal waters.
- Workers will be properly trained for their assigned tasks.
- Monitor adherence to the Environmental and Social Management Plan including the delivery of gender-sensitisation training tied to customer service, workplace health and safety, sexual harassment, and sexually transmitted infections.

The Port Authority will develop an Occupational Health and Safety (OHS) Plan that will be finalized after Project design is completed and prior to the initiation of Port operations. Currently, the Port Authority has a Quality Management System which is being improved on a continuous basis. There is a Quality Manager staff member tasked to be the Designated Person / HSE representative who will be designated to oversee the implementation of the OHS Plan and to ensure personnel wear the required personal protective clothing for their tasks on the Port (for example hard hats, steel-toed boots, high visibility jackets, safety glasses, welding shades, personal protective equipment for COVID-19, etc.). An on-site First Aid Station will be established, and a medical emergency response plan will be developed to get injured to the nearest health facility. Handwashing stations and health protocols will also be established to reduce the risks of exposure to COVID-19. Workers will be trained and certified appropriately when required to undertake specialized tasks involving the operation of specialized equipment. In general, measures will be taken to safeguard workers, visitors and communities throughout the operation of the Port, and to promote a culture of safety prevention and awareness.





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### 3.0 STAKEHOLDER ENGAGEMENT AND PUBLIC CONSULTATION

#### 3.1 Stakeholder Engagement

In January and February 2019, stakeholder analysis was undertaken to identify all people, groups, or institutions that could be affected by the construction of the pier, as well as those who could affect the outcome of the intervention. Criteria for selecting the stakeholders included geographic proximity to the Project site (e.g., fishers, businesses in Little Bay); sectors affected by Port operations (e.g., tourism, shipping, transportation, commerce; regulatory agencies); and representatives of vulnerable groups. Those consulted were:

- Port Authority
- Department of Agriculture
- Fisheries and Oceans Resource Unit
- Royal Montserrat Police Service
- Department of Labour
- Environmental Health Department
- Montserrat Association for Persons with Disabilities
- Physical Planning Unit
- Tourism Division, Office of the Premier
- Chamber of Commerce
- Access Department
- Department of Social Services
- Better Services Shipping Agency
- Montserrat Tour and Taxi Association
- Fisher folk with boats moored in Little Bay
- Divers

This was followed by surveys with 500 households, 29 commercial operations and 20 representatives of the Haitian and Dominican communities. The extended coverage of households across the island was a requirement of the TOR as well as recognition that the Port, as a main means of transportation, affected all households. Attempts were made to interview all commercial operators located in Little Bay at the time of the surveys. Table 3.1 provides the list of businesses that were interviewed in 2019. Seventeen of these are located in the Little Bay Market area, in Marine Village or near the playing field.



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**Table 3.1 List of Commercial Establishments Surveyed in 2019**

Commercial Establishments	
BBC Radio and TV	M.S. Osborne Ltd.
Best Cook Sea Side Bar	Montserrat Building Society
Better Services Travel	Montserrat Shipping and Business
Bits of Pieces	Montserrat Toddlers and Tween's Boutique Plus
Bitter End	Montserrat Art Council
Chit Chat Snackette and Bar	Nigel Osborne Ent. Ltd.
Deluxe Plus	Romeo's Wayside Store
DJ Variety	Runaway Travel Ltd.
DR Diagnostic Services	Sandshell Ice-cream parlour
Drive-by Bar and Grill	Scoreboard
Eddie's trucking Ltd.	Scuba Montserrat
Fishnet Restaurant	Soca-cabana
Good Life Restaurant	Summer Breeze
Internal Audit Unit	The UWI Open Campus
Last Change Souvenir Shop	

In March 2019 a series of validation workshops were convened to confirm the data that was collected from the various stakeholder meetings and the surveys. All of the agencies visited in January and February were invited to participate. These workshops were attended by:

- Department of Agriculture
- Environmental Health Department
- Tourism Division
- Port Authority
- Taxi Association
- Montserrat Association for Persons with Disabilities
- Fisher folk with boats moored in Little Bay

The detailed baseline data from these consultations were used to prepare and update the ESIA.

In 2020, the preparation of the draft ESIA Addendum and the updating of the attachments in the ESMP identified the stakeholders who would be affected by the changes to the proposed design (i.e., the Current Layout). Analysis indicated that these stakeholders would be users of the Little Bay Reef and the Rendezvous Bluff. This group comprised fishers, divers and tour operators.

Of specific concern was the fishers, because the moorings that they currently utilise will be removed during construction of the pier. After the dredging works, five permanent buoys will be installed near to the existing jetty to alleviate some of the displacement. Information provided by the Government of Montserrat indicated that the plan for the fishers was to provide each boat owner with a trailer to facilitate the launch and haul up of their boats. The GOM has stated that in the short term the existing Fisheries Department vehicle will be used to assist the fishers that do not presently have a vehicle to transport the trailers. It was stated that the fishers have duty-free concessions for purchasing trucks. The fishers are expected to be responsible for the servicing and maintenance of the trailers. There is an existing government-owned boatyard which is



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approximately 1.75 acres in capacity and is 550 m away from the existing slipway where the fishers can store their boats at no cost.

Approximately 32% of the Project Footprint overlaps with Little Bay Reef, which represents a 14% relative increase in the amount of reef habitat that will be directly lost in comparison with the Original Layout. This means that apart from the fishers, tour operators and divers would have a reduced area for their recreational and commercial activities in the area. Therefore, this was also another group investigated in this phase of the study.

Project construction and operation activities will take place in closer proximity to sensitive bat habitat on Rendezvous Bluff. In addition, coastal protection works on the seaward side of the proposed pier are located approximately 48 m closer to the southern limit of sensitive bird habitat on Rendezvous Bluff than the breakwater associated with the Original Layout would have been. Therefore, interviews were also conducted with the operators who include the Bat Cave and bird watching in their tours.

Therefore, in 2020 the interviews were conducted with:

- 12 fishers who moor in the Little Bay
- 10 fisher crew members
- 16 individuals or organisations who operate tours at the Little Bay reef
- 2 crew members who work with tour operations at the Little Bay reef
- 6 operators who conduct tours that include a stop at the Bat Cave
- 1 individual who operates bird watching tours at Rendezvous Bluff
- 3 businesses whose access road is adjacent to the Port

A detailed Stakeholder Engagement Plan (SEP) has been prepared to provide guidance to the Montserrat Port Authority in their implementation of the Project. The SEP recommends effective methods to disseminate Project information to ensure regular, accessible and transparent consultation and to build mutually beneficial and respectful relationships amongst the stakeholders. It also recommends processes that allow the stakeholders to influence the Project planning and implementation, and defines reporting and monitoring measures to ensure the effectiveness of the SEP.

### 3.2 Public Consultation

The draft Original ESIA was made available for public comment on November 18, 2020 and the draft ESIA Addendum was made available for public comment on June 18, 2021. The public was notified through advertisements that printed copies of these documents could be reviewed by members of the public at the Montserrat Public Library and at the Port Authority, and that electronic copies of the documents could be reviewed online through GOM's website.

The public was also invited to attend a Town Hall meeting that was held at the Montserrat Cultural Centre on June 29, 2021, where information about the Project and ESIA Addendum, including the RAP, was presented and discussed. The meeting was live-streamed online for those who could not attend in-person and the full video was subsequently uploaded to the internet by the GOM Information Unit so that interested members of the public could review it at their convenience.



## MONTERRAT PORT DEVELOPMENT PROJECT

Overview of Impact Assessment Methods and Conclusions from Original ESIA  
September 15, 2021

Public comments submitted on the Original ESIA, ESIA Addendum, and Town Hall meeting were accepted until the closing date of July 16, 2021 for comments. Appendix C contains a record of the public comments that were received and the Proponent's responses to those comments. Most of the public comments were related to the conceptual layout and preliminary Port design of Alternative K and matters such as Project-related financial costs and liability, the life of the Project, potential disruptions to Port operations, and operational and maintenance requirements for the Project and the Port. Comments related to environmental and social issues were less common and included questions about the potential effects of Project construction on resident bats and birds as well as the potential effects of Project construction and operation on the local community and stakeholders. Concerns were also raised regarding accessibility for persons with disabilities and employment discrimination against persons with disabilities.

### 4.0 OVERVIEW OF IMPACT ASSESSMENT METHODS AND CONCLUSIONS FROM ORIGINAL ESIA

The Original ESIA (Stantec 2019a) focused on the identification and assessment of potential adverse environmental (biophysical) and social impacts of the Project on Valued Components (VCs). VCs are components of the natural and socio-economic environment that may be impacted by the Project and that are of value or interest because they have been identified to be of concern by regulatory agencies, the Proponent, resource managers, scientists, key stakeholders, and/or the general public.

The following VCs were selected for the Original ESIA and have been carried forward for this ESIA Addendum:

- **Environmental VCs**
  - Atmospheric Environment
  - Coastal Features
  - Marine Habitat and Fauna (including coral reefs and coral species)
  - Avifauna
  - Terrestrial Flora and Fauna (including bats)
- **Social VCs**
  - Public Health and Safety
  - Occupational Health and Safety
  - Community Infrastructure and Services
  - Employment
  - Visual Amenity
  - Business Growth and Development
  - Little Bay Business Community
  - Fishers
  - Divers and Other Users of Little Bay Reef
  - Tourism
  - Community Aesthetics
  - Shipping and Related Services



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Refer to Sections 3.3.2 (Selection and Scoping of Valued Components), Section 4.1 (Identification of VCs), and Section 4.4 (Identification of Project-VC Interactions) of the Original ESIA (Stantec 2019a) for information regarding the scopes of these VCs, the rationales for their selection (which remain applicable), and potential Project-VC interactions.

The scope of the Project that was assessed in the Original ESIA included the following Project activities and components. With the exception of the breakwater/quay structure, which will be substituted by a pier structure in the Current Layout, these Project activities and components associated with the Original Layout are generally applicable for the scope of the Current Layout as well:

- **Construction**
  - Access road construction (including clearing, potential blasting, paving, slope stability measures, coastal protection, installation of drainage works, construction vehicles on-site, and landscaping)
  - Dredging (including disposal of dredged materials and potential underwater blasting)
  - Breakwater and quay construction (including in-water construction works, potential for pile driving, safety exclusion zones, alteration in marine processes)
  - Potential concrete plant operation on-site or nearby
  - Construction vehicle traffic to and from the site (including trucking of materials to site from the quarry)
  - Ship traffic on and to the site (including barging of materials to site and presence of construction-related vessels on-site)
- **Operation and Maintenance**
  - Presence of breakwater and quay (including permanent lighting, change in hydrodynamic circulation patterns in the bay, periodic maintenance)
  - Vessel traffic to and from the Port (scope is limited to Little Bay and Carr's Bay)
  - Loading/offloading of supplies and passengers (including potential for introduction of invasive species, customs inspection and clearance, and storage of materials)
  - Maintenance dredging
- **Accidental Events**
  - Spills or leaks of oil or other hazardous materials
  - Failure of sediment control measures

The spatial boundaries that were defined for the assessment in the Original ESIA were as follows:

- **Project Footprint:** This is the immediate area in which proposed Project activities and infrastructure will occur. The Project Footprint for the Original Layout was indicated on Figure 4.1 in the Original ESIA and is also included on Figure 2.4 in this ESIA Addendum.



## MONTSERRAT PORT DEVELOPMENT PROJECT

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- **Area of Influence (AOI):** The AOI is the area in which potential Project impacts would be experienced. The AOI can vary depending on the nature of the VCs being considered. The AOI for the Coastal Features, Marine Habitat and Fauna, Avifauna, and Terrestrial Flora and Fauna VCs is limited in scope to Little Bay, Carr's Bay and the surrounding coast as shown on Figure 4.2 in the Original ESIA. For the Atmospheric Environment VC, the AOI also includes sensitive receptors along the potential trucking route of materials from the quarry to the site. The AOI for the Social Impact and Gender Analysis is discussed in Section 13.1 of the Original ESIA and encompasses the entire island of Montserrat. As indicated in Section 11.1 (Scoping of the Cumulative Impacts Assessment and Sources of Potential Cumulative Impacts) of the Original ESIA, the AOI is also the area in which residual Project environmental impacts have potential to interact with residual environmental impacts from other physical activities, and in which Project contributions to cumulative environmental impacts are likely to be measurable.
- **Regional Study Area (RSA):** The RSA is a broader area used in describing the existing conditions of the VCs and to provide broader context for the assessment of potential environmental impacts. For this Project, the RSA includes the island of Montserrat and surrounding Caribbean waters.

Although the Project Footprint for the Current Layout has changed and is considerably smaller than the Project Footprint for the Original Layout, as illustrated on Figure 2.4, the spatial boundaries that were established for the Original Layout in Section 4.2.1 (Spatial Boundaries for the EIA) and Section 13.1 (Scope of Work for the SIA) of the Original ESIA otherwise remain generally applicable for the Current Layout. The temporal boundaries that were established for the Original Layout in Section 4.2.2 (Temporal Boundaries) of the Original ESIA included the periods of construction and operation. The temporal boundaries for the Current Layout entail a shorter construction period but are otherwise similar to the temporal boundaries for the Original Layout.

The assessment methods used in the Original ESIA included an evaluation of the potential environmental and social impacts for each VC that could arise from routine activities during the construction phase and the operation and maintenance phase of the Project, as well as from non-routine accidental events. The EIA component of the Original ESIA also considered potential cumulative impacts that could arise from the residual impacts of the Project in combination with the residual impacts from other past, present, or likely future physical activities, and the potential impacts of the environment on the Project. The Original ESIA also proposed mitigation/management measures that are technically and economically feasible to reduce, control, or eliminate potential Project-related impacts and impacts of the environment on the Project. The assessment was conducted within defined spatial and temporal boundaries and in consideration of defined residual environmental impact rating criteria for the characterization of residual impacts as well as defined thresholds for the significance of residual environmental impacts (i.e., impacts that occur after planned mitigation is applied). The methods that were used for the assessment of potential Project-related impacts associated with the Original Layout are described further in Chapter 4 (Assessment Methods) of the Original ESIA (Stantec 2019a); similar assessment methods were employed for this ESIA Addendum, but with a focus on how the potential environmental and social impacts that were identified in the Original ESIA could change as a result of the Current Layout.





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Overview of Impact Assessment Methods and Conclusions from Original ESIA  
September 15, 2021

The potential Project-related environmental impacts that were assessed in the Original ESIA for the Original Layout included: potential changes in air quality, greenhouse gases, and acoustic emissions that could affect the Atmospheric Environment VC; changes in the integrity of coastal landforms that could affect the Coastal Features VC; changes in habitat quality and use and changes in marine populations that could affect the Marine Habitat and Fauna VC; and changes in habitat quantity, quality or use and changes in risk of mortality or physical injury that could affect the Avifauna VC and the Terrestrial Flora and Fauna VC.

The Original ESIA concluded that most of the potential adverse Project-related impacts identified in the assessment would be addressed by engineering design, standard mitigation measures, and best management practices. With the implementation of proposed mitigation measures, the potential adverse residual environmental impacts of Project activities and components, accidental events, cumulative impacts, and impacts of the environment on the Project were predicted in the Original ESIA to be not significant for all VCs, with one exception: The Original ESIA identified potential significant impacts on the colony of Antillean fruit-eating bats (*Brachyphylla cavernarum*) that roosts in caves at the base of Rendezvous Bluff.

With respect to the social environment, several benefits and potential impacts were identified in the Original ESIA. During construction, benefits would be related to the employment and expenditures generated by the Project. Potential adverse impacts identified for the construction phase included concerns related to the influx of migrant workers and subsequent strain on housing and potential increase in unacceptable social practices. Dust and noise generated by construction activities would have an impact on local residents and businesses, and construction could interfere with existing Port operations. The final placement/disposal of dredged materials would require careful consideration and construction could pose a risk to both public health and safety and worker health and safety. All of these impacts could be reduced to acceptable levels through mitigation identified in the Original ESIA and were therefore predicted to be not significant.

The Original ESIA also identified longer-term economic opportunities and social benefits that would begin to occur during the operation of the Project. Operation of the Original Layout for the Project would enable Montserrat to provide a safe harbour for cruise ships, ferries, yachts, cargo vessels, fishing vessels, and other vessels. This would ultimately result in increased cargo and tourism arrivals and create the opportunity for increased investment and economic growth on the island. Furthermore, during inclement weather, boat owners would have a safe harbour for their boats and would not all have to haul them up or sail to Antigua. Another potential benefit of the Original Layout that was identified in the Original ESIA is that the Port would aid in the evacuation of the country during an emergency event, especially in light of the fact that the airport only has capacity for small aircrafts.

Potential adverse social impacts assessed in the Original ESIA for the operational phase of the Project included: the potential for nefarious forms of trade, such as human trafficking and the movement of illegal drugs, firearms and other forms of contraband; and effects of increased ship traffic, including ship wastes; the potential introduction of invasive species and disease vectors; and a strain on the already under-resourced staff of the immigration and customs. Recommendations for capacity building of personnel to address issues pertaining to human trafficking and smuggling are included in the ESMP and the Guidelines for Gender and Socially inclusive construction projects. Infrastructure improvements in the Port's on-land facilities and staffing resources. However, they are beyond the scope of this Project.



### 5.0 BASELINE CONDITIONS

The information provided in Chapter 5 of the Original ESIA (Stantec 2019a) regarding baseline conditions for the environmental VCs remains generally valid and applicable with respect to the Current Layout and requires no updating other than to note that a new marine benthic habitat survey program was undertaken within the Project Footprint for the Current Layout in late November and early December 2020. A summary of the results of the updated marine benthic habitat survey program is presented in Section 5.1 below. A detailed benthic survey report describing the methods and results of this updated marine benthic habitat survey program are provided in a stand-alone report (Stantec 2020).

The information provided in Chapter 14 of the Original ESIA (Stantec 2019a) regarding baseline conditions for the social VCs requires updating in consideration of additional information obtained through social stakeholder interviews completed in support of this ESIA Addendum, but otherwise remains generally valid and applicable with respect to the Current Layout. The detailed results of these additional questionnaires and interviews are included in Appendix B, with the key findings summarized in Section 5.2 below.

#### 5.1 Updated Overview of Marine Benthic Habitat

The updated marine benthic survey program (Stantec 2020) conducted in late November and early December 2020 included:

- quantitative transect surveys of the seabed to collect field data for the coverage of benthic marine habitat and health of a marine ecosystem, including corals, within the Project Footprint for the Current Layout
- a qualitative tow survey to provide a general description and identification of the relative abundance of corals and dominant taxa (e.g., soft corals (sea fans), seagrasses, sponges, etc.) and characterize the benthic habitat within the Project Footprint for the Current Layout
- identification of coral species on the IUCN Red List of Threatened Species within the Project Footprint for the Current Layout that would be proposed for relocation and potentially larger coral colonies (> 30 cm) that are not species at risk

Qualitative descriptions of the substrate, macrofauna and macroflora observed during the 2020 benthic habitat survey are provided in Table 5.1. The locations of the underwater video transects are illustrated in Figure 5.1. Conditions observed during the 2020 survey were similar to those observed during the 2019 survey, which are described in the Original ESIA (Stantec 2019a). In general, there was a mix of hard bottom with coral rubble and some live coral and sandy areas. Pockets of sand were observed in between larger rocks in the sections with hard bottom. Turf algae was observed growing on some rocks and the invasive seagrass *Halophila stipulacea* was observed in sandy areas, including some dense patches. Long-spined sea urchins (*Diadema antillarum*) and several species of coral, sponge and fish were observed in sections with hard bottom, while no macrofauna was observed in sandy areas. Stony coral species observed during the 2020 survey include symmetrical brain coral (*Diploria strigosa*), ten-ray star coral (*Madracis decactis*), finger coral (*Porites porites*), occasional mountainous star coral (*Orbicella faveolata*) and pillar coral (*Dendrogyra cylindrus*), the hydrozoan blade fire coral (*Millepora complanata*), and sea



## MONTSERRAT PORT DEVELOPMENT PROJECT

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plumes (*Pseudopterogorgia* spp.). Sponge species observed during the 2020 survey included yellow tube sponge (*Aplysina fistularis*), red encrusting sponge (*Spirastrella coccinea*), stinker sponge (*Ircinia felix*), barrel sponge (*Xestospongia muta*) and green finger sponge (*Iotrochota birotulata*).

**Table 5.1 Results of Underwater Video Collected in the Project Footprint in November 2020**

Area	Transect <sup>1</sup>	General Characteristics of Benthic Habitat
Pier	T1-1	<ul style="list-style-type: none"> <li>Boulders and rubble with some live coral</li> <li>Pockets of sand in between larger rocks</li> <li>Some silt and turf algae growth on rocks</li> <li>Corals observed included brain coral (<i>Diploria strigosa</i>), finger coral (<i>Porites porites</i>) and ten-ray star coral (<i>Madracis decactis</i>)</li> <li>Other macrofauna observed included yellow tube sponge, long-spined sea urchin and multiple species of fish</li> </ul>
	T1-2	<ul style="list-style-type: none"> <li>Boulders and rubble with some live coral</li> <li>Some pockets of sand amongst larger rocks</li> <li>Some turf algae growth on rocks</li> <li>Flat sandy area at end of transect</li> <li>Patchy <i>Halophila stipulacea</i> seagrass observed in some sandy areas including pockets of sand between boulders</li> <li>Several types of sponges were observed including yellow tube sponge, red encrusting sponge, stinker sponge, barrel sponge and finger sponge</li> <li>Other macrofauna observed included ten-ray star coral, long-spined sea urchin and several species of fish</li> </ul>
Pier	T2-1	<ul style="list-style-type: none"> <li>Boulders and rubble with some live coral</li> <li>Pockets of silty sand amongst larger rocks</li> <li>Some turf algae growth on rocks</li> <li>Some <i>Halophila stipulacea</i> observed, including dense patches</li> <li>Flat sandy area with visible sand ripples at end of transect</li> <li>Coral species observed included brain coral, blade fire coral and ten-ray star coral</li> <li>Other macrofauna observed included long-spined sea urchin, yellow tube sponge, green finger sponge, barrel sponge and several species of fish</li> </ul>
	T2-2	<ul style="list-style-type: none"> <li>Flat sandy area continues in this section</li> <li>Visible ripples in sand</li> <li>Some <i>Halophila stipulacea</i> observed</li> </ul>



## MONTSERRAT PORT DEVELOPMENT PROJECT

Baseline Conditions  
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**Table 5.1 Results of Underwater Video Collected in the Project Footprint in November 2020**

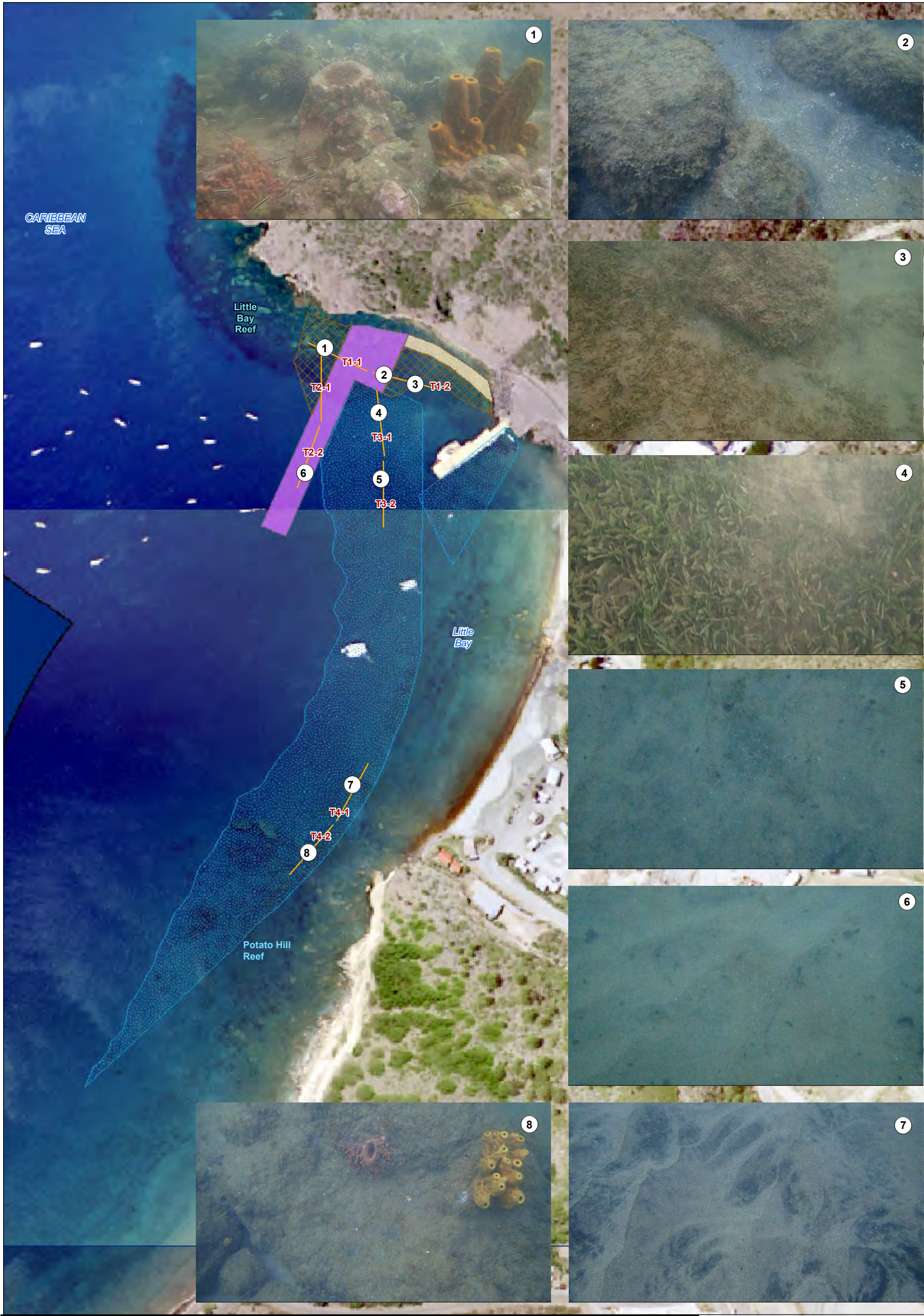
Area	Transect <sup>1</sup>	General Characteristics of Benthic Habitat
Dredging	T3-1	<ul style="list-style-type: none"> <li>Flat sandy area with visible sand ripples</li> <li>Some <i>Halophila stipulacea</i> observed, including dense patches</li> <li>No macrofauna observed</li> </ul>
	T3-2	<ul style="list-style-type: none"> <li>Flat sandy area with visible sand ripples</li> <li>No macroflora or macrofauna observed</li> </ul>
	T4-1	<ul style="list-style-type: none"> <li>Flat sandy area with visible sand ripples</li> <li>No macroflora or macrofauna observed</li> </ul>
	T4-2	<ul style="list-style-type: none"> <li>Flat sandy area at start of transect that transitions into boulders and rubble with some live coral</li> <li>Turf algae growth observed on some rocks</li> <li>Some sand observed in between larger rocks</li> <li>Coral species observed included ten-ray star coral, blade fire coral and sea plumes</li> <li>Sponge species observed included green finger sponge, stinker sponge, yellow tube sponge, barrel sponge and red encrusting sponge</li> <li>Multiple species of fish were observed</li> </ul>
Note: <sup>1</sup> Underwater video collected by Island Solutions using a GoPro; refer to Figure 5.1 for location of transects		

The hard bottom along the nearshore location of the Current Layout for the pier and to the west along where the seaward coastal protection will be installed is comprised of boulders and rubble with live corals and sponges (Photo 1 on Figure 5.1). Pillar coral (*Dendrogyra cylindris*) was observed by Stantec in this area during the 2019 survey and by Island Solutions during the 2020 survey. To the east of the Current Layout, where the leeward coastal protection will be installed, there is a mix of boulders with turf algae and pockets of sand with some seagrass (Photos 2 and 3 on Figure 5.1). Dense patches of seagrass were observed in the north dredging area (Photo 4 on Figure 5.1). As you move southward in the dredging area there is a transition to sand with little to no macroflora and macrofauna (Photo 5 on Figure 5.1). This is consistent with the substrate in the footprint of the Current Layout as you move south towards the end of the pier (Photo 6 on Figure 5.1). Sand was also observed in the south dredging area (Photo 7 on Figure 5.1). There is a transition to hard bottom with turf algae and corals and sponges in the southern extent of the dredging area (Photo 8 on Figure 5.1). Sea plumes were also observed in this area during the 2019 and 2020 surveys.





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**Notes**  
1. Coordinate System: Montserrat 1958 British West Indies Grid  
2. Data Sources:  
3. Background: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community  
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

**Proposed Project Features**

- Pier
- Access Road
- Coastal Protection
- Dredging Area

Quantitative 50 m Benthic Habitat Transect

0 30 60 metres



**Project Location**  
Little Bay, Montserrat  
**Client/Project**  
Montserrat Port Authority  
Montserrat Port Development Project  
**ESIA**  
**Figure No.**  
5.1  
**Title**  
Location of Quantitative Transects in the Project Footprint



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September 15, 2021

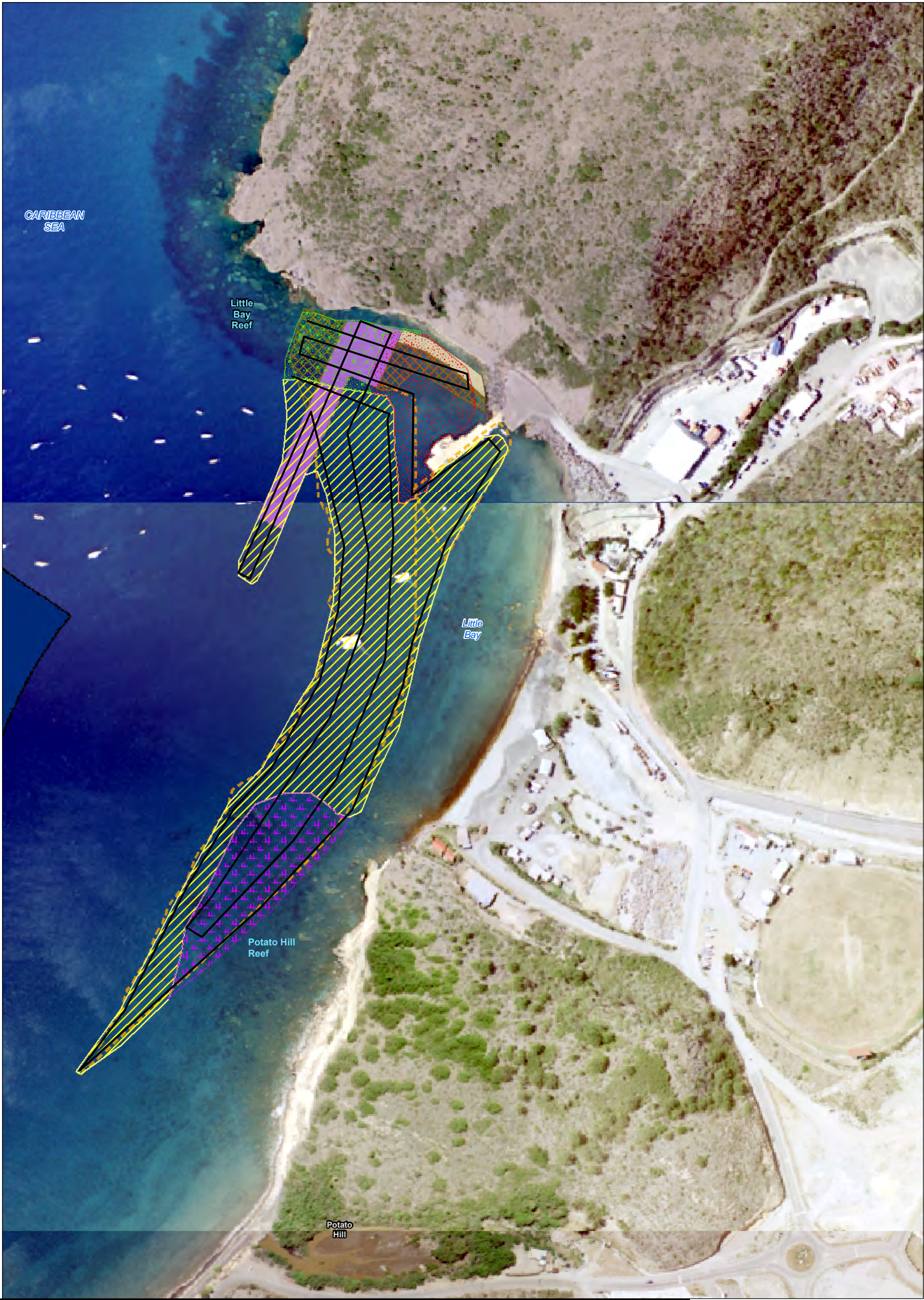
Preliminary analyses of the detailed quantitative survey data indicate that the main substrate types described on Transect T1 were rock, coralline algae, fleshy algae, hard coral and turf algae. Silt/clay and sand were the main substrate types described on Transect T2. The predominant substrate type described on Transects T3 and T4 was sand; though a transition to harder bottom was noted after the 56 m mark on Transect T4 in the south dredging area. These preliminary analyses of the quantitative survey data were generally consistent with the qualitative observations described above. One discrepancy was the silt/clay habitat identified on Transect T2 during the detailed quantitative survey. Full analysis of the quantitative survey data is provided in Stantec (2020).

Benthic habitat in the Project Footprint is illustrated in Figure 5.2. These habitats were determined based on existing knowledge of the Area of Interest, and analysis of the 2020 benthic habitat survey data (quantitative transects and qualitative tow survey), and aerial imagery. The qualitative tow survey covered the greatest area of the Project Footprint; the qualitative tow route is also illustrated on Figure 5.2. Sand is the most common habitat type when considering the Project Footprint as a whole and covers approximately 66% of the Project Footprint (Stantec 2020). There are areas with hard bottom in the northern portion of the Project Footprint near Rendezvous Bluff and further south in the southern dredging area. Hard bottom in the northern portion was comprised of boulders and rubble and live coral and sponges; this habitat type covers approximately 7% of the Project Footprint (Stantec 2020). There was also an area to the east of the location of the proposed pier that contained sand and larger rocks with turf algae; this habitat type covers approximately 12% of Project Footprint (Stantec 2020). The invasive seagrass *Halophila stipulacea* was observed in this area, including some dense patches. The hard bottom in the southern dredging area was comprised of boulders and rubble with turf algae; this habitat type covers approximately 16% of Project Footprint (Stantec 2020). Live corals and sponges were also observed in this area, including sea plumes. A juvenile green sea turtle (*Chelonia mydas*) or possibly hawksbill sea turtle (*Eretmochelys imbricata*) because of the distance it was observed was seen in the southern dredging area during the qualitative tow survey.





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**Notes**  
1. Coordinate System: Montserrat 1958 British West Indies Grid  
2. Data Sources:  
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
Esri, HERE, Garmin, (c) OpenStreetMap

- Proposed Project Features**
- Pier
  - Access Road
  - Coastal Protection
  - Dredging Area
- Qualitative Tow Survey**
- Benthic Habitat**
- Sand
  - Sand and some smaller rocks with turf algae and seagrass
  - Boulders and rubble with live corals and sponges
  - Boulders and rubble with turf algae and live corals and sponges

0 30 60 metres

N

**Project Location**  
Little Bay, Montserrat

**Client/Project**  
Montserrat Port Authority

**Figure No.**  
5.2

**Title**  
Benthic Habitats in the Project Footprint

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Montserrat Port Development Project  
ESIA



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The locations of coral species on the IUCN Red List of Threatened Species in the Project Footprint that have been identified for potential relocation are illustrated in Figure 5.3. Coral species on the IUCN Red List that were identified for potential relocation included pillar coral (*Dendrogyra cylindrus*), elliptical coral (*Dichocoenia stokesii*) and mountainous star coral (*Orbicella faveolata*). Six colonies of pillar coral were identified while 23 colonies of elliptical coral and five colonies of mountainous star coral were identified.

Long-spined sea urchins are important herbivores that prevent the overgrowth of macroalgae on corals and allow for new coral larvae to settle, and their absence negatively affects coral health and reproduction (Waitt Institute 2016). The numbers of long-spined sea urchins observed during the quantitative transect survey are provided in Table 5.2 along with their density per square metre. Long-spined sea urchins were only observed on Transects 1 and 2 during the survey and were most abundant in the segments closer to Rendezvous Bluff. It was also noted during the 2019 survey conducted by Stantec that long-spined sea urchins were observed throughout the Area of Interest, particularly off Rendezvous Bluff. Most of the long-spined sea urchins observed during the 2020 quantitative transect survey were adults but some juveniles were observed as well.

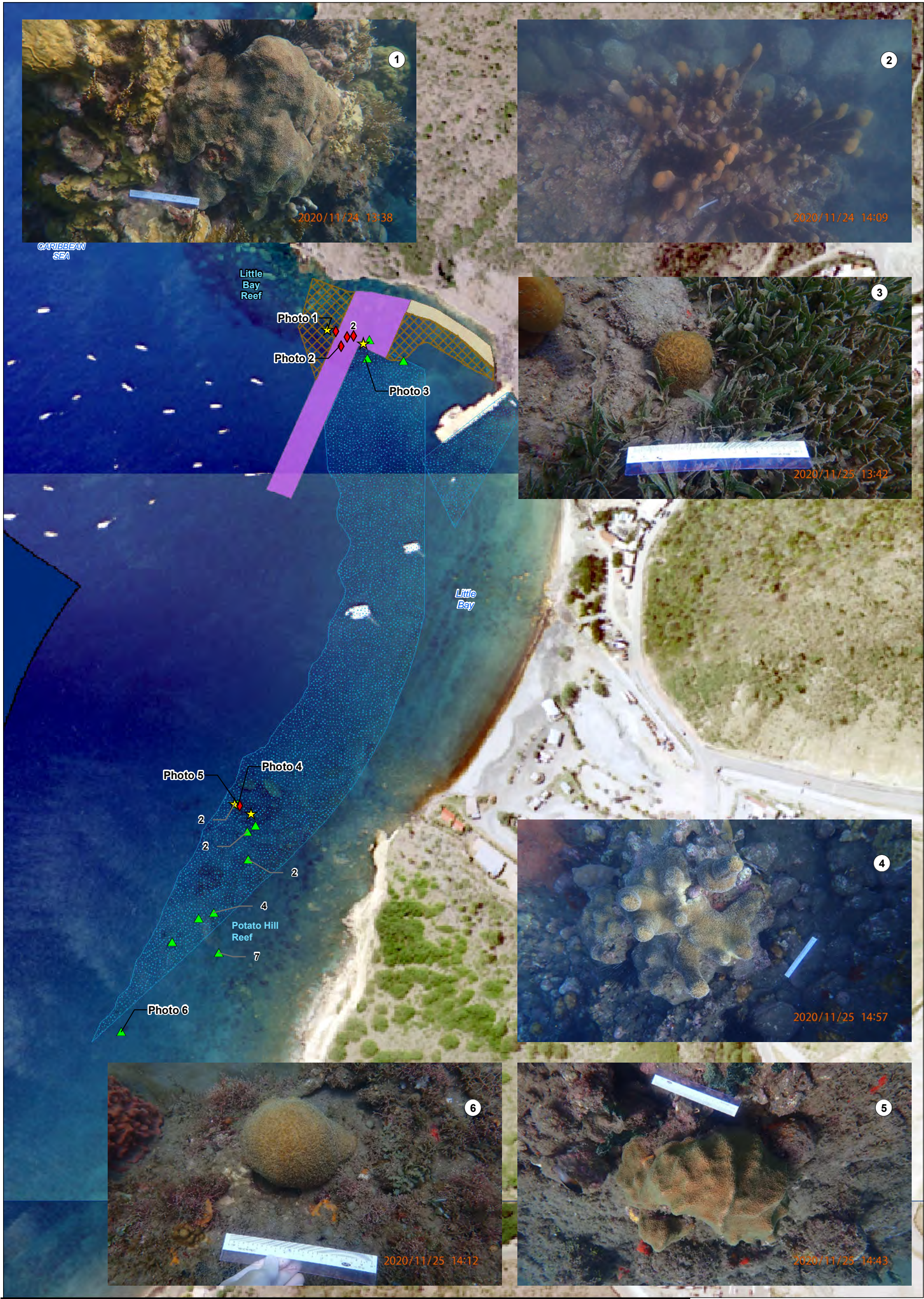
**Table 5.2 Long-Spined Sea Urchins Observed During Quantitative Transect Surveys in the Project Footprint in November 2020**

	Transect 1		Transect 2	
Segment	Number of Urchins	Density of Urchins per m <sup>2</sup>	Number of Urchins	Density of Urchins per m <sup>2</sup>
1 (0 to 19.5 m)	117	5.85	181	9.05
2 (25 to 44.5 m)	69	3.45	54	2.7
3 (50 to 69.5 m)	34	1.7	0	0
4 (75 to 94.5 m)	2	0.1	0	0





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**Notes**  
1. Coordinate System: Montserrat 1958 British West Indies Grid  
2. Data Sources:  
3. Background: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community  
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

**Proposed Project Features**  
Pier  
Access Road  
Coastal Protection  
Dredging

**Coral Species**  
Elliptical (*Dichocoenia stokesi*)  
Mountainous Star (*Orbicella faveolata*)  
Pillar (*Dendrogyra cylindrus*)  
2 Number of Colonies (no number indicates only one colony)

0 30 60 metres

N

Project Location  
Little Bay, Montserrat  
Client/Project  
Montserrat Port Authority  
Montserrat Port Development Project  
ESIA  
Figure No.  
**5.3**  
Title  
**IUCN Red List Coral Species Identified for Potential Relocation**  
Stantec

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## 5.2 Updated Overview of Social Baseline Conditions

The information provided in Chapter 14 (Baseline Conditions for Social VCs) of the Original ESIA (Stantec 2019a) remains generally valid and applicable with respect to the Current Layout. However, there are three changes associated with the Current Layout that are likely to result in adverse social and gender impacts. Firstly, there is the decision to remove the moorings at the existing anchorage, as shown in Figure 2.1, that are used by the fishers in Little Bay. After the dredging works, five permanent buoys will be installed near to the existing jetty to alleviate some of the displacement. Secondly, the Current Layout is associated with a 14% relative increase in the amount of reef habitat that will be directly lost, in comparison with the Original Layout. Thirdly, construction will now take place closer to the bat caves and the sensitive marine bird habitat on Rendezvous Bluff. These Project design changes mean that fishers currently mooring vessels in Little Bay and all users of the Little Bay Reef, as well as those who conduct tours that include the bat caves or bird watching at Rendezvous Bluff, could potentially experience changes to their current modes of operation. As a consequence, additional information was collected on these groups and the details are presented in Appendix B. A summary of the main findings is presented in the sections below.

As indicated in Section 3.2, public consultation was also undertaken in support of the Project, including a public Town Hall meeting that was held on June 29, 2021 to present and discuss the Project. The public was also provided with opportunities to review and comment on draft ESIA documents. Comments were invited from the public regarding the draft Original ESIA, draft ESIA Addendum, and the Town Hall meeting for the Project. The submitted comments received through the public consultation process are presented in Appendix C; however, these comments did not necessitate any further updates to the social baseline conditions summarized below.

### 5.2.1 Social Surveys Methodology

In 2020, the preparation of the draft ESIA Addendum and the updating of the attachments in the ESMP identified the stakeholders who would be affected by the changes to the proposed design (i.e., the Current Layout). The process used was one-on-one interviews to gather detailed information to fully describe the potential impacts of the revised design on the stakeholders. The interviews were conducted with:

- 12 fishers who moor in the Little Bay
- 10 fisher crew members
- 16 individuals or organisations who operate tours at the Little Bay reef
- 2 crew members who work with tour operations at the Little Bay reef
- 6 operators who conduct tours that include a stop at the Bat Cave
- 1 individual who operates bird watching tours at Rendezvous Bluff
- 3 businesses whose access road is adjacent to the Port



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Interview questionnaires were designed and pilot tested for all of the stakeholder groups that are likely to be impacted by the decisions pertaining to the moorings in Little Bay and the design features of the Current Layout that are associated with the Little Bay Reef and the Rendezvous Bluff, namely:

- Fishers who own boats moored in Little Bay
- Crew who work on boats that are moored in Little Bay
- Tour operators who include the Little Bay Reef in their tours
- Employees of tour operators who assist with the Little Bay Reef tours
- Tour operators who include the bat caves in their tours
- Operators who conduct bird watching tours at Rendezvous Bluff
- The owners of the three businesses whose premises are immediately adjacent to the Port

Telephone and face to face interviews were conducted with most, if not all, members of each stakeholder group. In instances where face to face interviews were conducted, all parties adhered to COVID-19 protocols as required by the Government of Montserrat.

There is no official list of fishers who moor in Little Bay; therefore, a list was compiled by the Community Liaison Officer for the Project and verified with the GOM's Fisheries Unit. In addition, discussions with the fishers also confirmed who moored in the Bay and who worked as crew on those boats. The list of reef users was also compiled by the Community Liaison Officer and verified through discussions with the tour operators. Therefore, 95-100% of each stakeholder group is represented in the baseline data presented below. If additional members are identified for any of these groups subsequent to the submission of this report, their information can be collected by the Community Liaison Officer as part of the process of undertaking the ongoing stakeholder engagement in support of the implementation of the Project.

### 5.2.2 Fishers who Moor in Little Bay

At present there are 12 male fishers, between the ages of 30 and 74 years, who only own boats and are known to moor their boats in Little Bay. Research confirms that this pattern of male prevalence in the harvesting segment of the fisheries value chain is a common feature in Caribbean fisheries (Pena et al. 2020, Perch et al. 2020). The majority (75%) of the 12 fishers reported that they have been mooring their fishing boats in Little Bay for over 20 years and just under half of the fishers (42%) had moored their boats on the Western coast of the island in the past. However, they moved their boats to Little Bay primarily because of the volcanic eruption, as well as the accessibility and amenities available in Little Bay and its calmer waters. The fishers listed several advantages to mooring their boats in Little Bay, and top of the list for 92% of them was accessibility; 83% also listed proximity to their homes and sound mooring on a good bottom.

As already established in the Original ESIA, there is no safe alternate bay for the fishers to relocate their vessels to; this was again confirmed by 83% of the fishers in this survey. Therefore, for all 12 fishers, the main change that would occur when they can no longer moor in Little Bay would be obtaining a trailer to launch and haul up their boats, since none of them currently owns a trailer. It also means, as identified by eight of the fishers (i.e., 67% of the respondents), that they will have to spend more time launching and hauling up their boats, as well as spend more on fuel, and there will also be additional time and costs to travel to an alternate location to Little Bay for fishing, if available. In addition, seven (58%) of the fishers will



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need a vehicle to assist with the hauling and launching of the trailer, because they do not currently own one.

These issues notwithstanding, their responses to being given a trailer as mitigation for the removal of the existing moorings were positive (Table 5.3). One respondent said that it was an excellent idea, because he could choose to spend money to purchase the larger engine he needs as opposed to a trailer. It was also recognized by another respondent as being more convenient to haul the vessel if given a trailer because of the prevailing weather experienced when the boat is anchored out at sea. However, one fisher admitted that mooring in Little Bay was better for him, because with a trailer it would also be necessary to consider the conditions of the water when launching the boat. He cautioned that *"if you leave in the morning to fish and the sea is calm, when you return and the sea is rough how are you still going to pull your boat out of the water?"*

**Table 5.3 Attitudes Towards being Provided with Trailers (N=12)**

Attitudes	Frequency of Response	Percentage
Being provided a trailer would be great (e.g., more convenient to haul vessel and preferable to anchoring at sea)	6	50%
Would utilise trailer if provided	3	25%
It is not just being provided a trailer, also have to take into consideration the conditions of the water and launching the boat	1	8%
No issue with the idea of being provided a trailer	3	25%
Would need to find a truck	1	8%

Among those seven fishers who did not already own an appropriate vehicle for transporting the trailer, six (86%) said that they would pay someone to transport it for them. One respondent said that he would not pay anyone to move his trailer because people are not always willing to have their vehicles in close proximity to salt water since it can speed up rusting, and the long-term costs and worries of having to maintain/pay for someone's vehicle caused by rust would be burdensome. Table 5.4 shows that the respondents indicated that payments to have a trailer transported range from between \$50 East Caribbean Dollars (XCD) and \$150 XCD per trip. It was not specified if the trip was one-way or round trip.

**Table 5.4 Approximate Cost of Transporting Trailers Per Trip**

Costs	Number of Respondents	Percentages
\$50 - \$60	1	17%
\$90 - \$100	2	33%
\$100 - \$150	1	17%
No response	2	33%
Total	6	100%

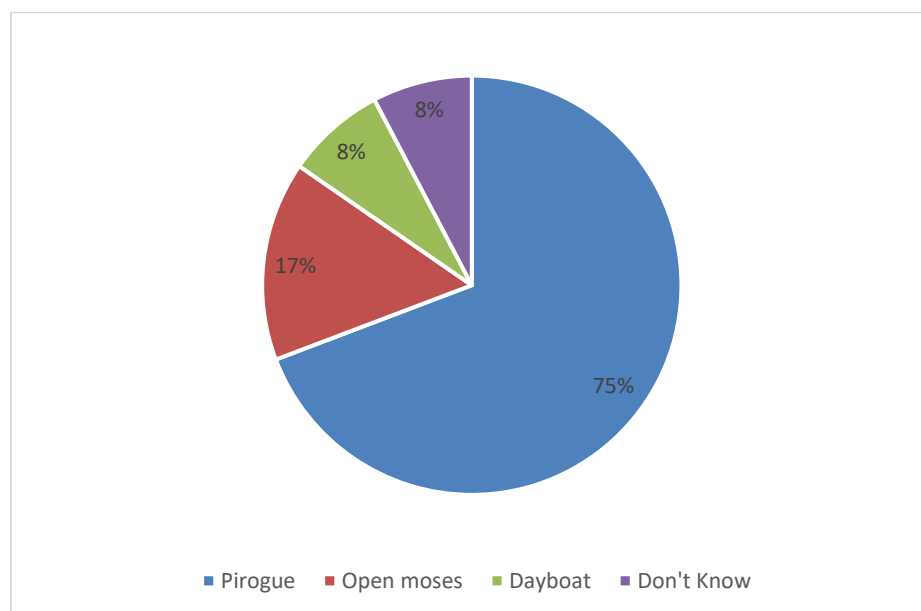


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### 5.2.2.1 Fish Boats and Gear

Eleven of the fishers reported that they owned only one boat, and one respondent owned two boats. The boat types vary from Pirogues, to Open Moses, and a Day Boat (Figure 5.4), and 66.7% of the boats are constructed of fibreglass, and the remainder are a combination of fibre-glass and wood. None of the twelve respondents reported paying insurance on their boats in the past year. The fishers stated that the absence of insurance was because insurance companies considered them too high a risk. In a 2018 assessment of insurance needs and opportunities in the Caribbean fisheries sector, a FAO study confirmed that as many as 97% of the fishing vessels and fishing assets were not insured, even though in most CARICOM countries there is at least one local insurer offering marine insurance. Notably no insurance company is listed in the FAO report for Montserrat. The report also suggested that affordability of policies was a challenge for fishers (Tietze and Van Anroov 2018).



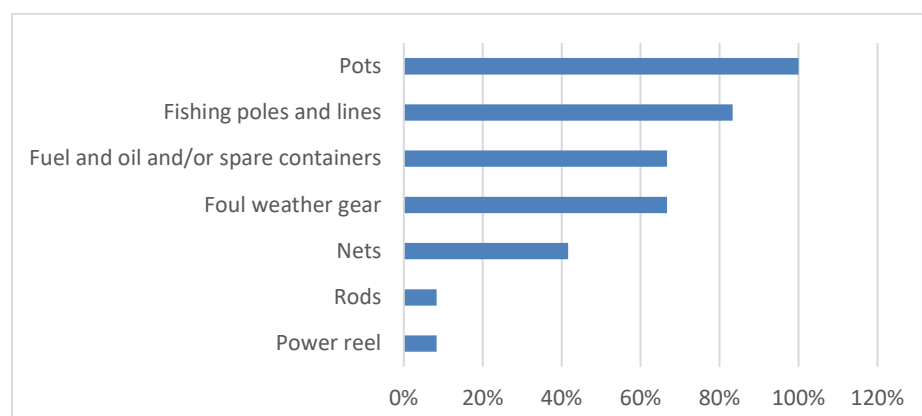
**Figure 5.4 Types of Boats Used by Fishers**

There was a wide diversity of engine capacities and boat lengths, which can be seen in Appendix B. All of the fishers owned fish pots, and the majority (82%) also owned fishing poles and lines (Figure 5.5). Several respondents (64%) also reported having foul weather gear and fuel and oil and/or spare containers. None of the respondents reported paying insurance on their gear in the past year.



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**Figure 5.5 Gear Owned by the Fishers**

Eleven of the 12 fishers said that they had onshore storage for their boats and gear. The one without onshore storage uses a storage locker which he secures on his boat. For 91% of the respondents, the storage facilities are mainly at their homes, but 36% also use the shed at the market. None of the fishers had ever experienced any security issues at the locations where they stored their gear. They also indicated that the locations were well protected from flooding, storm surge and high winds during severe weather events.

### 5.2.2.2 Fishing Effort and Income

Amongst the 12 fishers, 42% fished in Little Bay. Of these five fishers, 60% use nets, 40% use pots, and 20% use fishing poles and lines. Only one respondent fished on the Little Bay Reef and he used both pots as well as fishing poles and lines. The majority of the respondents spend between 21 and 30 hours per week fishing (Table 5.5), and they fish every day of the week, but Figure 5.6 indicates that there is a peak on Saturday and Sunday when they all fish.

**Table 5.5 Approximate Hours Per Week Spent Fishing**

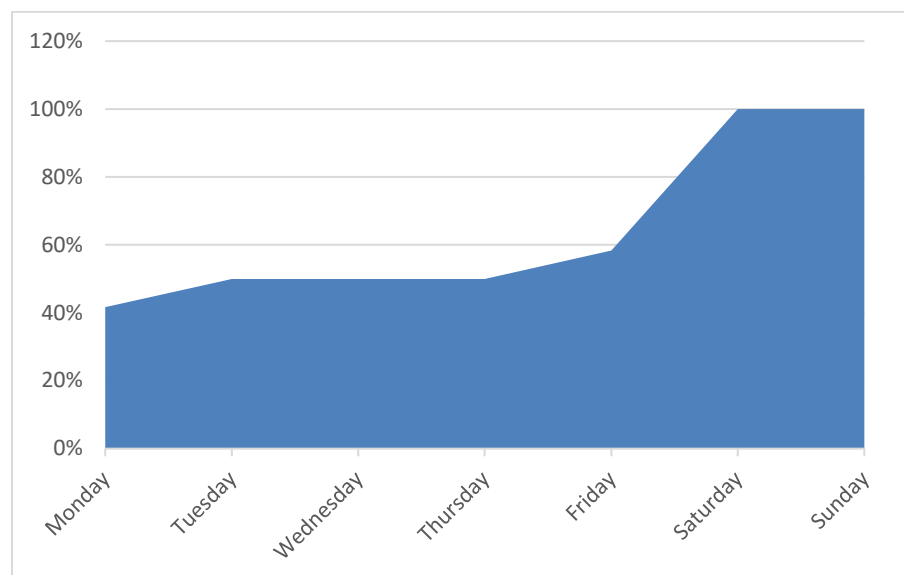
Hours	Number of Respondents	Percentage
21 – 30 hours	5	42%
31 – 40 hours	4	33%
11 – 20 hours	2	17%
8 – 10 hours	1	8%
Total	12	100%





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**Figure 5.6 Days of the Week Boat Owners Fish**

Fishing is not the sole source of income for the majority of these twelve fishers; 42% are fully self-employed without any employees, 25% are paid employees in government, and 17% are employed in private establishment. Only one fisher stated that fishing was his sole source of income. As such, fishing only provides a portion of the income for eleven of the fishers, ranging from less than half for 36% of the respondents, to half for 27% of the respondents, and to three-quarters for 36% of the respondents.

Table 5.6 shows that the main coping mechanism for 50% of these respondents if they lost their income from fishing would be to work multiple jobs. One of those who stated that fishing provided less than half of his income further explained that he could survive on the steady income from his main job.

**Table 5.6 Coping Mechanisms for Loss of Income from Fishing (N=12)**

Coping mechanisms	Frequency of Response	Percentage
Work multiple jobs	6	50%
Do not know	4	33%
Rely on government for assistance	2	17%
Rely on income from main job	2	17%
Borrow or ask relatives for money	1	8%

Half of the fishers are married or in a common-law relationship, and ten of them (83%) have between one to six dependants (Table 5.7).



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**Table 5.7 Number of Dependants Supported by Fishers**

Dependants	Number of Respondents	Percentage
No dependants	2	17%
One dependant	1	8%
Two dependants	1	8%
Three dependants	3	25%
Four dependants	3	25%
Five dependants	1	8%
Six dependants	1	8%
TOTAL	12	100%

Of these 29 dependants, who range from infants to the elderly, 62% are female and 38% are male (Table 5.8). Twelve of the dependants are students, three are unemployed and one is retired (Table 5.9). One male and one female dependant each are reported to have a physical disability.

**Table 5.8 Age and Sex of Fishers' Dependants**

Age	Frequency of response		Percentage		Total Percentage
	Female	Male	Female	Male	
0-4 years	1	2	3%	7%	10%
5-17 years	3	5	10%	17%	28%
18-29 years	3	3	10%	10%	21%
30-39 years	4	1	14%	3%	17%
40-49 years	2	0	7%	0%	7%
50-64 years	4	0	14%	0%	14%
65-74 years	1	0	3%	0%	3%
Total	18	11	62%	38%	100%

**Table 5.9 Employment Status of the Fishers' Dependants**

Employment status	Frequency of response		Percentage		Total Percentage
	Female	Male	Female	Male	
Full-time employed	8	0	28%	0%	28%
Not applicable	1	2	3%	7%	10%
Retired	1	0	3%	0%	3%
Student	5	7	17%	24%	41%
Unemployed	2	1	7%	3%	10%
Part-time employed	1	1	3%	3%	7%



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All of the fishers have a boat crew. The crew sizes range from one to four members (Table 5.10). All crew members are male and several work on multiple boats. In some instances, boat owners will crew on other boats or young male relatives will crew as part of the process of learning the trade.

**Table 5.10 Size of Fishers' Boat Crew**

Number of crew	Number of Respondents	Percentage
One crew member	3	25%
Two crew members	6	50%
Three crew members	1	8%
Four crew members	2	17%
Total	12	100%

Additional comments offered by the respondents about the Project included support for the Original Layout because the Current Layout is closer and can only accommodate a certain size of vessel. There was also the recommendation that Pipers Pond be dredged to provide alternate mooring.

### 5.2.2.3 Fisher Crew Members

Ten males who work as crew on the boats moored in Little Bay were interviewed. Based on the details provided by the boat owners, excluding those who crew on multiple boats and non-adult relatives, there are 11 persons who operate as crew on their boats; one was unavailable for interview at the time of this survey. The 10 crew members that were interviewed ranged in age from 30 to 74 years of age. Eight of them (90%) had attained secondary level education and one respondent each had attained primary level education.

Amongst the 10 respondents, they have been fishing with boat owners who moored in Little Bay beginning as recent as this year to over 40 years ago (Table 5.11). They identified the same advantages as the fishers mooring in Little Bay (i.e., 60% said accessibility, 50% said proximity to home, and 20% each said proximity to customers as well as sound mooring on a good bottom). They also concurred with the fishers that if the boats they crew on could no longer moor in Little Bay, the main changes would be the increased travel time and use of gasoline to get to an alternate location, getting trailers to haul the boats, the additional time needed to launch and haul the boat, and the need for a truck or tractor to move the trailer.

**Table 5.11 Length of Time Crew have been Fishing with Boat Owners in Little Bay**

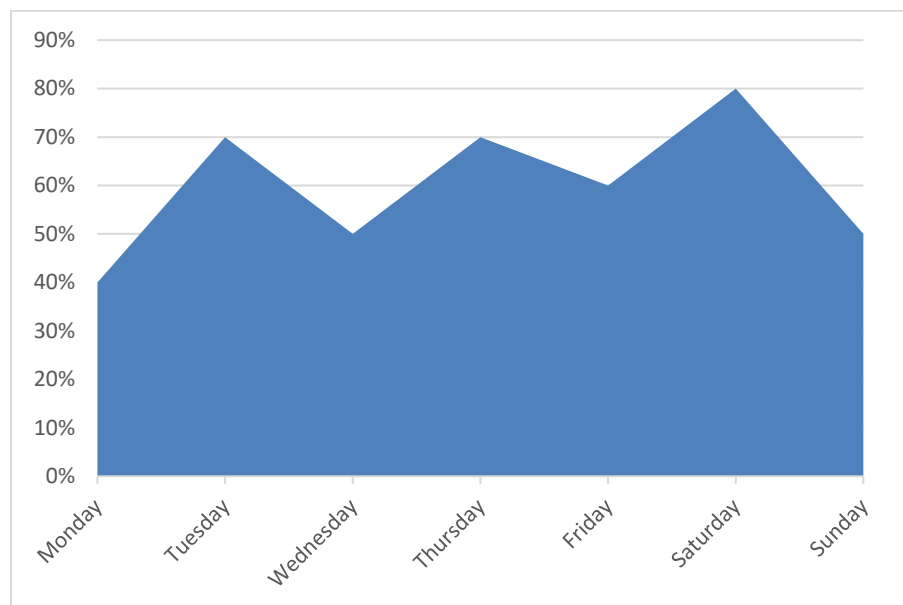
Years	Number of Respondents	Percentage
< one year	1	10%
1-5 years	1	10%
6-10 years	2	20%
11-20 years	1	10%
Over 20 years	2	20%
Over 30 years	2	20%
Over 40 years	1	10%
Total	10	100%



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The fishing activity of the crew is comparable to those of the boat owners (i.e., 90% use pots, 70% use fishing poles and lines [e.g., shore lining, bottom lining, long lining] and 20% use nets). Only one crew member reported that he spear-fished on the Little Bay Reef. Like the boat owners, fishing takes place every day of the week. However, it peaks on Saturdays, Tuesdays and Thursdays (Figure 5.7), whereas the boat owners mostly fished on weekends. With respect to fishing hours, 40% of the crew members indicated that they fish for less than 8 hours per week, and 30% stated that they fished between 11-20 hours and 31-40 hours per week.



**Figure 5.7 Days of Week Boat Crew Fish**

Among these crew members, 40% indicated that they fished from more than one boat, two fished from two boats, another fished on four boats, and the fourth fished on six different boats. Fishing was the sole source of income for only one crew member. Three of the crew members were fully self employed, three worked in the public sector, two worked in the private sector, and the final two were retired. For these nine who have alternate sources of employment, fishing was still a significant contribution to their overall income. For four of them fishing represented 50% of their income and for one of them fishing represented 75% of their income. Four respondents stated that fishing provided less than half of their income. When asked what they would do if they could no longer fish, six crew members (60%) said that they would work multiple jobs, and one of these also said that he would use his savings. One of the remaining four said that he did not know and two chose not to respond to this question.

Three of the crew members (30%) are married, 50% are single, and one is widowed. Eight of the respondents had between one and six dependants (Table 5.12). Table 5.13 displays the age and sex distribution of these dependants, indicating that six are female and five are male. There was one no response to this question.

Table 5.14 displays the employment status of the dependants and it was reported that one male and one female dependant both had a physical disability.



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**Table 5.12 Number of Crew Member Dependants (N=10)**

Number of Dependants	Number of Respondents	Percentage
No dependants	2	20%
One dependant	1	10%
Two dependants	3	30%
Three dependants	1	10%
Four dependants	1	10%
Five dependants	1	10%
Six dependants	1	10%

**Table 5.13 Age and Sex of Crew Member Dependants**

Years	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
0-4 years	0	3	0%	14%	14%
5-17 years	4	4	19%	19%	38%
18-29 years	2	0	10%	0%	10%
30-39 years	2	1	10%	5%	14%
40-49 years	2	0	10%	0%	10%
50-64 years	2	0	10%	0%	10%
65-74 years	1	0	5%	0%	5%
Total	13	8	62%	38%	100%

**Table 5.14 Employment Status of the Crew Member Dependants**

Employment Status	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Full-time employed	2	0	10%	0%	10%
Not applicable	1	3	5%	14%	19%
Retired	2	0	10%	0%	10%
Self employed	1	0	5%	0%	5%
Student	4	4	19%	19%	38%
Unemployed	3	0	14%	0%	14%
Other	0	1	0%	5%	5%
Total	13	8	62%	38%	100%



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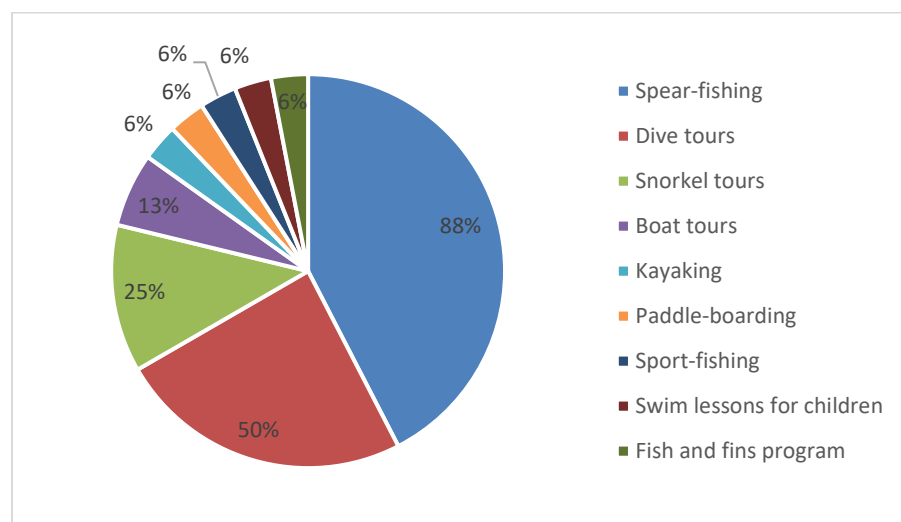
### 5.2.3 Users of the Little Bay Reef

Sixteen respondents who use the Little Bay Reef were interviewed. Fifteen were male and one was female. The sex and age distribution is displayed in Table 5.15.

**Table 5.15 Sex and Age of the Reef Users**

Age	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
18-29 years	0	5	0%	31%	31%
30-39 years	0	3	0%	19%	19%
40-49 years	1	4	6%	25%	31%
50-64 years	0	2	0%	13%	13%
65-74 years	0	1	0%	6%	6%
Total	1	15	7%	94%	100%

Figure 5.8 shows that spear-fishing is the dominant activity of the Little Bay Reef, multiple responses were permitted. This is conducted by 88% of the respondents. Half of the respondents conduct dive tours and 25% operate snorkel tours.



**Figure 5.8 Activities of Users on Little Bay Reef**

Table 5.16 shows that 31% of these respondents have been using the Little Bay Reef for over 20 years. Another 25% have been using it for between 11-20 years. Therefore, the activities at that location are well-established.



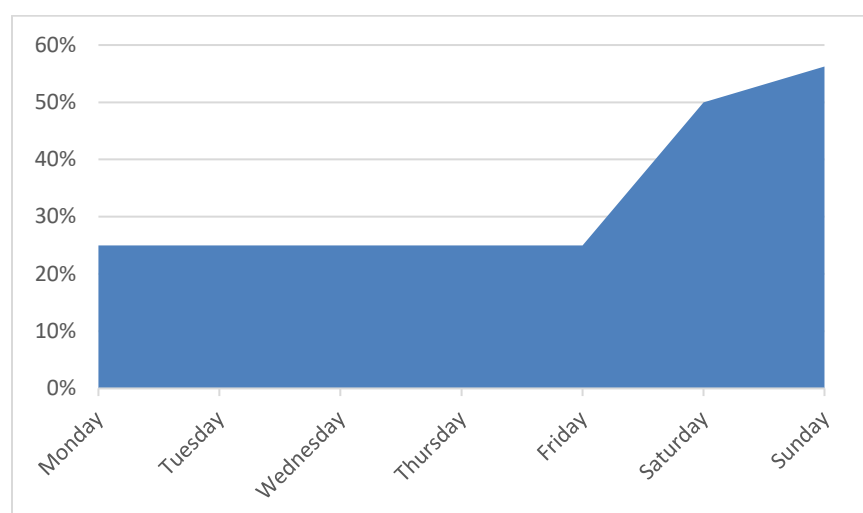
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**Table 5.16 Length of Time Respondents have been Using the Little Bay Reef**

Years	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
1-5 years	0	4	0%	25%	25%
6-10 years	1	2	6%	13%	19%
11-20 years	0	4	0%	25%	25%
Over 20 years	0	5	0%	31%	31%
Total	1	15	6%	94%	100%

The majority (63%) of these respondents typically use the Little Bay Reef for under eight hours per week, 25% for between 8-10 hours per week, and 13% use it between 11-20 hours per week. Figure 5.9 shows that the reef is used by these respondents every day, but it peaks on Saturday and Sunday.



**Figure 5.9 Days of Week Respondents Use the Reef**

Half of the respondents rated the quality of the Little Bay Reef as average compared to other reefs in Montserrat (Table 5.17). However, accessibility was the main advantage of using the reef, as identified by 88% of the respondents (Table 5.18). An additional advantage identified by 25% of the respondents was proximity to home and 19% said proximity to their customers. Another 13% of the respondents also stated that it was a safe distance to the shoreline when teaching children to swim.





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**Table 5.17 Users Rating of the Little Bay Reef**

Rating	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Average	0	8	0%	50%	50%
Good	0	2	0%	13%	13%
Poor	0	2	0%	13%	13%
Excellent	0	2	0%	13%	13%
Better than average	0	1	0%	6%	6%
Less than average	1	0	6%	0%	6%
Total	1	15	6%	94%	100%

**Table 5.18 Advantages Identified by Users of the Little Bay Reef (N=16)**

Advantages	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Accessibility	1	13	6%	81%	88%
Proximity to home	0	4	0%	25%	25%
Proximity to customers	0	3	0%	19%	19%
Additional safety/Safe distance to the shoreline when teaching children to swim	1	1	6%	6%	13%
Best reef available	1	0	6%	0%	6%
Proximity to Brades	0	1	0%	6%	6%
Sentimental value attached to the use of Little Bay Reef	0	1	0%	6%	6%
Recognisable - the first place you see when entering Montserrat	0	1	0%	6%	6%
Nice place to meet people (fostering tourist visits)	0	1	0%	6%	6%
The depth is suitable for beginners	1	0	6%	0%	6%

For 38% of these 16 respondents, the loss of the reef habitat due to Project construction would have no impact (Table 5.19). These six reef users are all male and their main activities on the reef are spear-fishing and conducting dive tours. However, 31% of the respondents said that it would mean an increase in travel time to an alternate location. Loss of income and livelihood and tourists no longer wanting to visit the reef was a concern for 19% of the respondents respectively. Two of the respondents shared the view that the reef is already severely deteriorated and does not have that much to offer anymore. Another respondent suggested that the hard substrate associated with certain Project components (i.e., coastal protection works and the pier) could facilitate coral growth to offset what is being lost and, in any case, there are several other locations where tours can be conducted. He figured that the site would continue to get a lot of usage.



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**Table 5.19 Impact of Reef Habitat Loss on the Reef Users (N=16)**

Impacts	Frequency of response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
No impact	0	6	0%	38%	38%
Increase in my travel time to alternate location	0	5	0%	31%	31%
More expense in fuel to get to alternate location	0	4	0%	25%	25%
Loss of income/livelihood	1	2	6%	13%	19%
Tourists will no longer want to go to the reef	0	3	0%	19%	19%
Loss of income from fish sales	0	2	0%	13%	13%
Do not know	0	1	0%	6%	6%
Will be unable to continue educating his children about the reef habitat, as well as teach them about the trade	0	1	0%	6%	6%

As many as 57% of the respondents already use a diversity of reefs in their tours, and Table 5.20 displays the ones already in use, with Rendezvous Bay being the most popular. One respondent noted that he uses as many reefs as he can, and another said he used the entire island but has a preference for the Atlantic side because fish are more abundant there.

**Table 5.20 Alternate Reefs already in Use by the Respondents (N=14)**

Alternate Reefs	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Rendezvous Bay	1	7	7%	50%	57%
Carr's Bay	0	4	0%	29%	29%
Yellow Hole	0	3	0%	21%	21%
Lime Kiln	0	2	0%	14%	14%
Various sites around the island	0	2	0%	14%	14%
Bunkum Bay	0	2	0%	14%	14%
Woodlands	0	2	0%	14%	14%
North west bluff	0	1	0%	7%	7%
Plymouth	0	1	0%	7%	7%
Isles Bay	0	1	0%	7%	7%
Pinnacle Point	0	1	0%	7%	7%
Little Rendezvous	0	1	0%	7%	7%
Redonda	0	1	0%	7%	7%
Bransby Point (pass Foxes Bay)	0	1	0%	7%	7%
Foxes Bay	0	1	0%	7%	7%
Shoul's ground	0	1	0%	7%	7%



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These alternate reefs are in use primarily because 64% of the respondents rate them as good. In addition, these locations were considered accessible by 29% of respondents, and 21% noted that they are in close proximity to their homes.

### 5.2.3.1 Income from the Reef

The majority (69%) of the reef users that were interviewed are in full-time public sector employment. Three of the respondents, one of whom is female, are self-employed with paid employees. Another respondent is self-employed with employees, but also works for a private sector organisation, and one male respondent reported that he is currently unemployed. Only the female respondent indicated that the reef is her sole source of income. One respondent chose not to respond to this question. Fourteen of the 16 respondents (88%) stated that the reef provided less than half of their income. Consequently, seven of the respondents (44%) stated that if they could no longer use the reef it would not affect their income because it is a hobby. Using alternate reefs was the coping strategy identified by 38% of the respondents, while 31% said that they would work multiple jobs. However, 25% stated that they did not know what their coping strategy would be; this included the female respondent.

The majority of the respondents (63%) were single and 31% indicated that they were married or in a common law union. According to Table 5.21, 10 of the 16 respondents have dependants. The age and sex of the dependants is displayed in Table 5.22, indicating that 12 are female and 11 are male. Sixteen of the dependants (70%) are students and one of the female dependants has a physical disability.

**Table 5.21 Reef Users' Dependants**

Number of Dependants	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
No dependants	0	6	0%	38%	38%
One dependant	1	3	6%	19%	25%
Two dependants	0	2	0%	13%	13%
Three dependants	0	1	0%	6%	6%
Four dependants	0	3	0%	19%	19%
Total	1	15	6%	94%	100%



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**Table 5.22 Age and Sex of the Reef Users' Dependants**

Age	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
0-4 years	1	0	4%	0%	4%
5-17 years	5	10	22%	43%	65%
18-29 years	2	1	9%	4%	13%
30-39 years	2	0	9%	0%	9%
40-49 years	0	0	0%	0%	0%
50-64 years	1	0	4%	0%	4%
65-74 years	1	0	4%	0%	4%
Total	12	11	52%	48%	100%

**Table 5.23 Employment Status of the Reef Users' Dependants**

Employment Status	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Student	5	11	22%	48%	70%
Full-time employed	3	0	13%	0%	13%
Part-time employed	1	0	4%	0%	4%
Not applicable	1	0	4%	0%	4%
Retired	1	0	4%	0%	4%
Self employed	1	0	4%	0%	4%
Total	12	11	52%	48%	100%

Only six (38%) of the respondents operate a boat, and they all employ crew to assist them ranging from one to four members.

### 5.2.3.2 Reef Users Crew Members

In selecting respondents from the 14 crew members identified by the reef users, several were not eligible for the survey for the reasons bulleted below. This is because of features common to many of the individuals who crew on tour boats. They typically fall into one or more of the following categories:

- Many individuals crew on several boats
- Some crew for fishing trips or tours elsewhere on the island – but not on Little Bay Reef
- Relatives who were under the age of 16 who come along for the experience from time to time
- Some own their own boats but also crew on other peoples' boats
- Some had travelled to study or for other reasons



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Ultimately, two crew members, one male and one female, were interviewed. This is a very small sample and therefore provides only indicative, not statistically representative results. Between the two of them they conduct dive, snorkel and kayaking tours and one of them spear-fished. Further details of their demographics are withheld since in such a small sample they would be obvious identifiers. One worked for between 8-10 hours per week, seven days a week doing the tours, and the other worked less than eight hours only on Saturday and Sunday. The latter works for two tour operators and both have alternate sources of income. For one, losing the option of conducting tours on the Little Bay Reef would mean having to work multiple jobs as a coping strategy; for the other it would have no significant impact.

### 5.2.4 Users of the Bat Cave

There are currently six operators who conduct tours that include a stop at the Bat Cave (i.e., the female roost and/or the male roost, which reside in separate caves). The tours are:

1. Buffy Tours
2. Scuba Montserrat
3. Montserrat Dive Group
4. Quanjo Boat Tours
5. Aqua Montserrat / Fish & Fins
6. Scriber Tours

One of the operators is female. These operators have been including the Bat Cave in their tours for between 5-15 years. For five of the six respondents, there is no specified day of the week or number of tours per week or month that includes the Bat Cave. Half of the six operators indicated that it was included based on the request of the clients. One respondent indicated that typically his tours on Friday, Saturday and Sunday would include the Bat Cave.

The Bat Cave is considered to be a very important stop during the tours by four of the six (66.7%) of the respondents. One respondent stated that it was not very important and the other said it was somewhat important.

The operators were asked how they perceived that Project construction would impact on their business. Four of the six (66.7%) said that they would adapt. One respondent noted that he also conducts tours in other locations, such as Plymouth and Rendezvous, so his focus is not exclusively on Little Bay, and another stated that initially he imagined there could be a decrease in the number of tours but he did not expect it to be significant.

Two respondents identified some of the benefits that they could derive from the construction:

- Would enhance water sports activities
- Smoother transition getting people on and off the boats
- Safer and calmer space for vessels



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Three respondents (50%) identified several potential challenges to their businesses. One respondent noted that 60% of all their tours are visits to the Bat Cave. These tours typically include hikes to Rendezvous Beach and then a swim back to Little Bay, with a stop at the Bat Cave where an explanation is given about the variety of species and the history of the bats of Montserrat. This respondent was concerned that during the construction phase of the Project, swimming from Rendezvous Beach to Little Bay would no longer be possible. Additional concerns raised by the respondents were:

- Will not able to do as much tours especially scuba
- The area beneath the Project Footprint provides easy access to dive sites
- The Little Bay Reef areas will not be accessed and those are a part of the tours
- Would have to use open waters, which would be more risky
- Will not be able to do more Bat Cave tours or enjoy kayaking tours as much
- Operation is eco-friendly (i.e., using no oils or fuels). The change will mean that the kayak tours will interact with marine traffic. It is also likely to make the tours longer and less interesting as they will be kayaking further from the cliff side.
- Swimming from Rendezvous Beach will no longer be possible

The respondents were asked to offer suggestions regarding the development. They noted that Port enhancement is important to the development of the people of Montserrat, but at the same time the design must safeguard the natural environment and perhaps the Current Layout is too close inland. Mitigation measures must be put in place to protect the environment.

### 5.2.5 Bird Watching at Rendezvous Bluff

Only one of the tour operators conducts bird watching tours at Rendezvous Bluff, and he has been doing so for the past 13 years. There are no specified days of the week or hours per week for these tours, but of all his tours, bird watching on the Rendezvous Bluff contributes most to his income, and if bird watching tours were adversely affected, it would significantly impact his business.

One of his concerns is that he mostly engages bird tours in the evening. While the birds may not always be spotted, it is the actual sounds that they make that fascinate the clients, as the bluff is the nesting ground for a variety of species, including the Audubon Shearwater and the Red-billed Tropic bird. He fears that the construction and associated lights will negatively affect the tours and make them less interesting. This respondent explained that he understands the need for development, but in the best interest of Montserrat he suggests that the biodiversity of the island be considered and therefore every effort be taken to reduce impacts on the Bat Cave and bird nesting habitats.

He employs three persons to assist with the bird watching when he is unavailable. In the event that there are adverse effects to the habitat for the marine birds at Rendezvous Bluff, he might still be able to employ them to conduct tours in the forest, which notably will not be the same.



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### 5.2.6 Businesses in Close Proximity to the Port

Information on the twenty-nine of the businesses located in Little Bay was gathered in February 2019. Additional interviews were conducted in 2020 with the three that share an access road with the Port since they have the greatest potential to be impacted by the landside activities of the Project. Information on their use of that road would assist the Contractor in developing a traffic management plan for the construction phase of the Project. Table 5.24 provides a summary of the main characteristics of the three businesses.

**Table 5.24 Profiles of the Three Businesses**

Name of Business	Type of Business	Number of Full-Time Employees	Operating Hours	Number of Trucks in Operation
Lab Works Ltd.	Block manufacturing plant	8	7:00 - 3:30	2
Eddie's Trucking Ltd.	Mining and quarrying	10	8:00 - 4:00	6
T & A Services	Trucking	2	No set office hours for operations; works seven days a week and is always on call	10

Only one of the businesses conducts transactions with the Port Authority. None of the trucks owned by the three businesses operate on a strict daily schedule and none of the respondents could confirm how many trips were made daily. One respondent explained that the number of trips made on any given day depended on the volume of cargo from the Port and the magnitude of work to be conducted outside the Little Bay area. Two of the three businesses indicated that customers come to the properties to conduct transactions but again they could not confirm how many on a daily basis. One of the respondents reported that business had slowed because of COVID-19. The administrative office for one of the companies is located behind the Port complex, and the trucks are stationed elsewhere and do not come into and go out of Little Bay.

All three respondents indicated that they had never experienced any challenges accessing their properties in the past because of Port operations. One respondent stated that he does not expect the construction at the Port to affect his business. He said that as long as persons are able to access the Port Authority then his business should not be affected as he is located behind the Port. A second respondent noted that higher volumes of heavier traffic due to operations could slow down incoming and outgoing traffic into his business, potentially creating congestion, and he suggested that the Contractor take this possibility into consideration. He also wanted a Port designed to include the pier further out or closer to the end of Rendezvous Bluff to accommodate a breakwater and safe harbour. He also looked forward to the possibility of renting construction equipment to the Project. The third respondent simply stated that as long as the access point to his business was not blocked then he did not expect the Project to affect his business.





## **6.0 ENVIRONMENTAL IMPACT ASSESSMENT FOR CURRENT LAYOUT**

### **6.1 Potential Changes to Previously Assessed Project-Related Environmental Impacts**












































Table 6.1 identifies the Project activities and components for which modification of the proposed Port layout (i.e., from the Original Layout to the Current Layout) is expected to result in a substantive change to potential Project-related environmental impacts, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA (Stantec 2019a). The table also indicates the direction of the relative changes in environmental impacts and provides an explanation of the predicted changes.



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Table 6.1 Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout

Project Phases and Major Activities	Environmental Valued Components					
	Atmospheric Environment	Coastal Features	Marine Habitat and Fauna		Avifauna	Terrestrial Flora and Fauna
Construction						
Access Road Construction (including clearing, potential blasting, paving, slope stability measures, coastal protection, installation of drainage works, construction vehicles on-site, and landscaping)	 (Refer to Note 1 below)	 (Refer to Note 1 below)	 for VC in general  for Little Bay Reef only (Refer to Note 1 below)	 (Refer to Note 1 below)	 (Refer to Note 1 below)	
Dredging (including disposal of dredged materials and potential underwater blasting)	 (Refer to Note 2 below)	 (Refer to Note 2 below)	 for VC in general  for Little Bay Reef only (Refer to Note 2 below)	 (Refer to Note 2 below)	 for VC in general  for bats only (Refer to Note 2 below)	
Pier Construction (in-water construction works, including possibility of pile driving, safety exclusion zones, alteration in marine processes, and potential temporary wharf / laydown area at Carr’s Bay)	 (Refer to Note 3 below)	 (Refer to Note 3 below)	 for VC in general  for Little Bay Reef only (Refer to Note 3 below)	 for VC in general  for cliff-nesting birds only (Refer to Note 3 below)	 for VC in general  for bats only (Refer to Note 3 below)	
Potential Concrete Plant Operation On-site or Nearby	 (Refer to Note 4 below)	NO SUBSTANTIVE CHANGE	 (Refer to Note 4 below)	 (Refer to Note 4 below)	 (Refer to Note 4 below)	
Construction Vehicle Traffic To and From the Site (including trucking of materials to site from the quarry)	 (Refer to Note 5 below)	 (Refer to Note 5 below)	 (Refer to Note 5 below)	 (Refer to Note 5 below)	 (Refer to Note 5 below)	
Ship Traffic On and to the Site (barging of materials to site and presence of construction-related vessels on-site)	 (Refer to Note 6 below)	NO SUBSTANTIVE CHANGE	 (Refer to Note 6 below)	 (Refer to Note 6 below)	 (Refer to Note 6 below)	
Operation and Maintenance						
Presence of Pier (permanent low-level lighting, change in circulation patterns in the bay, periodic maintenance)	 (Refer to Note 7 below)	 (Refer to Note 7 below)	 (Refer to Note 7 below)	 (Refer to Note 7 below)	 (Refer to Note 7 below)	
Vessel Traffic To and From the Port (scope is limited to Little Bay and Carr’s Bay)	 (Refer to Note 8 below)	NO SUBSTANTIVE CHANGE	 (Refer to Note 8 below)	 (Refer to Note 8 below)	 (Refer to Note 8 below)	



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Table 6.1 Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout



















Project Phases and Major Activities		Environmental Valued Components				
		Atmospheric Environment	Coastal Features	Marine Habitat and Fauna	Avifauna	Terrestrial Flora and Fauna
Loading/Offloading of Supplies and Passengers (including potential for introduction of invasive species, customs inspection and clearance, and storage of materials)		<div></div> <div>(Refer to Note 9 below)</div>	NO SUBSTANTIVE CHANGE	<div></div> <div>(Refer to Note 9 below)</div>	<div></div> <div>(Refer to Note 9 below)</div>	<div></div> <div>(Refer to Note 9 below)</div>
Maintenance Dredging		<div></div> <div>(Refer to Note 10 below)</div>	<div></div> <div>(Refer to Note 10 below)</div>	<div><div><div></div><div>for VC in general</div></div><div></div><div>for Little Bay Reef only</div></div> <div>(Refer to Note 10 below)</div>	<div></div> <div>(Refer to Note 10 below)</div>	<div><div><div></div><div>for VC in general</div></div><div></div><div>for bats only</div></div> <div>(Refer to Note 10 below)</div>
Accidental Events						
Spills or Leaks of Oil or Other Hazardous Materials		<div></div> <div>(Refer to Note 11 below)</div>	<div></div> <div>(Refer to Note 11 below)</div>	<div></div> <div>(Refer to Note 11 below)</div>	<div></div> <div>(Refer to Note 11 below)</div>	<div></div> <div>(Refer to Note 11 below)</div>
Failure of Sediment Control Measures		NO SUBSTANTIVE CHANGE	NO SUBSTANTIVE CHANGE	NO SUBSTANTIVE CHANGE	NO SUBSTANTIVE CHANGE	NO SUBSTANTIVE CHANGE
Potential Change in Impacts of Current Layout Relative to Original Layout						
	A green arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative reduction in potential Project-related adverse impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.					
	A red arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative increase in potential Project-related adverse impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.					
NO SUBSTANTIVE CHANGE	“NO SUBSTANTIVE CHANGE” indicates that modification to the Current Layout is anticipated to result in <b>no substantive change to potential Project-related impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.					



Table 6.1      Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
Note 1	<p>Given that there is an approximately 72% decrease in the total access road / causeway footprint area associated with the Current Layout (refer to Table 2.1), construction of this Project component is anticipated to be relatively less intensive than it would have been for the Original Layout. Conducting access road construction activities in accordance with the Current Layout will likely:</p> <ul style="list-style-type: none"><li>• require relatively less clearing, grubbing, landscaping, and site preparation/earthwork, including direct physical ground disturbance and alteration of Rendezvous Bluff, thereby reducing potentially associated<ul style="list-style-type: none"><li>– air emissions of particulate matter and fugitive dust from ground disturbing activities, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– acoustic emissions from the operation of Project vehicles and equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbance to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– alteration of existing runoff volume and flow characteristics, erosion, and geological effects, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>– marine water quality effects resulting from siltation/sedimentation and the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– direct physical effects on birds, their nests, their eggs, or their young, which in turn could lessen the potential Project-related change in risk of mortality or physical injury impacting the Avifauna VC</li><li>– alteration or loss of terrestrial habitat, which in turn could lessen the potential Project-related change in habitat quality, quantity or use impacting the Terrestrial Flora and Fauna VC</li><li>– removal of vegetation, which in turn could lessen the potential Project-related change in risk of mortality or physical injury impacting the Terrestrial Flora and Fauna VC</li><li>– introduction of invasive plant species on vehicles and equipment and/or in the seed mixes used during landscaping, which in turn could lessen the potential Project-related change in habitat quality, quantity or use and the potential Project-related change in risk of mortality or physical injury impacting the Terrestrial Flora and Fauna VC</li></ul></li><li>• require operation of relatively fewer Project vehicles and less Project equipment, as well as relatively fewer and/or shorter on-site vehicle movements, thereby reducing potentially associated<ul style="list-style-type: none"><li>– air emissions of criteria air contaminants (CACs), greenhouse gases (GHGs), and other products of combustion from the operation of Project vehicles and equipment, as well as fugitive dust from the movement of Project vehicles, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– acoustic emissions from the operation of Project vehicles and equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbance to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– collisions between Project vehicles/equipment and birds/wildlife, which in turn could lessen potential Project-related changes in risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>• require relatively less on-site handling of aggregate materials, thereby reducing potentially associated<ul style="list-style-type: none"><li>– fugitive dust emissions, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– marine water quality effects resulting from the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC</li></ul></li><li>• have relatively reduced potential blasting requirements (if applicable), thereby reducing potentially associated<ul style="list-style-type: none"><li>– emissions of particulate matter and fumes, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– noise and vibration, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– direct physical disturbances to Rendezvous Bluff and the shoreline, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>– auditory injury or other physical harm to marine and terrestrial fauna and avifauna within a localized area in proximity to the source, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and potential Project-related changes in risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– marine water quality effects resulting from siltation/sedimentation and the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in marine populations impacting the Marine Habitat and Fauna VC</li></ul></li></ul> <p>Although modification of the Project based on the Current Layout is generally anticipated to result in a substantive relative reduction in potential adverse impacts on most VCs, there is one exception for which conducting access road construction activities according to the Current Layout will likely have the opposite influence on potential Project-related impacts (as identified by a red arrow above indicating that Current Layout is anticipated to result in a substantive relative increase in potential adverse impacts). Construction of coastal protection works associated with the access road will result in the loss of a relatively larger proportion of Little Bay Reef, thereby increasing the potential Project-related change in habitat quantity, quality and use and potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC.</p>



Table 6.1      Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
<b>Note 2</b>	<p>Given that there is an approximately 45% reduction in the total volume of material to be dredged and an approximately 39% reduction in the total dredge footprint area associated with the Current Layout (refer to Table 2.1), Project dredging activities are anticipated to be relatively less intensive than they would have been for the Original Layout. Conducting dredging in accordance with the Current Layout (i.e., in Dredging Area 1 and Dredging Area 2) during the construction phase of the Project will likely:</p> <ul style="list-style-type: none"><li>• require operation of relatively fewer Project vessels and less Project equipment, as well as relatively fewer and/or shorter on-site vessel movements, thereby reducing potentially associated<ul style="list-style-type: none"><li>– air emissions of CACs, GHGs, and other products of combustion from the operation of Project vessels and equipment, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– acoustic emissions from the operation of Project vessels and equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– collisions between Project vessels/equipment and marine mammals, sea turtles, and marine birds, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC</li><li>– marine water quality effects resulting from routine discharges from Project vessels, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>– effects on fish from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could lessen the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– effects on nocturnally active birds and bats from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could lessen the potential Project-related change in habitat quality and use and a change in risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>• have relatively reduced potential underwater blasting requirements (if applicable), thereby reducing potentially associated<ul style="list-style-type: none"><li>– noise and vibration, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, Avifauna VC, and Terrestrial Flora and Fauna VC</li><li>– auditory injury or direct physical harm to marine fauna and avifauna within a localized area in proximity to the source, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC</li></ul></li><li>• result in relatively less direct physical disturbance to the seabed and thus relatively less resuspension and subsequent deposition of marine sediments, thereby reducing potentially associated<ul style="list-style-type: none"><li>– sedimentation effects, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>– direct physical alteration, disruption, or destruction of marine benthic habitat, which in turn could lessen the potential Project-related change in habitat quantity, quality and use impacting the Marine Habitat and Fauna VC</li><li>– marine water quality effects resulting from an increase in total suspended solids (TSS), which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– striking, crushing, and/or smothering of marine benthic organisms, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC</li></ul></li><li>• have relatively reduced potential ocean disposal requirements (for surplus dredged material, if applicable), thereby reducing potentially associated<ul style="list-style-type: none"><li>– sedimentation effects, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>– direct physical alteration, disruption, or destruction of marine benthic habitat, which in turn could lessen the potential Project-related change in habitat quantity, quality and use impacting the Marine Habitat and Fauna VC</li><li>– marine water quality effects resulting from an increase in TSS, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– smothering of marine benthic organisms, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC</li></ul></li></ul> <p>As noted in Table 2.1, the Current Layout includes the addition of a second, smaller dredging area (i.e., Dredging Area 2) for maintenance dredging adjacent to the existing jetty during the construction phase of the Project, whereas the Original Layout only included a single dredging area. The relatively closer proximity of Dredging Area 2 to Little Bay Ghaut (refer to Figure 2.1), which is a sensitive coastal feature, has potential to result in changes to Project-related impacts on the Coastal Features VC. The presence of a siltation skirt during dredging in this area could increase the potential Project-related change in integrity of coastal landforms due to potential drainage-related effects on Little Bay Ghaut. However, any potential relative increase in adverse impacts on the Coastal Features VC associated with the proximity of Dredging Area 2 to Little Bay Ghaut is anticipated to be negligible (and is therefore not identified by a red arrow above indicating a substantive relative increase in potential adverse impacts) since it will likely be substantially or fully offset by the relatively less intensive nature of Project activities required in support of the Current Layout, including the smaller size of the total dredge area footprint, the reduced overall dredge volume, the smaller fleet of Project vessels and equipment, and the reduction in land-based Project activities near Little Bay Ghaut.</p> <p>Although modification of the Project based on the Current Layout is generally anticipated to result in a substantive relative reduction in potential adverse impacts on most VCs, the following are exceptions for which conducting dredging activities according to the Current Layout will likely have the opposite influence on potential Project-related impacts (as identified by red arrows above indicating that Current Layout is anticipated to result in a substantive relative increase in potential adverse impacts):</p> <ul style="list-style-type: none"><li>• dredging and potential underwater blasting will be carried out in closer proximity to Little Bay Reef (refer to Figure 2.1 and Table 2.1), thereby increasing the potential Project-related change in habitat quality and use and potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC due to the effects of increased sediment resuspension and deposition on corals and the sensitive marine habitat of the reef</li><li>• the presence and operation of dredging vessels and equipment, and potential underwater blasting, will occur in closer proximity to the bat caves on Rendezvous Bluff (refer to Figure 2.1 and Table 2.1), thereby increasing potential Project-related exposure of bats to acoustic emissions, vibration, artificial night lighting, and other sensory disturbances that could cause a change in habitat quality and use and a change in risk of mortality or physical injury impacting the Terrestrial Flora and Fauna VC</li></ul>



Table 6.1      Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
Note 3	<p>Given that there is an approximately 24% decrease in the size of the pier structure associated with the Current Layout, in comparison with the size of the breakwater/quay structure associated with the Original Layout (refer to Table 2.1), construction of this Project component is anticipated to be relatively less intensive than it would have been for the Original Layout. Conducting pier construction activities in accordance with the Current Layout will likely:</p> <ul style="list-style-type: none"><li>• require operation of relatively fewer Project vehicles and vessels and less Project equipment, as well as relatively fewer and/or shorter on-site vehicle and vessel movements, thereby reducing potentially associated<ul style="list-style-type: none"><li>– air emissions of CACs, GHGs, and other products of combustion from the operation of Project vehicles and equipment, as well as fugitive dust from the movement of Project vehicles, which, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– acoustic emissions from the operation of Project vehicles and equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– collisions between Project vehicles/vessels/equipment and marine and terrestrial fauna and avifauna, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC</li><li>– marine water quality effects resulting from routine discharges from Project vessels, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>– effects on fish from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could lessen the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– effects on nocturnally active birds and bats from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could lessen potential Project-related changes in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>• require relatively less on-site handling of aggregate materials, thereby reducing potentially associated<ul style="list-style-type: none"><li>– fugitive dust emissions, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– marine water quality effects resulting from the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC</li></ul></li><li>• have relatively reduced potential pile driving requirements (if applicable), thereby reducing potentially associated<ul style="list-style-type: none"><li>– noise and vibration, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>– auditory injury or direct physical harm to marine and terrestrial fauna and avifauna within a localized area in proximity to the source, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>• result in relatively less direct physical disturbance to the seabed and thus relatively less resuspension and subsequent deposition of marine sediments, thereby reducing potentially associated<ul style="list-style-type: none"><li>– sedimentation effects, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>– direct physical alteration, disruption, or destruction of marine benthic habitat, which in turn could lessen the potential Project-related change in habitat quantity, quality and use impacting the Marine Habitat and Fauna VC</li><li>– marine water quality effects resulting from an increase in TSS, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>– striking, crushing, and/or smothering of marine benthic organisms, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC</li></ul></li></ul> <p>Although modification of the Project based on the Current Layout is generally anticipated to result in a substantive relative reduction in potential adverse impacts on most VCs, the following are exceptions for which conducting pier construction activities according to the Current Layout will likely have the opposite influence on potential Project-related impacts (as identified by red arrows above indicating that Current Layout is anticipated to result in a substantive relative increase in potential adverse impacts):</p> <ul style="list-style-type: none"><li>• construction of the pier and associated coastal protection works on the seaward side of the pier will result in the loss of a relatively larger proportion of Little Bay Reef, thereby increasing the potential Project-related change in habitat quantity, quality and use and potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC</li><li>• construction of coastal protection works on the seaward side of the pier will be carried out approximately 48 m closer to sensitive habitat for marine birds on the western facing cliffs of Rendezvous Bluff (refer to Figure 2.1 and Table 2.1), thereby increasing potential Project-related exposure of cliff-nesting marine birds to acoustic emissions, artificial night lighting, and other sensory disturbances that could cause a change in habitat quality and use and a change in risk of mortality or physical injury impacting the Avifauna VC</li><li>• the presence and operation of Project vehicles, vessels, and equipment engaged in pier construction activities, as well as potential pile driving, will occur in closer proximity to the bat caves on Rendezvous Bluff (refer to Figure 2.1 and Table 2.1), thereby increasing potential Project-related exposure of bats to acoustic emissions, vibration, artificial night lighting, and other sensory disturbances that could cause a change in habitat quality and use and a change in risk of mortality or physical injury impacting the Terrestrial Flora and Fauna VC</li></ul>



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Table 6.1 Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
Note 4	<p>Given that potential concrete requirements for the Original Layout included concrete armour units for a large breakwater occupying approximately 16,660 m<sup>2</sup> (including seaward breakwater and leeward coastal protection) as well as concrete caissons or blocks for the quay, whereas potential concrete requirements for the Current Layout will be limited to concrete armour units for approximately 3,160 m<sup>2</sup> of coastal protection as well as concrete caissons or blocks for the pier (refer to Table 2.1), operation of the concrete plant during Project construction is anticipated to be relatively less intensive than it would have been for the Original Layout. Conducting potential concrete plant operation activities in accordance with the Current Layout will likely:</p> <ul style="list-style-type: none"><li>• produce relatively lower levels of concrete, thereby reducing potentially associated<ul style="list-style-type: none"><li>– air emissions of CACs, GHGs, and other products of combustion from the operation of concrete production equipment, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– acoustic emissions from the operation of concrete production equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– other sensory disturbances to avifauna and terrestrial fauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>• require relatively less on-site handling of aggregate materials as feedstock for concrete production, thereby reducing potentially associated<ul style="list-style-type: none"><li>– fugitive dust emissions, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>– marine water quality effects resulting from the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC</li></ul></li></ul>
Note 5	<p>As indicated above, Project construction activities based on the Current Layout are anticipated to be relatively less intensive than they would have been for the Original Layout and to require operation of relatively fewer Project vehicles and less Project equipment as well as relatively fewer and/or shorter on-site vehicle movements. Notes 1 and 3 above discuss potential changes to Project-related environmental impacts that may be associated with this relative reduction in the on-site presence and operation of construction vehicles. Conducting Project construction activities in accordance with the Current Layout will also likely require relatively less construction vehicle traffic to and from the Project site, thereby reducing potentially associated:</p> <ul style="list-style-type: none"><li>• air emissions of CACs, GHGs, other products of combustion, and fugitive dust from the transiting of Project vehicles, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>• acoustic emissions from the transiting of Project vehicles, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>• other sensory disturbances to avifauna and terrestrial fauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>• effects on the integrity of retaining walls and culverts, which could compromise the ability of ghauts to transport runoff effectively and thus cause a change in integrity of coastal landforms impacting the Coastal Features VC</li><li>• collisions between transiting Project vehicles and birds/wildlife, which in turn could lessen potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul>
Note 6	<p>As indicated above, Project construction activities based on the Current Layout are anticipated to be relatively less intensive than they would have been for the Original Layout and to require operation of relatively fewer Project vessels as well as relatively fewer and/or shorter on-site vessel movements. Note 2 above discusses potential changes to Project-related environmental impacts that may be associated with this relative reduction in the on-site presence and operation of construction vessels. Conducting Project construction activities in accordance with the Current Layout will also likely require relatively less marine construction vessel traffic to and from the Project site, thereby reducing potentially associated:</p> <ul style="list-style-type: none"><li>• air emissions of CACs, GHGs, and other products of combustion from the transiting of Project vessels, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• acoustic emissions from the transiting of Project vessels, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• collisions between transiting Project vessels and marine mammals, sea turtles, and marine birds, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC</li><li>• marine water quality effects resulting from routine discharges from Project vessels, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>• effects on fish from artificial night lighting onboard transiting Project vessels (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could lessen the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>• effects on nocturnally active birds and bats from artificial night lighting onboard transiting Project vessels (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could lessen potential Project-related changes in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul>



Table 6.1 Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
Note 7	<p>As noted above and in Table 2.1, there is an approximately 24% decrease in the size of the pier associated with the Current Layout, in comparison with the size of the quay associated with the Original Layout (excluding coastal protection works for the Current Layout and excluding the breakwater for the Original Layout). When coastal protection and the breakwater are included in the calculation, there is an approximately 65% reduction in the total footprint area of the pier for the Current Layout in comparison with the breakwater/quay for the Original Layout. The presence of Project infrastructure based on the Current Layout during the operational phase of the Project will likely:</p> <ul style="list-style-type: none"><li>entail relatively less alteration of existing runoff volume and flow characteristics (i.e., due to the smaller spatial footprints of impermeable surfaces associated with the pier and access road), thereby reducing potentially associated<ul style="list-style-type: none"><li>effects on local ghauts, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>marine water quality effects resulting from contaminated surface water runoff, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the runoff). As noted in Table 2.1, as a result of moving the access road for the Current Layout, a catchment ditch abutting the Rendezvous Bluff and the access road is now required for drainage during rainfall. During periods of heavy rainfall, a silt-laden freshwater plume discharged from the catchment ditch could impact the reef and/or harbour water as well as increase sedimentation downstream of the Port, thereby increasing the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC and potential Project-related changes in habitat quality and use and marine populations impacting the Marine Habitat and Fauna VC. However, with implementation of the additional mitigation identified in Section 6.1.2, any potential relative increase in adverse impacts on the Coastal Features VC and the Marine Habitat and Fauna VC associated with the catchment ditch are anticipated to be negligible and will likely be substantially or fully offset by the smaller spatial footprints of impermeable surfaces associated with the pier and access road for the Current Layout.</li></ul></li><li>emit relatively less artificial night lighting due to the absence of illumination of the pier and ro-ro ramp (refer to Table 2.1), thereby reducing potentially associated<ul style="list-style-type: none"><li>effects on fish (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could lessen the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>effects on nocturnally active birds and bats (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other Port-based hazards), which in turn could lessen potential Project-related changes in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>have reduced potential to alter local current, wave and sedimentation regimes in such a way that affects erosion or accretion rates at Little Bay Beach and causes a change in integrity of coastal landforms impacting the Coastal Features VC</li></ul></li></ul> <p>Given the smaller footprint of the pier, it is also anticipated that the periodic pier maintenance activities that will be required for the Current Layout will be relatively less intensive than the periodic breakwater/quay maintenance activities that would have been required for the Original Layout. Conducting pier maintenance activities in accordance with the Current Layout will likely:</p> <ul style="list-style-type: none"><li>require operation of relatively fewer Project vehicles/vessels and less Project equipment, as well as relatively fewer and/or shorter on-site vehicle/vessel movements, thereby reducing potentially associated<ul style="list-style-type: none"><li>air emissions of CACs, GHGs, and other products of combustion from the operation of Project vehicles/vessels and equipment, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>acoustic emissions from the operation of Project vehicles/vessels and equipment, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>collisions between Project vehicles/vessels/equipment and marine and terrestrial fauna and avifauna, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>marine water quality effects resulting from routine discharges from Project vessels, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>effects on fish from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could lessen the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>effects on nocturnally active birds and bats from artificial night lighting onboard Project vessels (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could lessen potential Project-related changes in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>require relatively less on-site handling of aggregate materials (if aggregate materials are required for pier maintenance or repairs), thereby reducing potentially associated<ul style="list-style-type: none"><li>fugitive dust emissions, which in turn could lessen the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>marine water quality effects resulting from the deposition of atmospheric particulate matter into the marine environment, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC</li></ul></li><li>have relatively reduced potential pile driving requirements (if pile driving is required for pier maintenance or repairs), thereby reducing potentially associated<ul style="list-style-type: none"><li>noise and vibration, which in turn could lessen the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>auditory injury or direct physical harm to marine and terrestrial fauna and avifauna within a localized area in proximity to the source, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul></li><li>result in relatively less direct physical disturbance to the seabed and thus relatively less resuspension and subsequent deposition of marine sediments (if seabed disturbance is required for pier maintenance or repairs), thereby reducing potentially associated<ul style="list-style-type: none"><li>sedimentation effects, which in turn could lessen the potential Project-related change in integrity of coastal landforms impacting the Coastal Features VC</li><li>direct physical alteration, disruption, or destruction of marine benthic habitat, which in turn could lessen the potential Project-related change in habitat quantity, quality and use impacting the Marine Habitat and Fauna VC</li></ul></li></ul>





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Table 6.1 Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
	<div><div><div>– marine water quality effects resulting from an increase in TSS, which in turn could lessen potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and change in marine populations impacting the Marine Habitat and Fauna VC</div><div>– striking, crushing, and/or smothering of marine benthic organisms, which in turn could lessen the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC</div></div><p>The presence of coastal protection works will introduce new or additional hard multi-dimensional substrate that is valuable for colonization by epibenthic organisms and/or provides unembedded interstitial spaces for use by crustaceans, juvenile fish and other fish species, thereby changing the marine habitat quality and use and potentially resulting in a positive impact on the Marine Habitat and Fauna VC. However, this potential positive impact will be relatively reduced for the Current Layout due to the smaller footprint of the coastal protection works in comparison with the larger footprint of the breakwater for the Original Layout.</p></div>
Note 8	<div><p>Given that the Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay) (refer to Table 2.1), vessel traffic to and from the Port has potential to be relatively higher for the Current Layout than it would have been for the Original Layout, thereby increasing potentially associated:</p><ul style="list-style-type: none"><li>• air emissions of CACs, GHGs, and other products of combustion from vessel traffic to and from the Port, which in turn could increase the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• acoustic emissions from vessel traffic to and from the Port, which in turn could increase the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could increase potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• collisions between vessels transiting to and from the Port and marine mammals, sea turtles, and marine birds, which in turn could increase the potential Project-related change in marine populations impacting the Marine Habitat and Fauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC</li><li>• marine water quality effects resulting from routine discharges from vessel traffic to and from the Port, which in turn could increase potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>• effects on fish from artificial night lighting onboard vessels transiting to and from the Port (e.g., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could increase the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>• effects on nocturnally active birds and bats from artificial night lighting onboard vessels transiting to and from the Port (e.g., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could increase the potential Project-related change in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>• introduction of invasive marine species from vessels transiting to and from the Port, which in turn could increase the potential Project-related change in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC, as well as a change in marine populations impacting the Marine Habitat and Fauna VC</li></ul><p>However, these potential relative increases in adverse impacts associated with increased vessel traffic to and from the Port are anticipated to be negligible (and are therefore not identified by red arrows above indicating substantive relative increases in potential adverse impacts) since they will likely be substantially or fully offset by the increased downtime at the Port in the absence of a breakwater, as well as the smaller size of the vessels using the Port.</p></div>
Note 9	<div><p>Given that the Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay) (refer to Table 2.1), the Current Layout will allow for a relative increase in berthing capacity at the Port as well as a relative increase in loading/offloading activities, thereby increasing potentially associated:</p><ul style="list-style-type: none"><li>• air emissions of CACs, GHGs, and other products of combustion from vessels berthing at the Port and the operation of loading/offloading vehicles and equipment, which in turn could increase the potential Project-related change in air quality impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• acoustic emissions from vessels berthing at the Port, the operation of loading/offloading vehicles and equipment, and passengers, which in turn could increase the potential Project-related change in acoustic environment impacting the Atmospheric Environment VC and potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• other sensory disturbances to marine and terrestrial fauna and avifauna, which in turn could increase potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC, the Avifauna VC, and the Terrestrial Flora and Fauna VC</li><li>• marine water quality effects resulting from routine discharges and propeller wash from Project vessels berthing at the Port, which in turn could increase potential Project-related changes in habitat quality and use impacting the Marine Habitat and Fauna VC and the Avifauna VC and a change in risk of mortality or physical injury impacting the Avifauna VC (if residual hydrocarbons are present in the routine discharges)</li><li>• effects on fish from artificial night lighting onboard vessels berthing at the Port (i.e., sensory disturbance, attraction, increased risk of predation by birds for fish attracted to the surface of the water), which in turn could increase the potential Project-related change in habitat quality and use and a change in marine populations impacting the Marine Habitat and Fauna VC</li><li>• effects on nocturnally active birds and bats from artificial night lighting onboard vessels berthing at the Port (i.e., sensory disturbance, attraction or avoidance, disorientation, exhaustion, stranding, exposure to other vessel-based hazards), which in turn could increase potential Project-related changes in habitat quality and use and potential Project-related changes in habitat risk of mortality or physical injury impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li><li>• introduction of invasive plant species, invasive pest species, invasive predator species, competitive herbivores, and/or foreign parasites and diseases during the offloading of supplies and passengers at the Port, which in turn could increase the potential Project-related change in habitat quality and use and a change in risk of injury or physical mortality impacting the Avifauna VC and the Terrestrial Flora and Fauna VC</li></ul><p>However, these potential relative increases in adverse impacts associated with increased loading/offloading activities at the Port are anticipated to be negligible (and are therefore not identified by red arrows above indicating substantive relative increases in potential adverse impacts) since they will likely be substantially or fully offset by the increased downtime at the Port in the absence of a breakwater, as well as the smaller size of the vessels using the Port.</p></div>



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Table 6.1      Potential Changes to Project-Related Environmental Impacts Associated with the Modified Port Layout (Continued)

Explanatory Notes (Explanation of Identified Changes to Potential Impacts on Each VC)	
Note 10	<p>Given that there is an approximately 45% reduction in the total volume of material to be dredged and an approximately 39% reduction in the total dredge footprint area associated with the Current Layout (refer to Table 2.1), dredging activities during the construction phase of the Project are anticipated to be relatively less intensive than they would have been for the Original Layout. Maintenance dredging activities during the operational phase of the Project are similarly anticipated to be relatively intensive than they would have been for the Original Layout.</p> <p>Note 2 above discusses potential changes in Project-related impacts that may be associated with conducting capital dredging (in Dredging Area 1) and maintenance dredging (in Dredging Area 2) in accordance with the Current Layout during Project construction. These relative changes in Project-related impacts are generally expected to also be applicable with respect to maintenance dredging activities that may be required to support long-term operation of the Project based on the Current Layout.</p>
Note 11	<p>As noted in Table 2.1, Project construction activities associated with the Current Layout will be relatively less intensive and shorter in duration than they would have been for the Original Layout due to the smaller footprint of proposed Project infrastructure as well as the reduced total dredging area and dredge volumes. Construction material requirements (including the importation of aggregates from an existing quarry as well as local concrete production) and associated transportation requirements and traffic impacts will also be reduced for the Current Layout. Accordingly, the volumes/quantities of oil and other hazardous materials that will be required on-site in support of the Current Layout are anticipated to be lower than the volumes/quantities that would have been required in support of the Original Layout, thereby reducing the potential impacts of a spill or leak on all VCs. Associated transportation, storage, and handling requirements for oil and other hazardous materials will also be reduced, thereby reducing the probability of an accidental event involving these substances.</p>



### 6.1.1 Summary of Key Changes to Previously Assessed Impacts

In comparison with the residual impact characteristics that were previously described for the Original Layout (refer to Chapters 6 to 10 of the Original ESIA), modification of the Project based on the Current Layout has potential to cause relative changes in the magnitude, geographic extent, frequency, duration, and/or probability of various potential residual adverse Project-related impacts on the Atmospheric Environment VC, the Coastal Features VC, the Marine Habitat and Fauna VC, and the Terrestrial Flora and Fauna VC. These changes are briefly summarized below and are considered further in the following subsections under Sections 6.1.2 of this ESIA Addendum. However, the anticipated relative changes in the residual impact characteristics associated with the Current Layout are not substantial enough to alter any of the predicted residual impact ratings or significance determinations that were previously indicated for the Original Layout in Chapters 6 to 10 of the Original ESIA based on the qualitative and quantitative residual impact rating criteria and significance thresholds defined in the Original ESIA.

As indicated in Table 2.1 and Table 6.1, Project construction activities associated with the Current Layout will be relatively less intensive and shorter in duration than they would have been for the Original Layout due to the smaller footprint of proposed Project infrastructure as well as the reduced total dredging area and dredge volumes. Construction vehicle, vessel, and equipment requirements; potential blasting and pile driving requirements; material requirements (including the importation of aggregates from an existing quarry as well as local concrete production); and associated transportation requirements and marine and land-based traffic impacts will also be reduced for the Current Layout. Nonetheless, certain Project construction activities based on the Current Layout have potential to cause a relative increase in Project-related adverse impacts on the sensitive marine habitat and corals of Little Bay Reef, sensitive habitat for cliff-nesting marine birds on Rendezvous Bluff, and sensitive maternity and bachelor roost habitat for the colony of Antillean fruit-eating bats on Rendezvous Bluff. The potential implications of these changes on the overall conclusions of the impact assessment that was previously conducted in the Original ESIA are considered further in Sections 6.1.1.3 to 6.1.1.5 below in the context of the Marine Habitat and Fauna VC, Avifauna VC, and Terrestrial Flora and Fauna VC, respectively.

The closer proximity of dredging activities to Little Bay Ghaut (i.e., due to the addition of Dredging Area 2) is not expected to cause a substantive relative increase in potential adverse Project-related impacts on coastal features given the relatively less intensive nature of Project activities, including the smaller size of the total dredge area footprint, the reduced overall dredge volume, the smaller fleet of Project vessels and equipment, and the reduction in land-based Project activities near Little Bay Ghaut.

Operation and maintenance activities associated with the Current Layout will be similar to those associated with the Original Layout, except with the addition of a second berth, smaller design vessel capacity, reduced Port lighting, and increased downtime at the Port in the absence of a breakwater. When the Port is operating at full capacity (i.e., during periods when the two berths are both operating simultaneously and receiving vessels on a regular basis), it is possible that certain Project activities associated with the Current Layout (i.e., vessel traffic to and from the Port and the loading/offloading of supplies and passengers) will be relatively more intensive than they would have been for the Original Layout. However, such circumstances would only be expected to occur rarely or sporadically due to the increased downtime at the Port, and any



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potentially associated relative increases in adverse impacts would be further offset by the smaller size of the vessels using the Port and are therefore anticipated to be negligible.

As noted above for the construction phase, Project operations and maintenance activities based on the Current Layout similarly have potential to cause a relative increase in Project-related adverse impacts on Little Bay Reef, cliff-nesting marine birds, and bats. These potential implications of these changes are considered further in Sections 6.1.1.3 to 6.1.1.5 below in the context of the Marine Habitat and Fauna VC, Avifauna VC, and Terrestrial Flora and Fauna VC, respectively.

### 6.1.2 VC-Specific Implications of Changes to Previously Assessed Impacts

The following subsections consider VC-specific implications of the potential changes to previously assessed environmental impacts that were identified in Section 6.1 above and summarized in Section 6.1.1 above.

#### 6.1.2.1 Atmospheric Environment VC

No additional mitigation, management, follow-up, or monitoring is recommended for the Atmospheric Environment VC beyond those measures identified in the Original ESIA and the Revised ESMP.

For routine activities and accidental events during all phases of the Project, the potential implications for residual impact characteristics associated with modification of the Project based on the Current Layout are expected to range from no substantive change to a relative reduction in the magnitude, geographic extent, frequency, and/or duration of potential residual adverse Project-related impacts on the atmospheric environment (i.e., changes in air quality, greenhouse gases, and the acoustic environment), in comparison with the residual impact characteristics previously described for the Original Layout (refer to Section 6.4 of the Original ESIA). The anticipated probability of potential residual impacts on the Atmospheric Environment VC remains unchanged for routine Project activities associated with the Current Layout but is relatively reduced for accidental events.

With the application of proposed mitigation measures identified in Sections 6.2.1.2, 6.2.2.2, and 6.2.3.2 of the Original ESIA (Stantec 2019a) and Chapter 5 of the Revised ESMP (Appendix A), residual Project-related impacts on the atmospheric environment are predicted to be not significant for routine Project activities as well as accidental events. This conclusion has been determined with a high level of confidence based on a good understanding of the general effects of Project activities on air quality, greenhouse gases, and the acoustic environment within the Project Footprint and AOI and the effectiveness of mitigation measures.

#### 6.1.2.2 Coastal Features VC

In the Original ESIA, Stantec (2019a) in Section 7.2 conducted hydrodynamic and wave simulations using Delft3D numerical model to characterize the three-dimensional circulation and wave conditions of the coastal area and direct vicinity of the Port in Little Bay. The simulations were conducted assuming the existing conditions (without the proposed Port) and with the proposed conditions for the Original Layout including the Project Footprint. The Original Layout and structures were modified after the hydrodynamic



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study was completed. As described in Section 2.0 of the ESIA Addendum, the main changes were the removal of the proposed breakwater and the pier was shortened from 160 m to 130 m and rotated 24° offshore (refer to Table 2.1). The numerical simulations were not updated for the ESIA Addendum as the results are expected to be relatively similar to the previous numerical simulations, with the expected changes described qualitatively below.

As the pier for the Current Layout is shorter and the Port is more exposed, due to the offshore rotation of the pier, the local currents are expected to be less impacted, resulting in better water circulation inside the Port basin compared to the Original Layout. The previous simulations indicated that the higher currents were observed during periods with more energetic waves; therefore, the Current Layout (more exposed to waves) would allow higher current velocities and better water circulation in the Port area. The smaller changes in the local circulation with the Current Layout would consequently also result in less pronounced changes to the natural sediment transport processes in the area.

As a result of moving the access road for the Current Layout, a catchment ditch abutting Rendezvous Bluff and the access road is now required for drainage during rainfall. This catchment ditch should be designed to mitigate and avoid a focused plume discharge. The bed of the ditch should promote rapid drainage and possibly allow drainage through several access points or channels across the width of the access road into the harbour to enhance mixing and reduce environmental effects. Silt screens/traps should also be deployed along the catchment ditch during Project construction to reduce potential sedimentation effects downstream of the Port. During operation, ornamental grass or cuscus grass (also known as vetiver; *Chrysopogon zizanioides*) should be planted and maintained on the landside of the ditch to stabilize soils and act as a filter to remove sediment. No other additional mitigation, management, follow-up, or monitoring is recommended for the Coastal Features VC beyond those measures identified above, in the Original ESIA, and in the Revised ESMP.

For routine activities and accidental events during all phases of the Project, the potential implications for residual impact characteristics associated with modification of the Project based on the Current Layout are expected to range from no substantive change to a relative reduction in the magnitude, geographic extent, frequency, and/or duration of potential residual adverse Project-related impacts on coastal features (i.e., changes in integrity of coastal landforms), in comparison with the residual impact characteristics previously described for the Original Layout (refer to Section 7.4 of the Original ESIA). The anticipated probability of potential residual impacts on the Coastal Features VC remains unchanged for routine Project activities associated with the Current Layout but is relatively reduced for accidental events.

With the application of proposed mitigation measures identified above, in Sections 7.2.2 of the Original ESIA (Stantec 2019a), and in Chapter 5 of the Revised ESMP (Appendix A), residual Project-related impacts on coastal features are predicted to be not significant for routine Project activities as well as accidental events. This conclusion has been determined with a moderate level of confidence because some predictive results are based on hydrodynamic and wave simulation models.



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### 6.1.2.3 Marine Habitat and Fauna VC

As a result of moving the access road for the Current Layout, a catchment ditch abutting Rendezvous Bluff and the access road is now required for drainage during rainfall. This catchment ditch should be designed to mitigate and avoid a focused plume discharge. The bed of the ditch should promote rapid drainage and possibly allow drainage through several access points or channels across the width of the access road into the harbour to enhance mixing and reduce environmental effects; however, all drainage should be directed towards the south into the inner harbour (i.e., not towards the north of the new pier where coral reefs are present and not impacted by the Project Footprint). Silt screens/traps should also be deployed along the catchment ditch during Project construction to reduce TSS concentration and plume impacts on aquatic life. During operation, ornamental grass or cuscus grass (also known as vetiver; *Chrysopogon zizanioides*) should be planted and maintained on the landside of the ditch to stabilize soils and act as a filter to remove sediment.

Modification of the Project based on the Current Layout will result in a relative increase in direct and indirect adverse impacts to Little Bay Reef. The Project Footprint will overlap approximately 3,340 m<sup>2</sup> of Little Bay Reef, which represents approximately 32% of the total available habitat in the reef (refer to Table 2.1). This constitutes a 14% relative increase in the amount of reef habitat that will be directly lost, in comparison with the amount of reef habitat that would have been directly lost as a result of the Original Layout. Dredging in relatively closer proximity to Little Bay Reef will also create increased sediment resuspension and deposition in the reef area. Dredging will also affect areas with hard bottom where corals occur in the southern dredge area (Potato Hill Reef), and in a small seagrass area in the northern Project Footprint with *Halophila stipulacea* (Figure 5.2; Stantec 2020); however, there is an approximately 39% reduction in the total dredge footprint area associated with the Current Layout compared to the Original Layout. The Original ESIA included the commitment to develop and implement a Project-specific coral transplantation plan that will attempt to relocate as many colonies of corals of concern, which include colonies of endangered coral species and colonies of secure coral species with larger colonies (>30 cm in longest dimension), as practical from within the Project Footprint and expected area of heaviest sediment deposition; these colonies of corals of concern are further described in Stantec (2020). This mitigation will be used to reduce the potential impacts to the population of endangered or rare species of nearby corals. Although coral transplantation/relocation activities are expected to require a relatively higher level of effort for the Current Layout than would have been required for the Original Layout (i.e., due to the increased area of overlap with the Project Footprint and the larger number of corals impacted), these measures are anticipated to be effective at mitigating potential adverse impacts of the Current Layout on the sensitive coral species and habitat of Little Bay Reef.

No other additional mitigation, management, follow-up, or monitoring is recommended for the Marine Habitat and Fauna VC beyond those measures identified above, in the Original ESIA, and in the Revised ESMP.

For routine activities and accidental events during all phases of the Project, the potential implications for residual impact characteristics associated with modification of the Project based on the Current Layout are generally expected to range from no substantive change to a relative reduction in the magnitude, geographic extent, frequency, and duration of potential residual adverse Project-related impacts on marine



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habitat and fauna (i.e., changes in habitat quality and use and changes in marine populations through injury or mortality), in comparison with the residual impact characteristics previously described for the Original Layout (refer to Section 8.4 of the Original ESIA). The anticipated probability of potential residual impacts on the Marine Habitat and Fauna VC remains unchanged for routine Project activities associated with the Current Layout but is relatively reduced for accidental events. However, the Current Layout will also be associated with relative increases in the magnitude and geographic extent of potential residual adverse Project-related impacts on the marine habitat and fauna (i.e., corals) of Little Bay Reef. These relative increases will not be substantial enough to raise the magnitude of these predicted residual impacts above the “moderate” rating previously indicated for the Original Layout in Section 8.4 of the Original ESIA, nor to raise the predicted geographic extent of these residual impacts beyond the “local” rating previously indicated for the Original Layout in Section 8.4 of the Original ESIA.

With the application of proposed mitigation measures identified above, in Section 8.2.2 of the Original ESIA (Stantec 2019a), and in Chapter 5 of the Revised ESMP (Appendix A), residual Project-related impacts on marine habitat and fauna are predicted to be not significant for routine Project activities as well as accidental events. This conclusion has been determined with a high level of confidence based on a good understanding of the general effects of Project activities on marine populations within the AOI, accepted best management practices, and the effectiveness of mitigation measures.

### 6.1.2.4 Avifauna VC

Although the topography and slope of Rendezvous Bluff is expected to partially shield cliff-nesting marine birds on the northwest face of the bluff from potential Project-related sensory disturbance, Project activities associated with the construction of coastal protection works on the seaward side of the pier for the Current Layout will occur approximately 48 m closer to the southern limit of this sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff) than comparable construction activities would have occurred in support of the Original Layout. Modification of the Project based on the Current Layout is therefore anticipated to result in an incremental increase in adverse impacts on the cliff-nesting marine birds of Rendezvous Bluff. However, the potential relative increase in impacts resulting from the relatively closer proximity of certain Project activities and components to this sensitive bird habitat will be partially offset by the relatively less intensive nature of Project construction activities associated with the Current Layout. As per the VC-specific mitigation measures previously identified in Section 9.2.2 of the Original ESIA, Project vessels and activities must not occur within 150 m of the area that is used by marine nesting birds on the northwest face of the exposed cliff on Rendezvous Bluff. In addition, a buffer zone will be established, extending the maximum possible distance from the southern limit of this sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff), in which no Project activity, vessel or infrastructure will be permitted. Implementation of this buffer zone, in combination with the VC-specific mitigation measures previously identified for the Original Layout in Section 9.2.2 of the Original ESIA, is considered sufficient to mitigate the potential change in impacts associated with the Current Layout to acceptable levels. No other additional mitigation, management, follow-up, or monitoring is recommended for the Avifauna VC beyond those measures identified above, in the Original ESIA, and in the Revised ESMP.



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For routine activities and accidental events during all phases of the Project, the potential implications for residual impact characteristics associated with modification of the Project based on the Current Layout are generally expected to range from no substantive change to a relative reduction in the magnitude, geographic extent, frequency, and duration of potential residual adverse Project-related impacts on avifauna (i.e., changes in habitat quantity, quality and use and changes in risk of mortality or physical injury), in comparison with the residual impact characteristics previously described for the Original Layout (refer to Section 9.4 of the Original ESIA). The anticipated probability of potential residual impacts on the Avifauna VC remains unchanged for routine Project activities associated with the Current Layout but is relatively reduced for accidental events. However, the Current Layout will also be associated with a relative increase in the magnitude of potential residual adverse Project-related impacts on the cliff-nesting marine birds of Rendezvous Bluff. This relative increase will not be substantial enough to raise the magnitude of the predicted residual impacts of routine Project activities above the “low” rating previously indicated for the Original Layout Section 9.4 of the Original ESIA.

With the application of proposed mitigation measures identified above, in Section 9.2.2 of the Original ESIA (Stantec 2019a), and in Chapter 5 of the Revised ESMP (Appendix A), residual Project-related impacts on avifauna are predicted to be not significant for routine Project activities as well as accidental events. This conclusion has been determined with a moderate (because of accidental fuel spills) to high level of confidence.

### 6.1.2.5 Terrestrial Flora and Fauna VC

Project activities associated with the construction of coastal protection works on the seaward side of the pier for the Current Layout will occur approximately 32 m closer to sensitive bat habitat on Rendezvous Bluff than comparable construction activities would have occurred in support of the Original Layout. Thus, modification of the Project based on the Current Layout is anticipated to result in increased sensory disturbance and related adverse impacts on the colony of Antillean fruit-eating bats that roost in caves at the base of Rendezvous Bluff. However, the potential relative increase in impacts resulting from the relatively closer proximity of certain Project activities and components to this sensitive bat habitat will be partially offset by the relatively less intensive nature of Project construction activities associated with the Current Layout. As per the VC-specific mitigation measures previously identified in Section 10.2.2 of the Original ESIA, a buffer zone will be established, extending the maximum possible distance from the bat maternity cave, in which no Project activity, vessel or infrastructure will be permitted. Implementation of this buffer zone, in combination with the other VC-specific mitigation measures previously identified for the Original Layout in Section 10.2.2 the Original ESIA, will help mitigate the potential change in impacts associated with the Current Layout. No additional mitigation, management, follow-up, or monitoring is recommended for the Terrestrial Flora and Fauna VC beyond those measures identified in the Original ESIA and in the Revised ESMP.

For routine activities and accidental events during all phases of the Project, the potential implications for residual impact characteristics associated with modification of the Project based on the Current Layout are generally expected to range from no substantive change to a relative reduction in the magnitude, geographic extent, frequency, and duration of potential residual adverse Project-related impacts on terrestrial flora and fauna (i.e., changes in habitat quantity, quality and use and changes in risk of mortality





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or physical injury), in comparison with the residual impact characteristics previously described for the Original Layout (refer to Section 10.4 of the Original ESIA). The anticipated probability of potential residual impacts on the Terrestrial Flora and Fauna VC remains unchanged for routine Project activities associated with the Current Layout but is relatively reduced for accidental events. However, the Current Layout will also be associated with a relative increase in the magnitude of potential residual adverse Project-related impacts on the population of Antillean fruit-eating bats roosting on Rendezvous Bluff. This relative increase will not be substantial enough to raise the magnitude of the predicted residual impact above the ratings previously indicated for the Original Layout Section 10.4 of the Original ESIA.

With the application of proposed mitigation measures identified in Section 10.2.2 of the Original ESIA (Stantec 2019a) and in Chapter 5 of the Revised ESMP (Appendix A), residual Project-related impacts on terrestrial flora and fauna are generally predicted to be not significant for routine Project activities as well as accidental events. However, even with mitigation, potential significant effects are possible for the colony of Antillean fruit-eating bats that roosts in caves at the base of Rendezvous Bluff. The proposed bat monitoring program and adaptive management approach outlined in the Original ESIA and Revised ESMP will reduce the potential for a significant impact. These conclusions have been determined with a moderate level of confidence and are consistent with the conclusions of the Original ESIA with respect to the Original Layout.

### 6.2 Potential Changes to Previously Assessed Cumulative Environmental Impacts

The information provided in Chapter 11 (Cumulative Environmental Impacts) of the Original ESIA (Stantec 2019a) requires the following updates:

- Construction of the Submarine Fibre Optic Cable Project has been completed and the cable is now operational. The submarine landfall portion of the cable was installed in Bunkum Bay in July 2020, outside of the AOI and about 3.5 km from Little Bay. The residual environmental impacts associated with recent submarine cable installation activities and ongoing operation of the submarine fibre optic cable do not have potential to interact cumulatively with (i.e., overlap spatially and temporally with) the residual environmental impacts of the Project. This project is therefore not considered further in the cumulative impact assessment.
- Two additional building projects are being planned within the AOI. The construction of a Financial Services Commission office building is expected to start in June 2021 and a Volcano Interpretation Centre (VIC) later in 2021 in the Little Bay area. Figure 6.1 shows approximately where these proposed buildings will be located. Potential residual environmental impacts of these building construction projects that have potential to interact cumulatively with the residual environmental impacts of the Project include the following:
  - an adverse change in air quality impacting the Atmospheric Environment VC due to emissions of CACs and other products of combustion from construction-related vehicles and equipment; emissions of particulate matter associated with ground-disturbing construction activities, transportation of construction equipment and materials (potentially including the use of unpaved access roads and/or the transportation of sand and/or aggregate), and potential on-site concrete



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- plant operation during construction (if required); and an adverse change in greenhouse gases due to emissions of GHGs from construction-related vehicles and equipment
- an adverse change in acoustic environment impacting the Atmospheric Environment VC due to acoustic emissions from construction-related vehicles and equipment, acoustic and vibration emissions from potential blasting (if required) and/or potential pile driving (if required) during construction
- an adverse change in the integrity of coastal landforms impacting the Coastal Features VC due to alteration of natural physical attributes of the Little Bay area during construction, including existing runoff volume and flow characteristics in local ghauts, and impacts on ghauts associated with the operation and maintenance of drainage works
- an adverse change in habitat quantity, quality or use impacting the Avifauna VC due to direct physical alteration, disruption, or destruction of terrestrial bird habitat during construction; changes in air quality and the acoustic environment and associated sensory disturbance to birds caused by emissions from the sources identified above with respect to potential residual impacts on the atmospheric environment; and sensory disturbance to birds from emissions of artificial night lighting during construction and operation, which could attract and/or disorient nocturnally active birds
- an adverse change in risk of mortality or physical injury impacting the Avifauna VC due to direct physical impacts on birds, their nests, their eggs, or their young, including collisions/strikes with construction-related vehicles and equipment, damage induced by potential blasting during construction (if required), and collisions/strikes with building infrastructure during operation; auditory injury induced by potential blasting (if required) and/or potential pile driving (if required) during construction, if birds are present within a localized area in proximity to the source; and attraction of nocturnally active birds to artificial night lighting during construction and operation, which could result in disorientation, exhaustion, and increased exposure to other anthropogenic hazards
- an adverse change in habitat quantity, quality or use impacting the Terrestrial Flora and Fauna VC due to direct physical alteration, disruption, or destruction of terrestrial habitat during construction; sensory disturbance to terrestrial fauna from changes in air quality and the acoustic environment caused by emissions from the sources identified above with respect to potential residual impacts on the atmospheric environment; and sensory disturbance to birds from emissions of artificial night lighting during construction and operation, which could cause behavioural effects in bats; and alteration of plant communities caused by the introduction of invasive plant species on vehicles and equipment and/or in the seed mixes used during landscaping
- an adverse change in risk of mortality or physical injury impacting the Terrestrial Flora and Fauna VC due to loss of terrestrial flora as a result of direct physical disturbance during construction; direct physical impacts on terrestrial fauna, including collisions/strikes with construction-related vehicles and equipment and damage induced by potential blasting during construction (if required); auditory injury induced by potential blasting (if required) and/or potential pile driving (if required) during construction, if terrestrial fauna are present within a localized area in proximity to the source; and impacts on terrestrial flora caused by the introduction of invasive plant species on vehicles and equipment and/or in the seed mixes used during landscaping



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**Figure 6.1**      **Locations of Proposed Volcano Interpretation Centre and Financial Services Commission Building**

As described Section 6.3 above, modification of the Project based on the Current Layout is anticipated to cause a relative reduction in the magnitude, geographic extent, frequency, duration, and/or probability of potential residual adverse Project-related impacts on multiple environmental VCs. Thus, the residual Project-related impact characteristics that are summarized for the Original Layout in Table 11.4 (Residual Project-related and Cumulative Environmental Impacts) of the Original ESIA are no longer applicable. As a result of the relative reduction in several Project-related residual impact characteristics, there may also be a relative reduction in the residual cumulative impact characteristics of the Project in combination with the other physical activities in the AOI. Nonetheless, the conclusions of the cumulative impact assessment that was previously conducted for the Original Layout (refer to Section 11.4 of the Original ESIA) remain generally valid and applicable with respect to the Current Layout, including the following significance determinations:

- With the application of proposed Project-related mitigation and environmental protection measures, residual cumulative environmental impacts on the atmospheric environment, coastal features, marine habitat and fauna, avifauna are predicted to be not significant.
- Even with the application of proposed Project-related mitigation and environmental protection measures, a significant residual cumulative change in habitat quality, quantity or use could occur with respect to the Antillean fruit-eating bat population. However, this residual cumulative impact is predicted to be not significant for other terrestrial flora and fauna.



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### 6.3 Potential Changes to Impacts of the Environment on the Project

The information provided in Chapter 12 (Impacts of the Environment on the Project) of the Original ESIA (Stantec 2019a) remains generally valid and applicable with respect to the Current Layout and requires no updating other than to note the following:

- The Current Layout consists of a pier rather than a quay and will include coastal protection works (the design features of which are described in Section 2.3.2 above) rather than a breakwater.
- The Port is expected to be subject to increased downtime in the absence of a breakwater.
- A preliminary review of metocean and coastal information has been conducted for Little Bay. The findings related to tides, storm surges, and sea level rise are summarized in Table 6.2 for return periods (RPs) of 50 and 100 years (Stantec 2019c).

**Table 6.2 Design Water Level for Little Bay Pier**

Design Water Level (DWL)	Design Life for 2070 (50 years) Extreme Event RP = 50 years DWL Components (m)	Design Life for 2070 (50 years) Extreme Event RP = 100 years DWL Components (m)
Highest Astronomical Tide (m CD)	+0.70 m	+0.70 m
Storm Surge <sup>1</sup>	+0.44 m	+0.57 m
Sea Level Rise (SLR) <sup>2</sup>	+0.57 m	+0.57 m
<b>Total DWL (m CD)</b>	<b>+1.71 m</b>	<b>+1.84 m</b>
Notes: CD is approximately the Lowest Astronomical Tide (LAT). Mean Sea Level (MSL) is +0.5 m. <sup>1</sup> Storm Surge values are from Martec (2010), Tables 3.4 and 3.5. <sup>2</sup> SLR values are from Stantec (2019d), Climate Risk and Vulnerability Assessment – Montserrat Port Development Project at Little Bay.		

A preliminary conclusion is therefore that the design water elevation at the pier for 2070 (in 50 years) is:

DWL  $\approx$  +1.75 m CD for an extreme event with 1:50-year return period

DWL  $\approx$  +1.85 m CD for an extreme event with 1:100-year return period

As indicated in Section 12.2.4 (Summary of Impact Assessment – Impacts of the Environment on the Project) of the Original ESIA, the potential impacts of natural hazards, including volcanos, earthquakes, storm waves, and landslides, on the Project are considered and will be incorporated into the planning and design of the Project infrastructure and scheduling to reduce these impacts. During Project design and construction, relevant building codes will be adhered to prevent damage to infrastructure as a result of earthquake and other hazards. A major natural hazard event could result in adverse impacts on the Project, potentially including interruption to the Project schedule. However, the likelihood of a natural hazard resulting in a significant residual adverse impact on the Project will be reduced, to the extent feasible, by the location of the Project in the 'safe' zone from the Soufrière Hills Volcano, the consideration of natural hazards in Project design (e.g., design water levels for storm surge and extreme nearshore wave heights of 1 in 50 year waves), and the planned implementation of related mitigation measures (e.g., use of early warning systems and Disaster Risk Management Plan and Emergency Response Plan for hurricanes).



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### 7.0 SOCIAL IMPACT ASSESSMENT FOR CURRENT LAYOUT

As indicated in Section 5.2, there are three critical changes associated with the Current Layout that are likely to result in adverse social and gender impacts:

- The moorings that are used by the fishers in Little Bay will be removed during construction of the pier. After the dredging works, five permanent buoys will be installed near to the existing jetty to alleviate some of the displacement.
- The Current Layout is associated with a 14% relative increase in the amount of reef habitat that will be directly lost, in comparison with the Original Layout.
- Construction will now take place closer to the bat caves and the sensitive marine bird habitat on Rendezvous Bluff.

These project design changes mean that fishers currently mooring vessels in Little Bay, and all users of the Little Bay Reef, as well as those who conduct tours that include the Bat Cave or bird watching will experience changes to their modes of operation. A summary of the baseline conditions of all the affected stakeholders was presented in Sections 5.2.1 to 5.2.6 and the detailed data and information is located in Appendix B. The potential impacts of the Project on these affected stakeholders are discussed here. The likely changes to previously assessed impacts identified in the Original ESIA (Stantec 2019a) are also assessed to determine whether they improve, worsen or do not change as a consequence of the Current Layout. A Resettlement Action Plan has been prepared (Attachment F in Appendix A) to describe the procedures to be followed and the actions to be taken in order to properly mitigate and assist persons affected by the Montserrat Port Development Project in Little Bay.

#### 7.1 Summary of Project Impacts

Table 7.1 provides a summary of the characteristics of the potential impacts before the application of mitigation measures that could result from the implementation of the Current Layout, based on the impact significance matrix from the Original ESIA. Subsections 7.1.1 to 7.1.4 below describe the residual impacts following the implementation of proposed mitigation measures.

**Table 7.1 Impact Significance Matrix**

Concept	Clarification
Significantly positive (++)	Positive influence on a large area with strong environmental and ecological benefit and/or are positive for many people. Impacts are usually permanent.
Moderate positive (+)	Impacts do not influence a large area but the area may be sensitive to change. The impacts may have a positive influence on environmental and ecological aspects but there is evidence of alteration/degradation and loss to the area and for many people. The impacts are permanent or sometimes reversible.
Insignificant/minor (0)	The impacts are minor with regard to environmental, ecological and social influence to the area and its sensitivity for change. Temporary and mostly reversible impacts.



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**Table 7.1 Impact Significance Matrix**

Concept	Clarification
Moderate negative (-)	The impacts do not influence a large area but it can be sensitive for changes. The impacts may be negative and can interrupt and disrupt many people and have a general negative impact on the environment. The impacts are permanent and sometimes irreversible.
Significantly negative (--)	The impacts have negative influence on a large area and/or a sensitive area. They have negative effect on many people and on a significant and valued environment. The impacts are permanent and usually irreversible.
Uncertainty (U)	No information on characteristics or extent of the Project due to lack of data. It might be possible to provide this information, i.e., by monitoring or research.

**Table 7.2 Summary of the Potential Adverse Impacts Without Mitigation**

Description of Impact	Phase of Impact	Impact Significance	Extent	Duration	Likelihood of Impact Occurring
Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles	Construction	Minor	The three businesses in close proximity to the Port and all other businesses and their clientele in Little Bay	11 months	Certain
Removal of existing moorings used by the fishers who will incur additional time and finances.	Construction and Operation	Moderately negative	All fishers with boats in Little Bay and their crews	Permanent	Certain
Increased loss of Little Bay Reef and reef habitat which will reduce the area that can be used for recreation and commercial purposes	Construction and Operation	Moderately negative	All users of Little Bay Reef	Permanent	Certain
Increased proximity to the Bat Cave and the potential adverse effects on the bats could reduce the tours to that location	Construction and Operation	Moderately negative	Persons who operate and participate in tours at the Bat Cave	Permanent	Certain





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**Table 7.2 Summary of the Potential Adverse Impacts Without Mitigation**

Description of Impact	Phase of Impact	Impact Significance	Extent	Duration	Likelihood of Impact Occurring
Increased proximity to marine bird habitat at Rendezvous Bluff and the potential adverse effects on the birds could reduce the tours to that location	Construction and Operation	Moderately negative	Persons who operate and participate in bird watching tours	Permanent	Certain

### 7.1.1 The Fishers who Moor in Little Bay

The moorings used by the fishers in Little Bay will be removed to facilitate the construction phase of the Project. As discussed in Section 5.2.2, this means that the 12 boat owners and their 11 crew members will not be able to moor there anymore and will need the means to launch and haul up their boats to continue to fish. The plan is for the GOM to supply the boat owners with trailers to launch and haul up their boats. In addition, in the short term the existing Fisheries Department vehicle will be used to assist the fishers that do not presently have a vehicle to transport the trailers. As reported during the interviews, all of the 11 fishers see the provision of the trailers as a benefit. During storm surges and swell waves, fishers have to move their boats out of Little Bay and they will now have the means to do so. Their boats would be stored safely on the trailers in the boatyard or at their houses where they typically store their fishing gear and supplies. This would also facilitate more regular inspection and maintenance of the vessels. However, it will mean additional time spent launching and hauling the boats every time they fish.

There is also the challenge of launching during good weather but returning in bad weather and trying to haul up in rough seas. The GOM does not have any immediate plans to provide any insurance against damage to the boats during launch or haul up. Notably, none of the fishers have insurance for their vessels and would bear the costs of any such damage themselves. In this regard it should be noted that there is no security system at the boatyard, and although the fishers reported that they have never experienced a problem, it is still a risk to store boats and trailers in an unsecured location.

As indicated above, GOM has agreed to provision fishers owning boats with trailers, and any additional expenses that the provision of trailers will create are to be borne by the fishers. These expenses could include the cost of purchasing a truck to transport the trailer or paying for transportation services, and the cost of repairing any damage that could occur during haul-up or launch. Potential agreeable solutions (e.g., provision of trailer tows) are explored and considered in the RAP. Although fishing is not the only source of income for the majority of the fishers or boat crew, several of them have families and dependants who rely on their income as well. Any additional expenses could be a burden on these fishers and their households. These issues and the approach to determining mitigation and assistance are addressed in the RAP provided in Attachment F of the Revised ESMP (Stantec 2021), which is appended to this ESIA Addendum (see Appendix A).



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The GOM has indicated that five mooring buoys are to be provided in the sheltered basin with priority usage for the daily fishers on a first come first serve basis. This should alleviate any challenges faced by fishers who may not be able to haul up their boats on any specific occasion. It is anticipated that consultation with the fishers, facilitated by the GOM and with the presence of the Port Authority, would contribute to further developing an agreeable solution.

### 7.1.2 Users of the Little Bay Reef

Approximately 32% of the Project Footprint overlaps with Little Bay Reef, which represents a 14% relative increase in the amount of reef habitat that will be directly lost in comparison with the Original Layout. This means a reduction in the area that can be used for recreational and commercial snorkelling and diving by the tour operators and their crew and employees who conduct activities there. There is also the risk of damage to the entire reef if there is any accidental spill or severe siltation during construction. Notably two of the tour operators report that the reef is already showing signs of deterioration. During the construction and operations phases the tour operators will still be able to use the Little Bay Reef; however, there will be some loss of reef and associated habitat. For those who offer eco-tours, the construction and operational phases of the Project could be contrary to the underlying principles upon which the business is marketed and operated.

There are several alternate reefs already in use for commercial and recreational tours. Therefore, if access to Little Bay Reef is temporarily prevented, e.g., due to a construction or maintenance related activity, users could go to an alternate site. However, the Little Bay Reef is favoured by the users for several reasons, even though 50% of the respondents state that it is only average in quality compared to other reefs on the island. The benefits of this specific reef include the fact that it is close enough to the shore to provide a safe area for teaching children to swim, and its depth is good for novice snorkelers and divers. It is in close proximity to the Port where tourists can come to have a tour before returning to a cruise ship. It is also in close proximity to Brades and very accessible to all of the commercial operators.

A section of reef will be lost because of the Project, but users will have continued access during the construction and operational phases of the Project. In addition, there are alternate locations where these operators can offer tours, and so it is unlikely that any operator will close their business because of the Project's changes to the Little Bay Reef. Moreover, there is a likelihood of increased income because of more consistent cruise ship arrivals as a result of the Port Project. However, for any operator whose business relies primarily on Little Bay, the changes could also possibly result in a reduction in business. This would affect the boat crew and any other employees who work for these operators as well. Recommendations for addressing any adverse economic effects to reef users are made in the RAP (Attachment F in Appendix A).

### 7.1.3 Bird Watching and Bat Tours at Rendezvous Bluff

The modification of the Project based on the Current Layout is expected to result in an incremental increase in potential adverse impacts because of its relatively closer proximity to the Rendezvous Bluff. At the same time, this should be partially offset by the relatively less intensive nature of Project construction activities associated with the Current Layout. Therefore, the Project could potentially cause some adverse impacts



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on the sensitive habitat of the cliff-nesting marine birds and the bat caves of Rendezvous Bluff. This could in turn potentially affect the livelihoods of those who conduct tours that include the bat caves or bird watching activities. However, the realization of adverse impacts on the sensitive habitats cannot be ascertained at the present time and where an environmental monitoring program will be implemented to determine the effectiveness of mitigation measures or if additional mitigation measures will be required and if the impacts are negligible, reversible, or permanent. The RAP (Attachment F in Appendix A) considers compensation as an option to address the potential for adverse economic effects on these tour operators.

### 7.1.4 Business Immediately Adjacent to The Port

The three businesses immediately adjacent to the Port are likely to experience the public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles. However, since the operations of these businesses are also construction related, the effects are unlikely to be severe. Currently there are no plans to block the access road that leads to these businesses. During both the construction and operations phases, there is the possibility that these companies could supply goods and services to the Project.

## 7.2 Cumulative Social and Gender Impacts

Cumulative socioeconomic impacts were assessed based on the Project's synergistic effects when considered in association with any impacts from existing or proposed Little Bay operations. Two additional building projects are being planned within the AOI. The construction of a Financial Services Commission office building is expected to start in June 2021 and a Volcano Interpretation Centre (VIC) later in 2021 in the Little Bay area. In conjunction with these, the Montserrat Port Development Project could increase the adverse effects associated with:

- Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles
- The potential adverse effects of increased migrant labour:
  - Increased demand for services such as health care
  - Perceptions among the local population that migrant workers will contribute to unemployment or increase in violence
  - A strain on the existing housing stock
  - Perceptions among local population that migrant workers will contribute to negative practices such as drug/alcohol abuse or hiring of sex workers

Potential employment and economic benefits could also increase, namely:

- The Mining industry
  - Use of local aggregate could increase income and possibly employment in that sector
- The Construction industry
  - Temporary skilled and semi-skilled jobs



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- Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat
  - Increased sales
- Accommodation rentals
  - Short term home accommodation
  - Short term guest house and apartment rentals
  - Hotels accommodation
- The transportation sector
  - Vehicle rentals and taxis for short term labour

### 7.3 Potential Changes to Previously Assessed Project-Related Social Impacts

The construction schedule for the Current Layout has been shortened from 16 months to 11 months (excludes pier design) and has a smaller spatial footprint. Several adverse effects associated with construction, such as dust, noise, vibrations and visual impacts, would be the same but may be less problematic because of the shorter duration as well as the less intensive nature of construction (e.g., fewer construction vehicles, less construction equipment, less potential requirements for blasting and/or pile driving, etc.). In some cases, the frequency of those negative effects may also be reduced (e.g., if potential blasting and/or pile driving occurs less frequently). Likewise, the positive impacts of construction-related jobs and economic benefits would still be realised but again for a shorter duration. In addition to the reduced duration, the magnitude of the positive benefits of construction-related jobs may also be relatively reduced if fewer construction workers are required.

During operation, most of the Project effects also remain the same; however, there is the addition of a second berth and the relatively smaller size of the vessels berthing at the pier. This could enhance economic benefits because of the increased capacity, but it could also increase adverse impacts such as congestion in the terminal when two vessels are berthing at the pier. The loss of the breakwater associated with the Original Layout reduces the protection of the pier, the bay, and the beach, although the pier still offers safe harbour for boats under the right conditions.

The removal of the moorings in Little Bay displaces the fishers from their usual berths. This is offset by the installation of five permanent moorings near the existing jetty during the construction and operations phases of the project and the provision of trailers to facilitate launching and haul up. The tour operators will continue to use the reef. However, there will be a loss of 32% of Little Bay Reef due to the area of port overlap with the Current Layout design. Tour operations associated with the bats and the birds will continue. However, this could be affected adversely because construction will now take place closer to the Bat Cave and the sensitive marine bird habitat at Rendezvous Bluff.


















Table 7.3 displays the comparative social changes of the Current Layout and Table 7.4 provides an explanation of the changes associated with each aspect of the Project.



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**Table 7.3      Potential Changes to Project-Related Social Impacts Associated with the Modified Port Layout**





Social Valued Components	Project Phases and Major Activities	
	Construction	Operation and Maintenance
<b>Public Health and Safety</b> During the construction phase, there is a relative decrease in the adverse effects associated with dust, noise, etc. due to the Current Layout. However, there is no substantive change to the public health and safety during the operations phase of the Current Layout.		<b>NO SUBSTANTIVE CHANGE</b>
<b>Occupational Health and Safety</b> At neither the construction nor operations stage does the Current Layout cause a change in the potential impacts on occupational health and safety.	<b>NO SUBSTANTIVE CHANGE</b>	<b>NO SUBSTANTIVE CHANGE</b>
<b>Employment</b> The Current Layout will result in a relative reduction in the employment opportunities during construction phase. In addition, the potential adverse effects associated with increased migrant labour might still occur but for a shorter time period. However, some employment as well as economic benefits associated with the operations phase will likely increase because of the second berth in the Current Layout.		
<b>Visual Amenity</b> There is a relative decrease in the adverse impacts on the aesthetics during construction, but no change during the operations phase.		<b>NO SUBSTANTIVE CHANGE</b>
<b>Business Growth and Development</b> The construction phase of the Current Layout does not change the impacts on national business growth and development. However, there it is likely to be a relative increase in benefits in national business growth and development during the operations phase because of the second berth.	<b>NO SUBSTANTIVE CHANGE</b>	
<b>Little Bay Business Community</b> During the construction and operation phases, the Current Layout will result in a relative decrease in economic benefit because of the shorter construction schedule, but there is no substantive change during the operations phase compared to the Original Layout.		<b>NO SUBSTANTIVE CHANGE</b>
<b>Fishers*</b> The removal of the existing moorings will lead to the displacement of the fishers from their current location during construction. This will be offset by five in-shore moorings that should take less than a week to install and anticipated to be placed after the dredging works adjacent to the existing jetty are completed (in the order of a day or two) and early in the construction phase of the Project.		
<b>Little Bay Reef Users*</b> The reef users will continue to operate but there will be an increased loss of some of the reef to which they have access in both construction and operations.		
<b>Users of the Bat Cave and Bird watcher at Rendezvous Bluff*</b> The closer proximity of the construction and operations phases of the Current Layout threatens the livelihoods of those who operate tours.		
<b>Tourism</b> During the construction phase, there is a relative decrease in the adverse effects caused by the Current Layout. However, there is a potential for increased adverse impacts to the tours to Little Bay Reef, the Bat Cave and the marine bird habitat at Rendezvous Bluff which are a component of the industry. The operations phase could result in relatively greater benefits to this sector.		
<b>Community Aesthetics</b> During the construction phase, there is a relative decrease in the adverse effects caused by the Current Layout. There is no substantive change during the operations phase.		<b>NO SUBSTANTIVE CHANGE</b>
<b>Shipping and Related Services</b> During the construction phase, there is a relative decrease in the adverse effects caused by the Current Layout. The Operations phase could result in relatively greater benefits to this sector.		



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Table 7.3      Potential Changes to Project-Related Social Impacts Associated with the Modified Port Layout

Potential Change in Impacts of Current Layout Relative to Original Layout	
	A green arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative reduction in potential Project-related adverse impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.
	A red arrow indicates that modification to the Current Layout is anticipated to result in <b>a substantive relative increase in potential Project-related adverse impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.
	An upturned blue arrow indicates that modification to the Current Layout is anticipated to result in <b>an increase in potential Project-related benefits</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.
	A downturned blue arrow indicates that modification to the Current Layout is anticipated to result in <b>a reduction in potential Project-related benefits</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.
<b>NO SUBSTANTIVE CHANGE</b>	<b>“NO SUBSTANTIVE CHANGE”</b> indicates that modification to the Current Layout is anticipated to result in <b>no substantive change to potential Project-related impacts</b> on the VC, relative to the potential impacts that were previously assessed for the Original Layout in the Original ESIA.

\* Addressed in the Resettlement Action Plan provided in Attachment F of the Revised ESMP (Stantec 2021), which is appended to this ESIA Addendum (see Appendix A).





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Table 7.4 Comparative Changes of Project Activity Effects

Project Phase and Major Activity	Potential Adverse Effects	Potential Benefits
CONSTRUCTION PHASE		
<p><b>Access Road Construction</b></p> <p>The approximately 72% decrease in the total access road / causeway footprint area associated with the Current Layout (refer to Table 2.1), means that construction of this Project component is anticipated to be relatively less intensive than it would have been for the Original Layout. There will therefore likely be reduced air emissions, acoustic emissions; marine water quality effects, noise and vibration.</p>	<ul style="list-style-type: none"><li>Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>Port Employees and Clientele</li><li>Little Bay Commercial Enterprises and Clientele</li><li>Fishers using Little Bay area</li><li>Divers, tour operators and others using Little Bay marine area</li><li>General Public using Little Bay beach and area</li><li>Visitors/tourists</li></ul></li><li>There should be no substantive change to the potential occupation health and safety risks to:<ul style="list-style-type: none"><li>the workers on the construction site</li><li>the public who legitimately visit the construction site</li></ul></li><li>The potential adverse effects of increased migrant labour might still occur but for a shorter time period. These are:<ul style="list-style-type: none"><li>Increased demand for services such as health care</li><li>Perceptions among the local population that migrant workers will contribute to unemployment or increase in violence</li><li>A strain on the existing housing stock</li><li>Perceptions among local population that migrant workers will contribute to negative practices such as drug/alcohol abuse or hiring of sex workers</li></ul></li></ul>	<ul style="list-style-type: none"><li>Potential employment and economic benefits will accrue but for a shorter time period. These include:<ul style="list-style-type: none"><li>The Mining industry<ul style="list-style-type: none"><li>Use of local aggregate could increase income and possibly employment in that sector</li></ul></li><li>The Construction industry<ul style="list-style-type: none"><li>Temporary skilled and semi-skilled jobs</li></ul></li><li>Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat<ul style="list-style-type: none"><li>Increased sales</li></ul></li><li>Accommodation rentals<ul style="list-style-type: none"><li>Short term home accommodation</li><li>Short term guest house and apartment rentals</li><li>Hotels accommodation</li></ul></li><li>The transportation sector<ul style="list-style-type: none"><li>Vehicle rentals and taxis for short term labour</li></ul></li></ul></li></ul>
<p><b>Dredging</b></p> <p>The approximate 45% reduction in the total volume of material to be dredged and the approximately 39% reduction in the total dredge footprint area associated with the Current Layout (refer to Table 2.1), means that Project dredging activities are anticipated to be relatively less intensive than they would have been for the Original Layout. This will require the operation of relatively fewer Project vessels and less Project equipment, as well as relatively fewer and/or shorter on-site vessel movements, thereby reducing potentially associated air and acoustic emissions, marine water quality effects, effects on fish from artificial night lighting onboard Project vessels. It will also mean relatively reduced potential underwater blasting requirements (if applicable), thereby reducing potentially associated noise and vibration, reduced impacts on the Marine Habitat.</p> <p>The second, smaller dredging area (i.e., Dredging Area 2) (refer to Figure 2.1), will be carried out in closer proximity to Little Bay Reef and to the bat caves on Rendezvous Bluff (refer to Figure 2.1 and Table 2.1).</p>	<ul style="list-style-type: none"><li>This enhances the potential for increased adverse effects on users of the Little Bay Reef and Rendezvous Bluff resources:<ul style="list-style-type: none"><li>Fishers</li><li>Bird watchers</li><li>Tour operators</li><li>Swimmers, snorkelers, divers etc.</li></ul></li><li>Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>Port Employees and Clientele</li><li>Little Bay Commercial Enterprises and Clientele</li><li>Fishers using Little Bay area</li><li>Divers, tour operators and others using Little Bay marine area</li><li>General Public using Little Bay beach and area</li><li>Visitors/tourists</li></ul></li><li>There should be no substantive change to the potential occupation health and safety risks to:<ul style="list-style-type: none"><li>the workers on the construction site</li></ul></li><li>The potential adverse effects of increased migrant labour might still occur but for a shorter time period. These are:<ul style="list-style-type: none"><li>Increased demand for services such as health care</li><li>Perceptions among the local population that migrant workers will contribute to unemployment or increase in violence</li><li>A strain on the existing housing stock</li><li>Perceptions among local population that migrant workers will contribute to negative practices such as drug/alcohol abuse or hiring of sex workers</li></ul></li></ul>	<ul style="list-style-type: none"><li>Potential employment and economic benefits will accrue but for a shorter time period These include:<ul style="list-style-type: none"><li>The Construction industry</li><li>Temporary skilled and semi-skilled jobs</li></ul></li><li>Material for land reclamation would be reduced but the dredged materials could still facilitate additional housing or commercial developments</li></ul>



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**Table 7.4      Comparative Changes of Project Activity Effects**

Project Phase and Major Activity	Potential Adverse Effects	Potential Benefits
<p><b><u>Pier Construction</u></b></p> <p>The approximately 24% decrease in the size of the pier structure associated with the Current Layout, in comparison with the size of the breakwater/quay structure associated with the Original Layout (refer to Table 2.1), is anticipated to be relatively less intensive than it would have been for the Original Layout. This will likely results in reduced air and acoustic emissions; marine water quality effects on fish from artificial night lighting onboard Project vessels; less noise and vibration. However, there is the loss of a relatively larger proportion of Little Bay and construction activities taking place in closer proximity to the bat caves on Rendezvous Bluff.</p> <p>The mooring currently used by the Fishers will no longer be available. Five new moorings will be installed near the existing jetty.</p>	<ul style="list-style-type: none"><li>• Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>– Port Employees and Clientele</li><li>– Little Bay Commercial Enterprises and Clientele</li><li>– Fishers using Little Bay area</li><li>– Divers, tour operators and others using Little Bay marine area</li><li>– General Public using Little Bay beach and area</li><li>– Visitors/tourists</li></ul></li><li>• There should be no substantive change to the potential occupational health and safety risks to:<ul style="list-style-type: none"><li>– the workers on the construction site</li></ul></li><li>• The potential adverse effects of increased migrant labour might still occur but for a shorter time period. These are:<ul style="list-style-type: none"><li>– Increased demand for services such as health care</li><li>– Perceptions among the local population that migrant workers will contribute to unemployment or increase in violence</li><li>– A strain on the existing housing stock</li><li>– Perceptions among local population that migrant workers will contribute to negative practices such as drug/alcohol abuse or hiring of sex workers</li></ul></li><li>• There should be no substantive change to the potential for temporary disruptions to Port operations and therefore the Ports of Call for scheduled ships, which impacts:<ul style="list-style-type: none"><li>– Passengers and crew of vessels</li><li>– Individuals and agencies conducting business with the Port</li></ul></li><li>• The removal of the existing mooring buoys will lead to displacement of the fishers who currently moor in Little Bay. This will be offset by the five mooring buoys that will be installed near the existing jetty.</li><li>• There is a potential increase in the adverse effects on users of the Little Bay Reef and Rendezvous Bluff resources:<ul style="list-style-type: none"><li>– Fishers</li><li>– Bird watchers</li><li>– Tour operators</li><li>– Swimmers, snorkelers, divers etc.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Potential employment and economic benefits will accrue but for a shorter time period These include:<ul style="list-style-type: none"><li>– The Mining industry<ul style="list-style-type: none"><li>o Use of local aggregate could increase income and possibly employment in that sector</li></ul></li><li>– The Construction industry<ul style="list-style-type: none"><li>o Temporary skilled and semi-skilled jobs</li></ul></li><li>– Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat<ul style="list-style-type: none"><li>o Increased sales</li></ul></li><li>– Accommodation rentals<ul style="list-style-type: none"><li>o Short term home accommodation</li><li>o Short term guest house and apartment rentals</li><li>o Hotels accommodation</li></ul></li><li>– The transportation sector<ul style="list-style-type: none"><li>o Vehicle rentals and taxis for short term labour</li></ul></li></ul></li></ul>
<p><b><u>Potential Concrete Plant Operation On-site or Nearby</u></b></p> <p>The potential concrete requirements for the Current Layout are less than those for the Original Layout. Therefore, operation of the concrete plant during Project construction is anticipated to be relatively less intensive than it would have been for the Original Layout, thereby reducing potentially associated air and acoustic emissions; less fugitive dust emissions and reducing marine water quality effects.</p>	<ul style="list-style-type: none"><li>• Public health and safety issues associated with dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>– Port Employees and Clientele</li><li>– Little Bay Commercial Enterprises and Clientele</li><li>– Fishers using Little Bay area</li><li>– Divers, tour operators and others using Little Bay marine area</li><li>– General Public using Little Bay beach and area</li><li>– Visitors/tourists</li></ul></li><li>• There should be no substantive change to the potential occupation health and safety risks to:<ul style="list-style-type: none"><li>– the workers on the construction site</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Potential employment and economic benefits will accrue but for a shorter time period. These include:<ul style="list-style-type: none"><li>– The Mining industry<ul style="list-style-type: none"><li>o Use of local aggregate could increase income and possibly employment in that sector</li></ul></li><li>– The Construction industry<ul style="list-style-type: none"><li>o Temporary skilled and semi-skilled jobs</li></ul></li><li>– Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat<ul style="list-style-type: none"><li>o Increased sales</li></ul></li><li>– Accommodation rentals<ul style="list-style-type: none"><li>o Short term home accommodation</li><li>o Short term guest house and apartment rentals</li><li>o Hotels accommodation</li></ul></li><li>– The transportation sector<ul style="list-style-type: none"><li>o Vehicle rentals and taxis for short term labour</li></ul></li></ul></li></ul>



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**Table 7.4 Comparative Changes of Project Activity Effects**

Project Phase and Major Activity	Potential Adverse Effects	Potential Benefits
<p><b><u>Construction vehicle traffic to and from the site (including trucking of materials to site from the quarry)</u></b></p> <p>Project construction activities based on the Current Layout are anticipated to be relatively less intensive than they would have been for the Original Layout and to require operation of relatively fewer Project vehicles and less Project equipment as well as relatively fewer and/or shorter on-site vehicle movements. This should reduce air and acoustic emissions and any potential accidents with other vehicular or pedestrian traffic</p>	<ul style="list-style-type: none"><li>• Potential public health and safety issues associated with noise, dust and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>– Port Employees and Clientele</li><li>– Little Bay Commercial Enterprises and Clientele</li><li>– Fishers using Little Bay area</li><li>– Divers, tour operators and others using Little Bay marine area</li><li>– General Public using Little Bay beach and area</li><li>– Visitors/tourists</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Potential employment and economic benefits will accrue but for a shorter time period. These include:<ul style="list-style-type: none"><li>– Construction industry<ul style="list-style-type: none"><li>o Temporary skilled and semi-skilled jobs</li></ul></li><li>– Retailers in Little Bay and Montserrat<ul style="list-style-type: none"><li>o Increased retail activity</li></ul></li></ul></li></ul>
<p><b><u>Ship traffic on and to the site (barging of materials to site and presence of construction-related vessels on-site)</u></b></p> <p>Conducting Project construction activities in accordance with the Current Layout will likely require relatively less marine construction vessel traffic to and from the Project site, thereby potentially reducing air and acoustic emissions; collisions; marine water quality and ecosystem effects.</p>	<ul style="list-style-type: none"><li>• There should be a reduction in the adverse effects on the activities and livelihoods of persons using the marine environment, i.e.:<ul style="list-style-type: none"><li>– Fishers using Little Bay area</li><li>– Divers, tour operators and others using Little Bay marine area</li></ul></li></ul>	
<b>OPERATION and MAINTENANCE PHASE</b>		
<p><b><u>Presence of Pier (permanent lighting, change in circulation patterns in the bay, periodic maintenance)</u></b></p> <p>The approximately 65% reduction in the total footprint area of the pier for the Current Layout in comparison with the breakwater/quay for the Original Layout will likely emit relatively less artificial night lighting; and have reduced potential to alter local current, wave and sedimentation regimes. It is also anticipated that the periodic pier maintenance activities that will be required for the Current Layout will be relatively less intensive than the periodic breakwater/quay maintenance activities that would have been required for the Original Layout. There should be less air and acoustic emissions and less fugitive dust emissions, as well as reduced noise and vibrations. The presence of coastal protection works will introduce new or additional hard multi-dimensional substrate that is valuable for colonization by epibenthic organisms and/or provides unembedded interstitial spaces for use by crustaceans, juvenile fish and other fish species, thereby changing the marine habitat quality and use and potentially resulting in a positive impact on the Marine Habitat and Fauna VC. However, this potential positive impact will be relatively reduced for the Current Layout.</p> <p>Five permanent moorings are to be placed in the Bay for use by daily fishers.</p>	<ul style="list-style-type: none"><li>• There is a potential reduction in the adverse effects on activities and livelihoods of persons using the marine environment, namely:<ul style="list-style-type: none"><li>– Users of Little Bay beach</li><li>– Users of the marine areas – swimmers, divers, snorkelers and fishers</li></ul></li><li>• The 5 moorings will offset the removal of the existing ones used by fishers who currently moor in Little Bay.</li><li>• There will be no substantive change to the potential for human trafficking and the movement of illegal drugs, firearms and other forms of contraband. This is of particular concern for vulnerable sectors – women, migrants, children.</li><li>• There will be no substantive change to the potential importation of invasive species which would affect the marine and agriculture sectors</li><li>• There will be no substantive change to the potential importation of disease vectors aboard visiting vessels. This could affect all residents and visitors to Montserrat.</li><li>• There will be no substantive change to the potential for congestion in the ferry terminal. This would affect visitors and other passengers using the Port for entry.</li></ul>	<ul style="list-style-type: none"><li>• The Current Layout will accommodate smaller sized vessels than the Original Layout. While this places limits on the size of the vessels that can berth it would still:<ul style="list-style-type: none"><li>– Facilitate consistent ports of call by cruise ships which benefits the tourism sector and the entire country</li><li>– Eliminate the need for tenders to travel from ships to shore thereby enabling Persons With Disabilities, the elderly and other passengers who could not or chose not to use the tenders.</li><li>– Provide protected berth for the police launch</li><li>– Facilitate consistent berthing of cargo vessels which would benefit wholesalers, retailers, shipping agents and all residents on the island</li></ul></li><li>• The Current Layout will offer safe harbour for vessels. However, it will be reduced compared to what would have been provided by the breakwater. This would still benefit boat owners.</li></ul>
<p><b><u>Vessel Traffic To and From the Port (scope is limited to Little Bay and Carr's Bay)</u></b></p> <p>Given that the Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay) (refer to Table 2.1), vessel traffic to and from the Port has potential to be relatively higher for the Current Layout than it would have been for the Original Layout, thereby increasing potentially associated air and acoustic emissions collisions between vessels transiting to and from the Port; marine water quality effects; effects on fish from artificial night lighting onboard vessels transiting to and from the Port; effects on nocturnally active birds and bats from artificial night lighting onboard vessels transiting to and from the Port and the introduction of invasive marine species from vessels transiting to and from the Port. There is anticipated increased downtime at the Port in the absence of a breakwater. However, the size of the vessels using the Port will be smaller.</p>	<ul style="list-style-type: none"><li>• There could be increased adverse effects on the activities and livelihoods of persons using the marine environment, i.e.:<ul style="list-style-type: none"><li>– Fishers using the Little Bay area</li><li>– Divers, tour operators and others using Little Bay marine area</li></ul></li><li>• The absence of a breakwater in the Current Layout could cause more temporary disruptions to Port Operations and therefore the Ports of Call for scheduled ships. This impacts:<ul style="list-style-type: none"><li>– Passengers and crew of vessels</li><li>– Individuals and agencies conducting business with the Port</li></ul></li></ul>	<ul style="list-style-type: none"><li>• The presence of the second berth means that two vessels can berth simultaneously. This:<ul style="list-style-type: none"><li>– Facilitates consistent Ports of Call by cruise ships which benefits the tourism sector and the entire country</li><li>– Eliminates the need for tenders to travel from ships to shore thereby enabling Persons With Disabilities, the elderly and other passengers who could not or chose not to use the tenders.</li><li>– Provides protected berth for the police launch</li><li>– Facilitates consistent berthing of cargo vessels which would benefit wholesalers, retailers, shipping agents and all residents on the island</li></ul></li><li>• There could be an increase in the employment and economic benefits that could accrue, such as:<ul style="list-style-type: none"><li>– Permanent skilled jobs for workers on the new pier</li><li>– Increases in Port revenue, and taxes for the GOM.</li></ul></li></ul>



**MONTERRAT PORT DEVELOPMENT PROJECT**

Social Impact Assessment for Current Layout  
September 15, 2021

**Table 7.4      Comparative Changes of Project Activity Effects**

Project Phase and Major Activity	Potential Adverse Effects	Potential Benefits
		<ul style="list-style-type: none"><li>There could be an increase in the capacity for emergency evacuation of the island which benefits The Emergency Management Organisation and all residents in Montserrat</li></ul>
<p><b><u>Loading/Offloading of Supplies and Passengers (including potential for introduction of invasive species, customs inspection and clearance, and storage of materials)</u></b></p> <p>Given that the Current Layout includes the addition of a second berth (on the seaward side of the pier), whereas the Original Layout only included a single berth (on the leeward side of the quay) (refer to Table 2.1), there is a relative increase in loading/offloading activities</p>	<ul style="list-style-type: none"><li>There will be no substantive change in the potential for:<ul style="list-style-type: none"><li>The introduction of invasive species which would affect the marine and agriculture sectors</li><li>The introduction of disease vectors which could affect all residents and visitors to Montserrat</li><li>The adverse effects of improper waste disposal</li><li>Delays in immigration and customs which would affect visitors and other passengers using the Port for entry</li><li>Water damage to stored materials which would affect importers of products through the Port</li></ul></li></ul>	<ul style="list-style-type: none"><li>There could be an increase in the employment and economic benefits that could accrue, such as:<ul style="list-style-type: none"><li>Permanent skilled jobs</li><li>Increased commercial activity</li><li>Increased visitor arrivals</li></ul></li></ul>
<p><b><u>Maintenance Dredging</u></b></p> <p>Given that there is an approximately 45% reduction in the total volume of material to be dredged and an approximately 39% reduction in the total dredge footprint area associated with the Current Layout (refer to Table 2.1), dredging activities during the construction phase of the Project are anticipated to be relatively less intensive than they would have been for the Original Layout. Maintenance dredging activities during the operational phase of the Project are similarly anticipated to be relatively intensive than they would have been for the Original Layout</p>	<ul style="list-style-type: none"><li>There could be a reduction in the adverse effects on users of the marine areas:<ul style="list-style-type: none"><li>Fishers</li><li>Tour operators</li><li>Swimmers, snorkelers, divers etc.</li></ul></li><li>Public health and safety issues associated with noise and vibrations and reduced visual aesthetics should be less intensive and endured for a shorter time-period by:<ul style="list-style-type: none"><li>Port Employees and Clientele</li><li>Little Bay Commercial Enterprises and Clientele</li><li>Fishers using Little Bay area</li><li>Divers, tour operators and others using Little Bay marine area</li><li>General Public using Little Bay beach and area</li><li>Visitors/tourists</li></ul></li><li>There should be no substantive change to the potential occupation health and safety risks to:<ul style="list-style-type: none"><li>the workers on the construction site</li></ul></li></ul>	<ul style="list-style-type: none"><li>Potential employment and economic benefits will accrue but for a shorter time period These include:<ul style="list-style-type: none"><li>The Construction industry<ul style="list-style-type: none"><li>Temporary skilled and semi-skilled jobs</li></ul></li></ul></li></ul>
<b>ACCIDENTAL EVENTS</b>		
<p><b><u>Spills or Leaks of Oil or Other Hazardous Materials</u></b></p> <p>The volumes/quantities of oil and other hazardous materials that will be required on-site in support of the Current Layout are anticipated to be lower than the volumes/quantities that would have been required in support of the Original Layout, thereby reducing the potential impacts of a spill or leak on all VCs. Associated transportation, storage, and handling requirements for oil and other hazardous materials will also be reduced, thereby reducing the probability of an accidental event involving these substances.</p>	<ul style="list-style-type: none"><li>There should be no substantive change to the potential adverse effects of spills or leaks of oil or other hazardous materials on the entire coastline of Little Bay and Carr's Bay and therefore the tourism and fisheries sectors.</li></ul>	
<p>Failure of Sediment Control Measures</p>	<ul style="list-style-type: none"><li>There should be no substantive change to the potential adverse effects of the Failure of Sediment Control Measures on the entire coastline of Little Bay and Carr's Bay and therefore the tourism and fisheries sectors.</li></ul>	



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# APPENDIX A

Revised ESMP





## Montserrat Port Development Project

Environmental and Social Management  
Plan (Revision 1)

May 31, 2021

Prepared for:

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## Abbreviations

°C	degrees Celcius
AHRDP	Archaeological/Historical Resource Discovery Plan
AQMP	Air Quality Management Plan
As	arsenic
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
BOD	biological oxygen demand
Bq/L	becquerels per litre
CD	Chart Datum
Cd	cadmium
CDB	Caribbean Development Bank
CHBDC	Canadian Highway Bridge Design Code
Cl <sub>2</sub>	chlorine
CLO	Community Liaison Officer
CN <sup>-</sup>	cyanide
COD	chemical oxygen demand
Cr <sup>6+</sup>	dissolved hexavalent chromium
CRVA	Climate Risk and Vulnerability Assessment
CSA	Canadian Standards Association
CTMP	Coral Transplantation and Monitoring Plan
Cu	copper
dB	decibel(s)
dBA	A-weighted decibel(s)
DRMP	Disaster Risk Management Plan
DWL	Design Water Level
EIA	Environmental Impact Assessment
EM	Environmental Management
EMP	Environmental Management Plan
EPP	Environmental Protection Plan
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
Fe	iron
GOM	Government of Montserrat
GRM	Grievance Redress Mechanism
H <sub>2</sub> S	hydrogen sulphide
HAT	Highest Astronomical Tide
HEM	n-hexane extractable material
Hg	mercury
HMMP	Hazardous Material Management Plan
HSE	Health, Safety and Environment
HSMP	Health and Safety Management Plan
ISPS	International Ship and Port Security
LAT	Lowest Astronomical Tide





## MONTSERRAT PORT DEVELOPMENT PROJECT

m	metre(s)
m <sup>2</sup>	square metre(s)
MARPOL	<i>International Convention for the Prevention of Pollution from Ships</i>
mg/L	milligrams per litre
mL	millilitre
MMO	Marine Mammal Observer
MSL	Mean Sea Level
NATE	no acute toxic effects
NFPA	National Fire Protection Association
NH <sub>3</sub> -N	Ammoniacal Nitrogen
Ni	nickel
NIAA	no increase above ambient
NMP	Noise Management Plan
OSPRP	Oil Spill Response Plan
P	Phosphorus
Pb	lead
pH	hydrogen ion
PIANC	World Association for Waterborne Transport Infrastructure
Port Authority, the	Montserrat Port Authority
Project, the	Montserrat Port Development Project
Proponent, the	Government of Montserrat
RAP	Resettlement Action Plan
ro-ro	roll-on/roll-off
RP	return period
SAR	species at risk
SEP	Stakeholder Engagement Plan
SLR	sea level rise
SPCRP	Spill Prevention, Control and Response Plan
SPL	sound pressure level
TO&G	total oil and grease
TPH	total petroleum hydrocarbons
TSS	Total Suspended Solids
UFC	Unified Facilities Criteria
UKCIF	United Kingdom Caribbean Infrastructure Partnership Fund
VC	Valued Component
WMP	Waste Management Plan
Zn	zinc



# MONTSERRAT PORT DEVELOPMENT PROJECT

## Introduction

May 31, 2021

## 1.0 INTRODUCTION

The Government of Montserrat (GOM) is proposing to expand current facilities at the Port of Little Bay (the Port), in Little Bay, Montserrat, to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and commercial fishing vessels. The Montserrat Port Authority (the Port Authority) is the Proponent for the Montserrat Port Development Project (the Project), with the Ministry of Communications, Works and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department. The GOM has secured funding in support of the Project from the Caribbean Development Bank (CDB) – United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF).

The Project is subject to certain environmental and social assessment requirements to adhere to the GOM's legislative requirements as well as to qualify for funding from the CDB. An Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) must be completed for the Project in accordance with requirements of the GOM and CDB.

An ESIA and ESMP were previously completed for the Project and were revised and formally submitted to the GOM on September 6, 2019 following a draft review by the GOM and CDB. These previous ESIA and ESMP documents (Stantec 2019a, 2019b), which are referred to herein as the “Original ESIA” and “Original ESMP”, respectively, had been prepared based on an initially preferred layout for the Port (Alternative A) that included an offshore breakwater, quay, and associated works. The GOM subsequently decided, in February 2020, to proceed with the Project based on a modified Port layout (Alternative K) that entails development of a new pier structure at the Port, including adjacent berths, mooring dolphin, and roll-on/roll-off (ro-ro) ramp, as well as associated dredging, causeway and access road construction, coastal protection, and slope stabilization. An ESIA Addendum (Stantec 2021) a revised ESMP are required to reflect the modified Port layout.

This document is the revised ESMP for the Project as it is presently proposed (i.e., based on Alternative K as the preferred Port layout); accordingly, for the remainder of this document, “the Project” refers to the components and activities associated with the Alternative K Port layout. The ESMP is intended to be a “living” document that will continue to be revised as necessary to remain relevant to the applicable stage of Project planning, design, and execution. It defines mitigation, management, and monitoring requirements for the Project and provides a framework for the specific responsibilities, tasks, schedule, and budget for implementing, supervising, monitoring, and reporting the environmental and social impact mitigation and management measures.

This ESMP was prepared by:

- Stantec Consulting International Ltd. (Stantec; the Consultant), an independent third-party consultant that has been engaged by the Proponent to assist with environmental and social assessment and management, port engineering, geotechnical engineering, climate risk and vulnerability assessment, performance specifications, procurement and construction management, and monitoring and evaluations in support of the Project



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- Dr. Janice Cumberbatch, a Social and Gender Specialist based in Barbados, who has been sub-contracted by Stantec to lead the social and gender impact assessment and management portions of the ESIA and ESMP

Given the similarities between the current Project in Little Bay and the previously proposed Carr's Bay Port Development Project, this ESMP relies substantially upon the Environmental Management Plan (EMP) that was prepared by Halcrow and ECL (2014) as Appendix N of the Environmental Impact Assessment (EIA) for the Carr's Bay project. Content from the Halcrow and ECL (2014) EMP has been directly incorporated into this ESMP and modified where necessary to reflect Project-specific information and requirements. The Montserrat Port Development Project has similar port features and construction activities as the proposed Carr's Bay Port Development Project, including the construction of the port and requirement for dredging. Therefore, some proven best management practices, proposed mitigation measures and presentation of plans and organizational requirements were retained for the present ESMP. However, additional and specific mitigation measures and plans were developed for the Montserrat Port Development Project to reduce potential environmental impacts (e.g., on the bats and marine birds of Rendezvous Bluff) and to address social and gender impacts and development of action plans, including a Resettlement Action Plan, unique to this Project.

## 1.1 SCOPE OF THE PROJECT

The Montserrat Port Development Project includes the following main components (Figure 1.1):

- a double berth pier structure, with a 130-metre (m) long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead or cells; an approximately 20-m long ramp for ro-ro cargo operations at the inshore end of the pier; and a mooring dolphin located approximately 40 m beyond the offshore end of the pier
- access from the pier to the shore and existing Port via a 10-m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill
- slope stabilization works
- coastal protection consisting of concrete armour units and/or rip rap at the seaward and leeward sides of the filled causeway at the north (inshore) end of the pier
- a vessel approach channel and maneuvering basin dredged to a water depth of at least -8.0 m chart datum (CD) for vessels berthing at the leeward side of the pier. Maintenance dredging to a depth of - 5.0 m CD will also be completed at the existing Port (jetty).

Operation of the Project will support a variety of cargo and passenger operations, including:

- discharge and loading of containers using ro-ro, ships gear and mobile harbour crane
- discharge and loading of break-bulk and cargo using ro-ro, ships gear and mobile harbour crane
- discharge of fuels (gasoline, diesel, etc.) directly to tanker trucks via flexible hose
- disembarkation and embarkation of passengers from pocket cruise ships and ferries
- mooring of coast guard and police vessels



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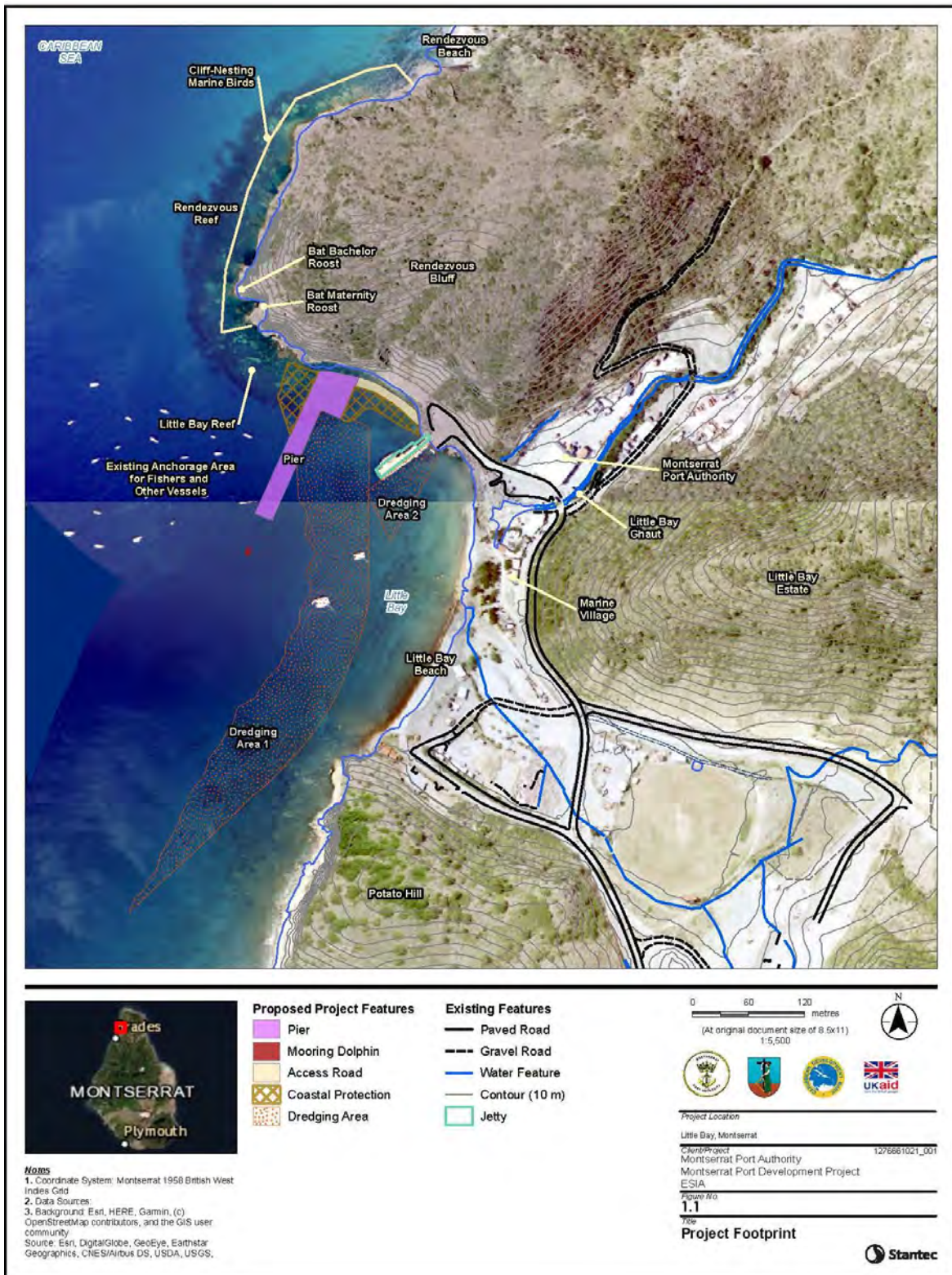


Figure 1.1 Project Footprint



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The scope of the Project for the purposes of this ESMP includes the following activities and components:

### Construction

- Access road construction (including clearing, potential blasting, paving, slope stability measures, coastal protection, installation of drainage works, construction vehicles on-site, and landscaping)
- Dredging (including disposal of dredged materials and potential underwater blasting)
- Pier construction (including in-water construction works, potential for pile driving, safety exclusion zones, alteration in marine processes)
- Potential concrete plant operation on-site or nearby
- Construction vehicle traffic to and from the site (including trucking of materials to site from the quarry)
- Ship traffic on and to the site (including barging of materials to site and presence of construction-related vessels on-site)

### Operation and Maintenance

- Presence of pier (including permanent low-level lighting, change in hydrodynamic circulation patterns in the bay, periodic maintenance)
- Vessel traffic to and from the Port (scope is limited to Little Bay and Carr's Bay)
- Loading/offloading of supplies and passengers (including potential for introduction of invasive species, customs inspection and clearance, and storage of materials)
- Maintenance dredging

### Accidental Events and Natural Hazards

- Spills or leaks of oil or other hazardous materials
- Failure of sediment control measures
- Volcano eruptions, hurricanes, storms, tsunamis, storm surge, severe weather/rough seas, earthquakes and landslides

## 1.2 VALUED COMPONENTS AND SUMMARY OF POTENTIAL IMPACTS

Valued Components (VCs) are components of the biophysical and socio-economic environments that have potential to be impacted by the Project and that are of value or interest because they have been identified to be of concern by regulatory agencies, the Proponent, resource managers, scientists, key stakeholders, and/or the general public.

Table 1.1 identifies the VCs that were selected for the Original ESIA (Stantec 2019a) and ESIA Addendum (Stantec 2021) and are also the main focus of this revised ESMP, as well as the potential environmental and social impacts of the Project on each VC that require the implementation of mitigation measures by the Contractor. Notable existing features of these VCs in the area of the Project and local to Little Bay are shown on Figure 1.1. VC-specific environmental impact management and monitoring requirements and social impact management requirements are described below in Chapters 5 and 6.



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**Table 1.1 Valued Components and Associated Potential Project-related Impacts Requiring Mitigation**

Valued Component	Potential Impact(s)
<b>Environmental VCs</b>	
Atmospheric Environment	<p>The Atmospheric Environment VC includes consideration of potential effects on air quality, greenhouse gases and acoustics (including vibration). These components constitute a VC due to:</p> <ul style="list-style-type: none"> <li>• Emissions from the Project may present a pathway for humans and biota to be exposed to air contaminants</li> <li>• There exist regulatory requirements for air contaminants under the Draft Montserrat <i>Release of Substances and Pollutants Regulations</i> under the <i>Conservation and Environmental Management Act</i></li> <li>• Emissions of GHG and their accumulation in the atmosphere influence global climate and reduction targets</li> <li>• Noise emissions from the Project may influence community health</li> <li>• There exist regulatory criteria regarding noise emission, specifically the guidelines under the Draft Montserrat <i>Release of Noise Pollutants Regulations</i></li> <li>• The atmosphere functions as a pathway for the transport of air contaminants, greenhouse gases and sound to the freshwater, marine, terrestrial, and human environments.</li> </ul>
Coastal Features	<p>The Coastal Features VC includes the physical attributes of Little Bay and Carr's Bay (situated further south from Little Bay) that may be impacted as a result of the Project. This includes the beaches which have been identified as valuable for tourism and recreation (Little Bay Beach, Carr's Bay Beach, Rendezvous Beach) and nesting turtles (Rendezvous Beach); Rendezvous Bluff which provides bat habitat and may require slope stability measures as a result of Project construction; various ghauts that direct runoff into Little Bay and Carr's Bay and impact the marine environment; and other coastal features such as Gun Hill, which has historical significance.</p>
Marine Habitat and Fauna	<p>Environmental effects on marine habitat and fauna (including marine plants, corals, fish, mammals, and sea turtles as well as applicable species at risk (SAR) are included in the Marine Habitat and Fauna VC. This VC is included in consideration of its ecological importance; the socio-economic importance of fisheries resources (i.e., target fish species); the legislated protection of marine fauna and their habitat and applicable SAR; and the nature of potential Project-VC interactions, including the direct loss of coral habitat due to the spatial overlap of the Project Footprint with approximately 3,340 m<sup>2</sup> of Little Bay Reef.</p> <p>Several species of marine fish, corals, mammals, and sea turtles (including SAR) are known to occur in the vicinity of the Project and surrounding area and have potential to be affected (including effects on the marine environment) by Project activities and components, as well as potential accidental events from construction activities.</p>
Avifauna	<p>The Avifauna VC includes marine and terrestrial species found on Montserrat, including SAR. These include resident species (occur year-round) and migratory species. This VC also includes important habitat components, such as nesting areas. This VC is considered because of the high ecological and cultural value of avifauna, and because of possible adverse impacts of the Project. The Rendezvous Bluff provides nesting habitat for at least two marine birds: the red-billed tropicbird and Audubon's shearwater. Avifauna may be adversely impacted by the noise and/or lights during construction. The Project could affect habitat quality, quantity or use. It could also cause mortality and/or physical injury to birds.</p>





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**Table 1.1 Valued Components and Associated Potential Project-related Impacts Requiring Mitigation**

Valued Component	Potential Impact(s)
Terrestrial Flora and Fauna	This VC includes wildlife (plants and animals), including SAR. It also includes sensitive habitat components. The terrestrial environment is an important environmental component not only for local wildlife, but also for people, who value the terrestrial environment for its recreational and aesthetic importance. The most sensitive component of this VC is the Antillean fruit-eating bat ( <i>Brachyphylla cavernarum</i> ) colony that roosts in sea caves at the base of the Rendezvous Bluff. These bats are sensitive to disturbance. The caves at the Rendezvous Bluff support the only known colony of males, females and juveniles of this species of bats on Montserrat, and no other roosting sites are known to exist on the island. The Antillean fruit-eating bat maternity cave is in close proximity to the proposed pier. These bats may be adversely impacted by the noise and lighting produced during construction and operation of the Project.
<b>Social VCs</b>	
Public Health and Safety	There are several Project components during both the construction and operational phases that cause dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads. This can adversely affect Port employees and clientele; Little Bay commercial enterprises and clientele; fishers using Little Bay area; divers, tour operators and others using Little Bay marine area; the general public using Little Bay Beach and area, as well as visitors/tourists. There is also the possibility of the Influx of workers during construction; and risks associated with sexually transmitted infections and gender-based violence.
Occupational Health and Safety	Working on jetties is a high-risk occupation and therefore there is a concern about the occupational health and safety of the workers. Workers are also at risk of becoming infected with the COVID-19 virus and spreading the virus to others if they do not observe and adhere to health restrictions and protocols.
Community Infrastructure and Services	There is potential for adverse effects on community infrastructure and services. During the construction phase additional construction workers could be imported which would increase the demand on the already limited short-term housing stock. During the operations phase, increased arrivals of vessels could potentially lead to security issues associated with trafficking in humans and illicit materials.
Employment	This Project will create jobs during both the construction and operational phases. In the Mining industry the use of local aggregate could increase income and possibly employment in that sector. In the Construction industry there will be temporary job opportunities for skilled and semi-skilled workers. There could also be some gender inequality because of the male-dominated construction sector. Restaurants, bars, supermarkets and other retailers in Little Bay and Montserrat could benefit from increased sales from construction workers. The influx of labour could increase short-term home accommodation rentals; as well as short-term guest house and apartment rentals and hotel occupancy. In the transportation sector there is the potential for increases in vehicle rentals and taxis usage. During the operations phase there could be permanent skilled jobs for workers on the new pier. Nationally, there could be jobs associated with increased commercial activity and increased visitor arrivals because of safer and more consistent port calls from cargo and cruise vessels.
Visual Amenity	During the construction phase dust, dredged material, damaged roads, etc. are among several factors that have the potential to reduce visual amenity that could affect residents, businesses and visitors to the island.





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**Table 1.1 Valued Components and Associated Potential Project-related Impacts Requiring Mitigation**

Valued Component	Potential Impact(s)
Business Growth and Development	The Project could create positive growth in the Montserratian economy through increased cruise visitors, more consistent cargo deliveries and potential investor interest.
Little Bay Business Community	<p>This community is closest to the port and could experience temporary adverse effects of noise and reduced visual amenity during the construction phase. This includes restaurants, bars, stores and boutiques, government offices, and dive operators.</p> <p>These businesses could also benefit from increased sales from workers during both the construction phase as well as from increased arrivals at the port during the operations phase of the project.</p>
Divers and all users of the Little Bay Reef	<p>The spatial overlap of the Project Footprint with approximately 3,340 m<sup>2</sup> of Little Bay Reef means that this portion will no longer be accessible to local dive and other reef tour operators and their clientele. However, there will be continued use of rest of the Little Bay Reef during both the construction and operations phases of the Project.</p> <p>During the operations phase, there could be increased business for these tour operators due to more consistent cruise vessel arrivals.</p>
Tourism	The project design will result in the loss of access to a small section of the Little Bay Reef but access to the rest of the reef will remain for use by visitors to the island. Tour operations associated with the bat caves or bird tours will continue, but could be adversely affected because construction and operation activities will take place in closer proximity to sensitive bat and marine bird habitat on Rendezvous Bluff.
Fishers	The removal of the existing mooring buoys from Little Bay during the construction phase will displace the fishers who currently moor there. After the dredging works, five permanent buoys will be installed near to the existing jetty, to alleviate some of the displacement during and after project completion.
Community Aesthetics	The construction of the Project will be noisy. In addition, there could be disruption of historical and culturally important features / sites in the Little Bay / Carr's Bay area that reduce the residents' recreational enjoyment of the area.
Shipping and related services	During construction, there is the potential for temporary interruption of regular ship traffic and resulting impacts on residents and businesses. However, there is the possibility for increased convenience / quality of life to residents if the operational phase allows for steady and reliable shipping to the Island.



## 2.0 MANAGEMENT FRAMEWORK

This chapter describes the likely management framework for implementing the ESMP.

### 2.1 INSTITUTIONAL ARRANGEMENTS FOR MITIGATION AND MONITORING

The Port Authority is the Proponent for the Project, with the GOM's Ministry of Communications, Works Energy and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department.

#### 2.1.1 Construction Phase

##### 2.1.1.1 Engineer

The Engineer is an independent consultant and will work with and assist the Public Works Department in the day-to-day oversight of the construction works by the Contractor. The oversight team will be headed by the Engineer and the Engineer's Representatives, who will include environmental and social/gender professional(s), with the participation of the Project Community Liaison Officer. The Engineer will provide oversight to the general conformance that the works by the Contractor are being undertaken in accordance with the design drawings and specifications, while the Engineer's environmental professional(s), as Engineer's Representative(s), will provide oversight to the general conformance that mitigation measures are effectively implemented and environmental quality monitored by the Contractor during the construction phase. Non-compliance situations (if applicable) will be reported immediately upon discovery to the Engineer, who will provide instructions for reporting to the Public Works Department and/or appropriate regulatory authorities, if required.

##### 2.1.1.2 Contractor

The Contractor will be responsible for constructing the Project and associated works including preparing the Project design. The Contractor's team will be headed by a Contractor Representative, who will manage the work of Contractor's Personnel and subcontractors. The Contractor's Health, Safety and Environment (HSE) Manager will report to the Contractor's Representative. The Contractor's HSE Manager will assist the Contractor's Representative in managing the environmental, social and occupational health and safety aspects of the contract. Each team on the Contractor's personnel (e.g., dredging, earthworks, concrete works, etc.) and each subcontractor will be headed by a construction supervisor, who will manage the work of foremen, skilled construction workers, and labourers.

Specific responsibilities of the Contractor will likely include, but not necessarily be limited to:

- Planning site mobilization and construction execution as well as directing/managing all construction and construction-related activities



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- Preparing preliminary, definitive and issued for construction designs in accordance with the design processes and procedures for the Project
- Executing site condition, hydrographic and topographic surveys
- Supervising construction personnel on-site and remaining on-site while construction personnel are present
- Coordinating, advising, and providing awareness to construction personnel in the identification of potential environmental and social concerns associated with their activities
- Considering the potential effects of field decisions on the surrounding environment and addressing environmental and social concerns that may arise that are not identified in the ESMP
- Reporting any non-compliance situations immediately upon discovery to the Public Works Department and the Engineer, who will provide instructions for reporting to the appropriate regulatory authorities and the GOM's Department of Environment and the Department of Labour and the Project Community Liaison Officer, if required
- Conducting daily toolbox meetings and maintaining site safety and security
- Preparing Project designs that comply with the ESMP
- Reviewing planned construction activities and methods with Contractor personnel and subcontractors to confirm proper understanding and facilitate implementation of mitigation measures
- Confirming that environmental protection requirements on Site are carried out
- Confirming that environmental constraints are considered as part of the construction activities
- Providing training and arranging for Contractor and subcontractor employees to complete all required training
- Conducting regular inspections for compliance with relevant Acts, Regulations, guidelines, and procedures as well as commitments outlined in this ESMP
- Stopping work that may pose and imminent danger to Project personnel, port personnel or the public and/or may have an impact on the environment
- Issuing stop work orders (for a period of time sufficient to take corrective action) in the event that permit conditions or protection measures have been violated (also allowed under the *Physical Planning Act*)
- Communicating regularly with the Contractor's HSE Manager and the Engineer

Other Contractor responsibilities include:

- Participating in an orientation prior to the start of work on Site
- Making all reasonable efforts to conduct work safely by observing environmental, social and safety standards, guidelines, and procedures, and by using good judgment based on training and expertise
- Reporting unsafe conditions or injuries to the Contractor Representative immediately
- Reporting any non-compliance situations immediately upon discovery to the Contractor Representative
- Identifying and addressing environmental and social concerns that may arise during construction activities
- Communicating regularly with the Contractor's HSE Manager and officers and Engineer's environmental professional Representatives
- Supervising and supporting the Social and Gender Specialist
- Participating in community meetings
- Develop close/functional working relationships with all project stakeholders – NGOs, Government Departments, Private Sector, etc.



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The Contractor's Social and Gender Specialist will cover the social/gender aspects of the Project. Their responsibilities will include:

- Liaise with Executing Agency/Ministry, Project Management Team, Environmental Specialist, design and civil works (Project) consultants
- Support the Community Liaison Officer whose role is guided by the Stakeholder Engagement Plan
- Provide support to the Grievance Redress Mechanism with focus on ensuring continuous communication with project-affected persons
- Ensure alignment of priorities and broad-based communication with primary and secondary stakeholders
- Ensure broad-based coordination and collaboration on the Project's social and gender impacts and activities
- Monitor the construction activities to ensure that the social and gender aspects of the ESMP are being followed by the Contractor
- Provide feedback on and update the ESMP based on requirements of the works
- Report findings from supervision activities to the Engineer and the Public Works Department
- Support the Community Liaison Officer on the implementation of the Resettlement Action Plan
- Perform functions relevant to the Resettlement Action Plan, once finalized, as required
- Liaise with contractors as needed (during local labour recruitment process)
- Work with the Public Works Department to ensure implementation of the Social and Gender Action Plan
- Work with the Public Works Department to ensure gender-sensitive and socially inclusive training is conducted by the Contractor for the Contractor's personnel, consultants and implementing partners utilizing the Gender and Equal Employment and Social Inclusion Training Package and Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat
- Address project-related issues pertaining to public health and safety, gender-based violence (GBV) and conflict management, alcohol and drug abuse, transactional sex work and human trafficking, sexual and reproductive health and rights including sexually-transmitted diseases and HIV/AIDS, customer service, and inclusion of people with disabilities among other at risk social groups
- Support disaster risk management and emergency response
- Identify and facilitate access to national programmes and support services available from government, private sector and NGOs
- Promote application of Gender-Sensitive and Socially-Inclusive Guidelines for Implementing Infrastructure Projects in Montserrat

## 2.1.2 Operation and Maintenance Phase

### 2.1.2.1 Montserrat Port Authority

Once the construction phase of the Project is complete, the Port Authority will manage all aspects of the operation of the Port, including compliance with all environmental requirements, with potential assistance from the GOM's Department of Environment (refer to Section 2.1.2.2 below). The Port Authority has a Quality Management System and a Quality Manager tasked to be the HSE representative. This HSE



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representative will be responsible for day-to-day implementation or delegation of mitigation measures to reduce environmental impacts, as well as associated monitoring and reporting requirements.

#### 2.1.2.2 Department of the Environment

The Department of the Environment, under the GOM's Ministry of Agriculture, Trade, Lands, Housing and the Environment, will oversee the environmental performance of Port operations and review environmental monitoring reports prepared by the Port Authority. The Department of the Environment's Environmental Inspector(s) may also visit the Port from time to time to make independent observations and take independent measurements of environmental parameters.

## 2.2 MEASURES FOR CAPACITY BUILDING

This section specifies the competence and training requirements for key personnel involved with implementation of the ESMP. During construction, the Contractor will be responsible for providing the necessary training and measures to raise the environmental and social/gender awareness of all Contractor personnel working on the Project, including subcontractors, so that environmental and social mitigation and safeguards in the ESMP are properly implemented. This could be accomplished through scheduled toolbox meetings prior to the start of daily construction activities.

During operation, the Port Authority will be responsible for arranging for key personnel to receive environmental and social training to facilitate proper implementation of the ESMP.

General competence requirements for the Engineer, Contractor, Port Authority, and Department of the Environment/Social Services are provided in the subsections below. Additional competence and training requirements have been incorporated into Chapters 5 and 6 (where applicable).

### 2.2.1 Competence Requirements for Engineer Personnel

- **Engineer** – At a minimum, the Engineer will have a degree in Port/Coastal/Civil Engineering or other satisfactory qualification. The Engineer will also preferably have a minimum of 15 years of regional/international professional experience including at least 10 years relevant experience in contract management.
- **Environmental Professional(s)** – At a minimum the Environmental Professional(s) will have a postgraduate degree in Environmental Management/Health, Safety and Environmental Management or equivalent as well as at least seven years of experience in implementing relevant environmental safeguards and mitigation measures and undertaking monitoring. Experience in a maritime / port setting will be an asset.
- **Social and Gender Specialist** – At a minimum the Social and Gender Specialist will have a postgraduate degree in Social Sciences, Gender Studies or Social Anthropology or similar discipline as well as five years of experience in in gender analysis, differential participatory methods and community development, and in implementing mitigation measures and undertaking monitoring of Projects.



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#### 2.2.2 Competence Requirements for Contractor Personnel

- **Health and Safety Officer** –The Contractor will have an Health and Safety Officer. At a minimum, the Health and Safety Officer will have a degree in Health, Safety and Environmental Management, as well as at least ten years of experience managing and implementing relevant mitigation measures and monitoring in a marine / port environment.
- **Environmental Management Officer** – The Contractor will have an Environmental Management (EM) Officer. At a minimum, the EM Officer will have a degree in Environmental Management as well as at least five years of experience in marine/port environmental management, implementing relevant mitigation measures and undertaking monitoring. The EM Officer should also be experienced in environmental assessment and implementation of ESMPs.
- **Construction Supervisors** – In addition to activities specific to construction, the Construction Supervisors will have knowledge of environmental protection measures for equipment used and their maintenance. At a minimum, the Construction Supervisors will have five years of experience in the operation and maintenance of construction equipment and in implementing relevant mitigation measures at construction sites.
- **Social and Gender Specialist** – At a minimum, the Social and Gender Specialist will have a postgraduate degree in Social Sciences, Gender Studies, Social Anthropology, or similar discipline as well as five years of experience in gender analysis, differential participatory methods, community development, and in implementing mitigation measures and undertaking monitoring of projects. The Social and Gender Specialist will also preferably have a minimum of seven years' professional experience in social impact assessment related to large development transport infrastructure projects and mitigation plan preparation.

## 3.0 MECHANISMS FOR FEEDBACK AND ADJUSTMENT

### 3.1 CORRECTIVE AND PREVENTATIVE ACTION

The following sub-sections describe the approach to be taken if any of the monitoring events show exceedances over the required limits during the construction phase and the operation and maintenance phase, respectively.

#### 3.1.1 Construction Phase

During the construction phase, the Contractor's EM Officer(s) will bring to the attention of their HSE Manager any instances of non-compliance or non-conformance indicated in any of the monitoring results. On receiving this information:

- The Contractor's Representative will consult with his/her HSE Manager, and they will agree on any necessary corrective and/or prevention actions. The matter will be reported to the GOM representative verbally and in writing within 24 hours or immediately depending on the severity of the situation. The Contractor must assign resources to undertake the required action.



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- In the case of construction emissions, discharges or spills resulting in acute environmental damage or threat to human health, the Contractor will immediately proceed with the necessary corrective and/or prevention actions. This may or not require that all construction works be stopped and will be decided based on the situation by the Contractor's Representative. He/she is required to simultaneously inform the Public Works Department and the Engineer of the nature of the emission, discharge or spill and that emergency corrective and/or protective works have been initiated. The Department of Environment will also be informed of all incidents and potentially monitor the mitigation. If there is a threat to human health the emergency services/ first responders will be advised immediately.
- For non-emergency works, the Contractor will submit to the Engineer the results of the monitoring that was undertaken, a clear statement on the item of exceedance, and a description of any corrective measures undertaken and/or preventative measures to be undertaken.
- The Engineer will instruct his/her environmental professional Representative(s) and social and gender specialist to review the proposed corrective and/or preventative measures and suggest improvement where necessary. The Engineer will advise the Contractor of these changes, and the Contractor will incorporate them into the construction plan and then instruct that the works proceed. A copy of the revised construction plan should be given to the Engineer. The Engineer's environmental professional Representative(s) and social and gender specialist will inspect and monitor the implementation of the corrective and/or preventative measures. The Engineer will provide instructions for reporting to the Public Works Department and/or appropriate regulatory authorities and the Department of Environment, if required.

### 3.1.2 Operation and Maintenance Phase

During the operation and maintenance phase, the Port Authority's HSE Officer will bring to the Port Manager's attention any instances of non-compliance or non-conformance indicated in any of the monitoring results. On receiving this information:

- The Port Manager will consult with his/her HSE Officer and agree on any necessary corrective and/or preventative actions. The Port Manager will assign resources to undertake the required action.
- In the case of a release resulting in acute environmental damage or threat to human health, the Port Manager will immediately proceed with the necessary corrective and/or preventative actions. This may or not require that all activities be suspended and will be decided based on the situation by the Port Manager. He/she will simultaneously inform the Department of the Environment of the nature of the release and that emergency corrective and/or preventative works have been initiated.
- For non-emergency works, the Port Manager will submit to the Department of the Environment the results of the monitoring that was undertaken, a clear statement on the item of exceedance, and a description of any corrective and/or preventative measures to be undertaken.
- The Director of the Department of the Environment will instruct the Department's Environmental Officers to review the proposed corrective and/or preventative measures and suggest improvements where necessary. The Director of the Department of the Environment will advise the Port Manager of these changes, and the Port Manager will incorporate them into the operations plan and then instruct that the works proceed. A copy of the revised operations plan will be shared with the DOE. The Department of Environment's Environmental Inspectors will inspect and monitor the implementation of the corrective and/or preventative measures.





### 3.2 AUDIT AND REVIEW OF THE ESMP

In order to determine whether implementation of the ESMP has been successful and whether the impact mitigation, management, and monitoring measures outlined in Chapters 5 and 6 are effective, it is recommended that an Environmental and Social Professional conduct audits throughout the construction and operation phases of the Project.

It is recommended that third party audits be conducted every three months during the construction phase. A report will be generated based on the findings of the audit. Audits will also be conducted every six months during the first two years of the operation and maintenance phase of the Project and annually thereafter. If further procedures are required, or if the existing procedures are not effective, the GOM (i.e., the Public Works Department during the construction phase or the Port Authority during the operation and maintenance phase) or its delegate (e.g., the Engineer/Consultant during the construction phase) will review and the Contractor will update the ESMP as necessary and any identified changes will be implemented by the Contractor or its delegate as soon as practical during the construction phase. For the operation and maintenance phase of the port, the audits could possibly be conducted by the Quality Manager tasked to be the HSE representative of the port and who could update the ESMP. The review of these audits could be undertaken by GOM's Department of Environment with the collaboration of the Environmental Health Department of the Ministry of Health and Social Services.

## 4.0 PUBLIC AND STAKEHOLDER CONSULTATION AND ENGAGEMENT

Public and stakeholder consultation and engagement was undertaken during preparation of the ESIA and this ESMP, as summarized in Chapter 3 of the Original ESIA (Stantec 2019a), in Section 13.3 of the Original ESIA (Stantec 2019a), and in Chapter 3 of the ESIA Addendum (Stantec 2021). Consultation and engagement activities will continue during implementation of the ESMP, as well as generally throughout the construction phase and the operation and maintenance phase of the Project, in accordance with the Stakeholder Engagement Plan that is provided in Attachment A of this ESMP.

## 5.0 MITIGATION, MANAGEMENT AND MONITORING OF ENVIRONMENTAL IMPACTS

Mitigation, management, and monitoring of environmental impacts will be implemented continuously by Contractor and subcontractor personnel (under the direction of the Contractor's Representative, construction supervisors, HSE Manager, and/or EM Officers) during applicable activities carried out in support of Project construction and Project operation and maintenance.



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The following environmental protection procedures (from Section 2.9 of the Original ESIA [Stantec 2019a]) are protective of multiple VCs and are generally applicable for both phases of the Project. Additional mitigation, management, and monitoring requirements that are unique to a particular VC and/or a particular phase of the Project are reflected in the VC-specific tables provided below in Sections 5.1.1 to 5.1.5 for the construction phase and in subsections 5.2.1 to 5.2.5 for the operation and maintenance phase. Refer also to Chapter 7 of this ESMP for more information regarding management and monitoring plans.

#### **Environmental Protection:**

- A Project-specific Environmental Protection Plan (EPP) for the construction phase will be developed by the Contractor and finalized after Project design is completed and reviewed and approved by the Engineer and the Department of Environment prior to the initiation of construction activities. The Port Authority will develop an EPP as part of their Environmental and Social Management System (ESMS) for the operation and maintenance phase that will be finalized after Project design is completed and prior to the initiation of operation and maintenance activities. The EPP will describe all applicable procedures related to the general mitigation measures outlined in Sections 5.1.1 to 5.1.5 and Sections 5.2.1 to 5.2.5 below, including those pertaining to inspection/monitoring and maintenance of equipment and environmental controls associated with Project construction and operation and maintenance activities. The EPP for the applicable phase of the Project will be made available at the Project site as well as on all Project vessels and will include, but not be limited to, the following general mitigation measures:
  - Construction and maintenance equipment will be subject to regular maintenance and outfitted with appropriate mufflers
  - Construction and maintenance activities will be timed between 7:00 am to 5:30 pm and 6:30 pm to 10:00 pm to avoid undue nuisance to off-site receptors and after hours, particularly the bats of Rendezvous Bluff and the community of Little Bay. If these activities must occur outside this period, the Contractor will submit a request to the Engineer for approval a minimum of 48 hours before the proposed work detailing the reasons for this work and what additional mitigation measures will be implemented.
  - Construction and maintenance vehicles will drive within the speed limit to reduce engine noises as vehicles travel on roadways within adjacent communities and horns will be minimally used only as necessary
  - Construction and maintenance activity will be limited to the minimum required area and only the areas required for construction and maintenance will be cleared
  - Equipment brought into Montserrat must be cleaned and washed to ensure that they are free of growth and to reduce the potential to introduce invasive species. Imported equipment will include boats, barges, cranes, excavators, haul trucks, pumps, pipelines, and other tools. An on-going logbook will be maintained of past and present usage and wash-downs of all equipment and will be provided to illustrate mitigation measures have been undertaken.
  - Cargo inspection and monitoring at the port of origin of construction materials and supplies imported into Montserrat will be conducted rigorously to limit the transportation and introduction of potentially invasive species. Documentation of this inspection and monitoring of materials and supplies for invasive species will be made available to the Department of Environment prior to shipment to Montserrat.



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- If required and if feasible, augering will be conducted rather than pile driving. If augering is not possible and steel sheet piling is required, pile driving will be scheduled during daytime hours only and a vibratory hammer will be used since it is quieter and generates less vibration than an impact hammer
- Heavy equipment and dredgers will be regularly inspected and maintained so that noise emission control systems are functioning properly, and everything is in proper working order (including no fuel or oil leaks)
- Heavy equipment and dredgers will be shut down when stationary for long periods of time

#### **Waste Management:**

- A Project-specific Waste Management Plan (WMP) for the construction phase will be developed by the Contractor and finalized after Project design is completed and prior to the initiation of construction activities. The Port Authority will develop a WMP for the operation and maintenance phase that will be finalized after Project design is completed and prior to the initiation of operation and maintenance activities. The WMP for the applicable phase of the Project will be made available at the Project site as well as on all Project vessels and will include, but not be limited to, the following waste management measures:
  - Separate secure containers will be provided for the collection of food wastes and other solid wastes, and the contents of these will be regularly disposed of at an approved landfill to be identified by the GOM (i.e., the Public Works Department and/or the Port Authority, Department of the Environment and the Environmental Health Department of the Ministry of Health)
  - Waste will be reused / recycled as much as practical to reduce the total volume going to the landfill
  - If food wastes are to be disposed of at sea, they will be disposed of as per MARPOL recommendations (ground up  $\leq \frac{1}{4}$  inch in size, prior to release)
  - Fires and burning of rubbish on-site will not be permitted
  - Rubbish and waste materials will not be buried on-site unless approved by the Engineer and the GOM (i.e., the Public Works Department and/or the Port Authority)
  - Waste or volatile materials, such as mineral spirits, oil or paint thinner will not be permitted to enter into waterways, storm or sanitary sewers
  - General construction debris will be removed from site and disposed of at an approved site to be identified by the GOM (i.e., the Public Works Department and/or the Port Authority) and approved by the Department of the Environment and the Environmental Health Department of the Ministry of Health
  - Dirt, dust and debris will be collected from the roadway drainage gutters and properly disposed of on a regular basis
  - Waste materials and debris will be collected in acceptable containers on Site and disposed of off-site in an environmentally acceptable and approved site to be identified by the GOM (i.e., the Public Works Department and/or the Port Authority) and approved by the Department of the Environment and the Environmental Health Department of the Ministry of Health
  - Montserrat does not have a metal, wood or plastic recycling facility. All wastes except for toxic waste are to be disposed of at the New Windward Waste Disposal Site managed by the Environmental Health Department



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- Toxic waste will be disposed at a designated location within the New Windward Waste Disposal Site. The Environmental Health Department will be contacted prior to the disposal of any toxic material.
- Flows of surface drainage or natural watercourses will not be obstructed
- Paper, plastic, polystyrene, corrugated cardboard and packaging material will be collected and separated for disposal in appropriate on site bins and then disposed in approved facilities
- Metal banding will be folded, flattened and placed in designated area to reduce volume required and at the disposal site
- Materials defined as hazardous or toxic waste will be placed in designated handled and disposed in accordance with the Project-specific Hazardous Material Management Plan
- Emptied containers that can be placed in the port area authorized by the Port Authority will be sealed and stored safely for disposal away from public
- Unused solvent cement will be disposed of at an official approved hazardous material collection site. Unused solvent cement will not be disposed of into the sewer system, into streams, onto the ground or in any other location where it will pose a health or environmental hazard.

#### Spill Prevention, Control and Response:

- A Project-specific Spill Prevention, Control and Response Plan (SPCRP) for the construction phase will be developed by the Contractor and finalized after Project design is completed and prior to the initiation of construction activities. The Contractor's SPCR will reference and interface with the Port Authority's Emergency and Disaster Management plans, where applicable, to ensure contingency measures are in place to address accidents including fires, spills or leaks throughout the construction phase. The Port Authority will develop a SPCR for the operation and maintenance phase that will be finalized after Project design is completed and prior to the initiation of operation and maintenance activities. The SPCR for the applicable phase of the Project will be made available at the Project site as well as on all Project vessels and will include, but not be limited to, the following spill prevention, control and response measures:
  - Bulk fuel and lubricants will be stored in secure areas (bund walls and impervious flooring) with the capacity to trap more than the volume of hydrocarbon being stored; this will serve as a secondary containment should the primary containment fail. Other hazardous materials will not be stored in large quantities on Project vessels or at the Port, and secondary containment (e.g., drip trays) will be used in areas of storage and transfer.
  - Fuelling and servicing will be conducted at designated sites furnished with spill containment equipment and fire safety equipment including extinguishers
  - Fuelling and servicing areas will be sited away from watercourses and the marine environment at a minimum distance of 30 m.
  - The potential for spills will be reduced through the use of standard good practices, such as the use of appropriate containers, and avoiding overfilling
  - In the event of an on-land spill, dry clean up and mopping techniques will be used as appropriate. The area will not be "washed down" as this could cause the spills to reach the aquatic environment
  - Spilled material and spent lubricants will be collected and removed from site for disposal at an approved location
  - Vehicles and heavy equipment will be properly maintained to reduce the risk of leakage



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- Soil which may have become contaminated during construction will be remediated by the Contractor. This may be done on-site or removed from Site for disposal at an approved location to be identified by the GOM (i.e., the Public Works Department and/or the Port Authority, the Department of the Environment and the Environmental Health Department of the Ministry of Health)
- Project vehicles will be equipped with appropriately sized spill kits containing the necessary supplies to handle the quantity and type(s) of hazardous materials that are on-site
- Project vessels will be equipped with appropriately sized spill kits containing the necessary supplies to handle the quantity and type(s) of hazardous materials onboard (excluding fuel)
- Vessel fueling stations will be equipped with appropriately sized spill kits containing the necessary supplies to handle fuel spills
- Emergency communication systems and protocols will be established in the event that there is a requirement to contact GOM's Disaster Management Coordination Agency and/or the Department of Environmental Health

#### **Hazardous Materials Management:**

- A Project-specific Hazardous Material Management Plan (HMMP) for the construction phase will be developed by the Contractor and finalized after Project design is completed and reviewed and approved by the Engineer, the Department of Environment, and the Environmental Health Department prior to the initiation of construction activities. The Port Authority will develop a HMMP for the operation and maintenance phase that will be finalized after Project design is completed and prior to the initiation of operation and maintenance activities. The HMMP for the applicable phase of the Project will be made available at the Project site as well as on all Project vessels.

## 5.1 CONSTRUCTION PHASE

The VC-specific environmental impact management and monitoring requirements outlined in the following subsections have been compiled from Section 2.9 and Chapters 6 to 10 of the Original ESIA (Stantec 2019a) as well as Section 6.1.2 of the ESIA Addendum (Stantec 2021).



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#### 5.1.1 Atmospheric Environment

**Table 5.1 Potential Impacts: Change in Air Quality, Change in Greenhouse Gases, and Change in Acoustic Environment**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"><li>• Air and acoustic emissions from vehicles and equipment will be managed by conducting regular maintenance so that there are no visible sooty emissions or abnormally high sound levels; defective vehicles or equipment will be taken out of service and will not be permitted to operate until they are repaired</li><li>• Construction-related fugitive road dust will be controlled through measures such as:<ul style="list-style-type: none"><li>– Establishing speed limits on Project-controlled gravel roads</li><li>– Conducting road watering on an as-needed basis</li><li>– Washing truck tires before leaving the construction area onto existing paved roads</li><li>– Requiring trucks hauling material to have tarps to cover the load</li></ul></li><li>• Cleared areas will be paved or revegetated, where possible</li><li>• Completed reclaimed areas will be covered with a geotextile material</li><li>• Stockpiles will be kept covered and used as soon as practical</li><li>• Fine aggregates will be stored in bins or silos, limiting exposure of material to the wind</li><li>• The burning of waste materials will be prohibited</li><li>• Haul distances to disposal sites will be reduced as much as possible</li><li>• Dust emissions during construction activities will be reduced by covers, screens, enclosures, sprinkling water or other similar methods</li><li>• Dust control measures will be implemented at the source, including frequently wetting bare surfaces and access ways</li><li>• Truck tires will be washed before exiting the construction site onto existing paved roads, reducing the chance for trapped earth to become suspended in the air as dust</li><li>• A construction fence will be retained along the perimeter of the Site where feasible; this will act as a barrier to prevent the movement of dust onto surrounding areas</li><li>• Routine preventative maintenance and inspection of hydraulic equipment will be undertaken to avoid a hazardous material release</li><li>• Noise levels from construction activities will not exceed Draft Montserrat Noise Guidelines for Zone II (commercial, government, education, recreation, and sport) in Table 5.2 because of the Project location in Little Bay and close distance to commercial, government, recreation, and sport facilities</li><li>• Noise from construction activities are prohibited after 10:00 pm and before 7:00 am; if construction noise is anticipated to occur during this period, the Contractor will submit a request to the Engineer for approval a minimum of 48 hours before the proposed work detailing the reasons for this work and what additional mitigation measures will be included</li><li>• Acoustical barriers (e.g., engineered materials or stockpiled overburden) will be used near loud sources during construction, if feasible</li><li>• Walled enclosures may be constructed around especially noisy activities, or clusters of noisy equipment</li><li>• Construction equipment will be sized to the smallest needed to perform the work</li><li>• Nearby residents will be notified minimum 48 hours prior to pile driving to reduce the likelihood of annoyance</li><li>• Installation of sediment traps to control dust pickup; this can include the use of vegetation for this purpose</li></ul>
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**Table 5.1 Potential Impacts: Change in Air Quality, Change in Greenhouse Gases, and Change in Acoustic Environment**

<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>No air quality, greenhouse gas, or acoustic monitoring is proposed for the construction phase of the Project</li> <li>Acoustic monitoring will be conducted by the Contractor if requested by the Department of Environment</li> <li>Contractor will carry out additional investigations and/or mitigation strategies at the request of the Department of Environment, where new information becomes available</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>No reporting requirements have been identified</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>A Noise Management Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented continuously by Contractor and subcontractor personnel (under the direction of the Contractor's Representative, construction supervisors, HSE manager, and/or environmental management officers) during applicable construction activities. It will describe procedures for mitigating acoustic impacts on sensitive receptors.</li> <li>A Waste Management Plan will be developed and implemented for the construction activities that include air emissions</li> </ul>

**Table 5.2 Draft Montserrat Noise Guidelines**

<b>Time Period</b>	<b>Zone I (residential areas)</b>	<b>Zone II (commercial, government, education, recreation, and sport)</b>	<b>Zone III (industrial areas or industrial premises)</b>
Daytime  8:00 am – 8:00 pm	<p>(a) the sound pressure level (SPL) when measured as equivalent continuous SPL will not be more than 5 dBA above the background SPL</p> <p>(b) the SPL when measured as instantaneous unweighted peak SPL will not exceed 115 decibels (dB) (peak).</p> <p>Notwithstanding the above, no person will emit or cause to be emitted any sound that causes the SPL when measured as the equivalent continuous sound pressure level to exceed 65 dBA.</p>	<p>(a) the SPL when measured as the equivalent continuous SPL will not be more than 5 dBA above the background SPL</p> <p>(b) the SPL when measured as instantaneous unweighted peak SPL will not exceed 120 dB (peak).</p> <p>Notwithstanding the above, no person will emit or cause to be emitted any sound that causes the SPL when measured as the equivalent continuous sound pressure level to exceed 70 dBA.</p>	<p>Sound pressure level not to exceed:</p> <p>(a) equivalent continuous sound pressure level of 80 dBA</p> <p>(b) instantaneous unweighted peak sound pressure level of 130 dB (peak).</p>
Nighttime  8:00 pm – 8:00 am	<p>(a) the SPL when measured as equivalent continuous sound pressure level will not be more than 3 dBA above the background SPL</p> <p>(b) the SPL when measured as instantaneous unweighted peak SPL will not exceed 110 dB (peak).</p>	<p>(a) the SPL when measured as the equivalent continuous SPL will not be more than 3 dBA above the background SPL</p> <p>(b) the SPL when measured as instantaneous unweighted peak SPL will not exceed 115 dB (peak).</p>	<p>SPL not to exceed:</p> <p>(a) equivalent continuous sound pressure level of 70 dBA</p> <p>(b) instantaneous unweighted peak sound pressure level of 115 dB (peak).</p>





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**Table 5.2 Draft Montserrat Noise Guidelines**

Time Period	Zone I (residential areas)	Zone II (commercial, government, education, recreation, and sport)	Zone III (industrial areas or industrial premises)
	Notwithstanding the above, no person will emit or cause to be emitted any sound that causes the SPL when measured as the equivalent continuous sound pressure level to exceed 65 dBA.	Notwithstanding the above, no person will emit or cause to be emitted any sound that causes the SPL when measured as the equivalent continuous SPL to exceed 70 dBA.	
Source: GOM (2018a). Release of Noise Pollutants Regulations (Draft), Cabinet Secretary at the Office of the Legislature 2018.			

### 5.1.2 Coastal Features

**Table 5.3 Potential Impacts: Change in Integrity of Coastal Landforms and Change in Known Archaeological and Historical Resources**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>An Archaeological/Historical Resource Discovery Plan will be developed by the Contractor and implemented. If archaeological/historical sites or artefacts are discovered at any time during construction, work will be suspended in the vicinity of the find. As per Part IV, Section 47 (1) of the Physical Planning Act, the accidental discovery of an artifact is required to be reported to the GOM's Planning and Development Authority through the Cultural Office within seven days of the discovery. The Montserrat National Trust will be consulted, and arrangements will be made for a surficial inspection approximately 30 m on each side of the discovery before further disturbance is permitted. Sufficient time will be allowed for the Montserrat National Trust to arrange for the assessment of the find and the preparation of recommendations.</li> <li>Contractor will include clauses specifying actions and persons responsible for handling each aspect of a potential archaeological/historical site discovery</li> <li>The catchment ditch abutting Rendezvous Bluff and the access road will be designed to mitigate and avoid a focused plume discharge. The bed of the ditch will promote rapid drainage and possibly allow drainage through several access points or channels across the width of the access road into the harbour to enhance mixing and reduce environmental effects.</li> <li>Silt screens/traps will be deployed along the catchment ditch during Project construction to reduce potential sedimentation effects downstream of the Port.</li> <li>A silt curtain will be installed around the causeway construction and around the immediate area to be dredged and the dredging equipment in order to help reduce the amount of sediment that is resuspended in the water column and to reduce the extent of the sediment plume</li> <li>The effectiveness of the silt curtain will be monitored daily and must be acceptable to the Engineer and local authorities</li> <li>Pipes transporting the dredged material will be periodically inspected throughout the construction phase, with any leaks identified and repaired</li> <li>Water quality monitoring downstream and 100 m from the silt curtain will be conducted daily for total suspended solids (TSS) or turbidity prior to and during causeway construction and dredging</li> <li>Prior to construction, a study on organic pollutants such as hydrocarbons and fecal bacteria will be conducted to identify baseline concentrations particularly in the Port area of Little Bay and just off Little Bay Beach and Carr's Bay Beach</li> </ul>
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**Table 5.3 Potential Impacts: Change in Integrity of Coastal Landforms and Change in Known Archaeological and Historical Resources**

	<ul style="list-style-type: none"> <li>• Vessels and equipment to be used during construction will be operated and maintained according to manufacturer's specifications with supervision and inspections being undertaken throughout the construction phase</li> <li>• Discharges from vessels will be in compliance with the MARPOL Convention to reduce water quality impacts as well as the risk of introducing invasive species. Discharges will be prohibited within the turning basin and in the Port area, including associated MARPOL Convention restrictions on the discharge of treated waste within 3 nautical miles and untreated waste within 12 nautical miles of the shoreline. They will also be in compliance with Part 1, Section 11 (1) of the Port Authority Regulations, pursuant to the Port Authority Act, which prohibits the deposition, placement or discharge into the waterways and harbour of the Port any ballast, dunnage, sanitary sewage, butcher's offal, garbage, dead animals, gaseous liquid or solid matter, oil, gasoline, residium gas, calcium, carbide, trade waste, tar or refuse, or any other matter which is capable of producing floating matter or scum on the surface of the water, sediment or obstruction on the bottom of the ocean bed, or odors or gases of putrefaction.</li> <li>• Ammonium nitrate-fuel oil mixtures will not be used in or near water due to the production of toxic by-products (ammonia)</li> <li>• Prior to dredging and if sediment chemistry of the dredge material is not known, the Contractor will test a minimum of six sediment samples collected from the surface at locations dispersed over the entire dredge area for contaminants and analyzed for particle size, metals (including cadmium, mercury), PCBs, PAHs, and tributyltin. The sediment chemistry results will be compared against U.K. standards and screening guidelines. Applicable guidelines will be used to determine if it is safe for disposal at sea of surplus material (if required).</li> <li>• Surplus and unsuitable dredged material will be disposed of off-site in an environmentally acceptable manner at an approved location identified by the Public Works Department, Environmental Health Department and the Department of Environment.</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• Compliance monitoring of sediment and water quality will be conducted during construction for potential contaminants and TSS or turbidity, in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Any reporting and review that may be required in the event of a potential archaeological or historical discovery would be conducted in accordance with the Archaeological / Historical Resource Discovery Plan (refer to Chapter 7)</li> <li>• Reporting and review of the results of compliance monitoring for sediment and water quality will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• An Archaeological / Historical Resource Discovery Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented by Contractor and subcontractor personnel as needed in the event of an archaeological or historical discovery</li> </ul>



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### 5.1.3 Marine Habitat and Fauna

**Table 5.4 Potential Impacts: Change in Marine Habitat and Change in Marine Populations**

<p><b>Planned Mitigation Measures</b></p>	<p><i>NOTE: All in-water mitigation measures planned for Coastal Features (Table 5.3) also apply to the Marine Habitat and Fauna VC. Additional mitigation measures are listed below.</i></p> <ul style="list-style-type: none"> <li>• The catchment ditch abutting Rendezvous Bluff and the access road will be designed to mitigate and avoid a focused plume discharge. The bed of the ditch will promote rapid drainage and possibly allow drainage through several access points or channels across the width of the access road into the harbour to enhance mixing and reduce environmental effects; however, all drainage will be directed towards the south into the inner harbour (i.e., not towards the north of the new pier where coral reefs are present and not impacted by the Project footprint).</li> <li>• Silt screens/traps will be deployed along the catchment ditch during Project construction to reduce TSS concentration and plume impacts on aquatic life.</li> <li>• Underwater blasting will be prohibited; if blasting is required, the Contractor must seek approval of the Engineer and the Public Works Department and/or Port Authority</li> <li>• The potential zone of environmental impacts on fish will be calculated based on blasting requirements, if approved. This zone will be reduced through the placement (depth and location) of explosive charges and reducing the amount of explosives to that which is necessary.</li> <li>• Where feasible, bubble curtains and other acoustic absorbent technology will be used to contain shock waves from blasting and pile driving (if required)</li> <li>• In-water filter layers, armour layer, and other coastal protection material will be composed of non-toxic material, free from excessive fines</li> <li>• Pre-cast concrete will be rinsed and free from excessive fines prior to being placed underwater in the marine environment</li> <li>• Concrete equipment or excess wet concrete will not be allowed to escape or washed into watercourses or the marine environment</li> <li>• Where tremie or pumped concrete is placed underwater, it will be placed in sealed forms</li> <li>• If cast-in-place concrete is being placed in or adjacent to the marine environment, it will be placed inside a sealed form</li> <li>• Construction vessels must proceed at a speed of not more than 10 knots, when possible, to reduce the amount of underwater noise created and reduce the risk of vessel strikes with marine wildlife</li> <li>• Artificial lighting at night for construction activities are prohibited</li> <li>• Artificial lighting will be kept for safety and security purposes only, and full cut-off lighting will be used wherever possible</li> <li>• Where full cut-off lighting cannot be used:             <ul style="list-style-type: none"> <li>- Lights will be side-shielded and directed downward to reduce the attraction of predatory marine birds that prey on fish</li> <li>- Lights will be directed away from turtle nesting areas or will consist of low-pressure sodium or long wavelength (amber, orange, red) LED light fixtures</li> </ul> </li> </ul> <p>A marine mammal observer will be present during marine construction, dredging, pile driving, mattress placement, causeway infilling, vessel and other activities that generate underwater noise and will enforce a 200 m safety radius. If a marine mammal is observed within this radius, the activity will be temporarily stopped until the animal moves beyond the safety radius. In particular, no dredging or pile driving will be knowingly conducted within 200 m of any marine mammal.</p>
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**Table 5.4 Potential Impacts: Change in Marine Habitat and Change in Marine Populations**

	<ul style="list-style-type: none"> <li>A Project-specific Coral Relocation and Monitoring Plan will be developed and implemented to transplant as many endangered colonies as practical prior to dredging or infilling activities. This Plan will consider the health of the corals marked for relocation, the environmental requirements of the site at which they are currently found, the environmental conditions at the replanting site, the criterion and frequency of monitoring after transplantation, and a procedure to address die-off should it occur post-transplantation. Large coral colonies (&gt; 30 cm) of species that are not at risk will also be considered for relocation.</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>The effectiveness of the silt curtain around the immediate causeway construction and dredging area will be monitored daily and must be acceptable to the Engineer, Port Authorities and Department of Environment</li> <li>Turtle nesting activity and behavior in Little Bay will be monitored prior to and following construction, in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> <li>Water quality monitoring will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7). Water quality monitoring for organic pollutants such as hydrocarbons and fecal bacteria will be conducted prior to construction to identify baseline concentrations, as well as monthly during construction. Water quality monitoring will also be conducted daily for TSS or turbidity prior to and during causeway construction and dredging. Limits for these pollutants will be established based on permissible levels of water pollutants under the Draft Montserrat Release of Substances and Pollutants Regulations 2018, Schedule 1 and provided in Table 5.5. Monitoring and sampling for TSS and turbidity will be undertaken at 100 m from the nearest in-water construction or dredging activity over a 24-hour period. Background levels will be measured at least 500 m from the construction/dredging site in a non-disturbed area and up-current from any sediment movement to confirm ambient/background concentration is not above permissible levels.</li> <li>Monitoring for the presence of marine mammals during mattress placement, causeway infilling, dredging and possible pile driving activities will be conducted in accordance with the Marine Mammal Monitoring Plan (refer to Chapter 7)</li> <li>In accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7), conduct baseline monitoring of the marine habitat upstream of the Port (Rendezvous Reefs) and downstream of the Port (Potato Hill Reefs) as reference sites prior to construction and at regular intervals during construction for health of corals, sedimentation, and water and sediment quality.</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>Reporting and review of the results of turtle nesting activity and behavior monitoring, water quality monitoring, and baseline marine habitat monitoring will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> <li>Reporting and review of the results of marine mammal monitoring will be conducted in accordance with the Marine Mammal Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>A Coral Relocation and Monitoring Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented by Contractor as prescribed in the Plan</li> <li>A Coastal Features and Marine Biophysical Monitoring Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented by Contractor as prescribed in the Plan</li> <li>A Marine Mammal Monitoring Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented by Contractor as prescribed in the Plan</li> </ul>



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**Table 5.5 Draft Montserrat Register of Water Pollutants (Schedule 1)**

No.	Parameters or Substances	Quantity, Condition or Concentration at which substance or parameter is defined as a pollutant
1.	Temperature	Maximum variation of 3°C from ambient
2.	Hydrogen ion (pH)	Less than 6 or greater than 9
3.	Dissolved Oxygen Content (DO)	<4
4.	Five day Biological Oxygen Demand (BOD <sub>5</sub> at 20°C)	>10
5.	Chemical Oxygen Demand (COD)	>60
6.	Total Suspended Solids (TSS)	>15
7.	Total Oil and Grease (TO&G) or n-Hexane Extractable Material (HEM)	>10
8.	Ammoniacal Nitrogen (as NH <sub>3</sub> -N)	>0.01
9.	Total Phosphorus (as P)	>0.1
10.	Sulphide (as H <sub>2</sub> S)	>0.2
11.	Chloride (as Cl <sup>-</sup> )	>250
12.	Total Residual Chlorine (as Cl <sub>2</sub> )	0.2
13.	Dissolved Hexavalent Chromium (Cr <sup>6+</sup> )	>0.01
14.	Total Chromium (Cr)	>0.1
15.	Dissolved Iron (Fe)	>1.0
16.	Total Petroleum Hydrocarbons (TPH)	NIAA
17.	Total Nickel (Ni)	>0.5
18.	Total Copper (Cu)	>0.01
19.	Total Zinc (Zn)	>0.1
20.	Total Arsenic (As)	>0.01
21.	Total Cadmium (Cd)	>0.01
22.	Total Mercury (Hg)	>0.005
23.	Total Lead (Pb)	>0.05
24.	Total Cyanide (as CN <sup>-</sup> )	>0.01
25.	Phenolic Compounds (as phenol)	>0.1
26.	Radioactivity	NIAA
27.	Toxicity	NATE
28.	Faecal Coliforms	>100
29.	Solid Waste	No solid debris
<p>Notes:</p> <p><sup>a</sup> all units are in milligrams per litre (mg/L) except for temperature (°C), pH (pH units), faecal coliforms (counts per 100 mL), radioactivity (Bq/L) and toxicity (toxic units).</p> <p>NIAA—no increase above ambient</p> <p>NATE—no acute toxic effects</p> <p>&gt; greater than; &lt; less than</p> <p>Source: GOM (2018b). Release of Substances and Pollutants Regulations (Draft), Cabinet Secretary at the Office of the Legislature 2018.</p>		



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#### 5.1.4 Avifauna

**Table 5.6 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury of Avifauna**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>• Blasting will be prohibited during construction of the access road</li> <li>• Erosion and sediment control measures for the construction site and works will be established to prevent sediment-laden runoff from land or the shoreline and associated impacts to marine water quality and Little Bay coral reef and beach</li> <li>• Project vessels and activities must not occur within 150 m of the portion of Rendezvous Bluff that is used by marine nesting birds (i.e., the northwest face of the exposed cliff)</li> <li>• A buffer zone will be established, extending the maximum possible distance from the southern limit of the aforementioned sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff), in which no Project activity, vessel or infrastructure will be permitted</li> <li>• If vegetation needs to be cleared, the vegetation and ground will first be searched for bird nests or other evidence of nesting activity. If a nest is located, the location will be flagged and a 30 m buffer surrounding the nest will be established. The flagged area will not be disturbed until the chicks have fledged.</li> <li>• Artificial lighting at night for construction activities are prohibited</li> <li>• Artificial lighting will be kept for safety and security purposes only, and full cut-off lighting will be used wherever possible; where full cut-off lighting cannot be used, lights will be side-shielded and directed downward to reduce the attraction of birds</li> <li>• A Bird Monitoring Plan will be developed and implemented to monitor the attraction of birds to safety and security lighting. If groups of birds are observed aggregating around artificial light sources, the lights will be adjusted or temporarily turned off, if feasible and allowable given safety standards, to release birds.</li> <li>• Construction waste that could attract birds and other wildlife will be properly stored and disposed of daily</li> <li>• The exposed cliff faces inside Little Bay (i.e., the face of Rendezvous Bluff facing southwest into Little Bay) will be monitored every two weeks for nesting activity. If any nests are established on this side of the cliff, additional mitigation will be considered to protect the nests from disturbance.</li> <li>• Ornamental grass or cuscus grass will be planted after construction activities to stabilize soils and act as a filter to remove suspended sediment from site runoff</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• Attraction of birds to safety and security lighting and bird nesting activity on the exposed cliff faces inside Little Bay will be monitored during construction, in accordance with the Bird Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Reporting and review of the results of bird monitoring will be conducted in accordance with the Bird Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• A Bird Monitoring Plan will be developed by the Contractor (refer to Chapter 6) prior to the initiation of construction activities and implemented by Contractor as prescribed in the Plan</li> </ul>



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### 5.1.5 Terrestrial Flora and Fauna

**Table 5.7 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury of Terrestrial Flora and Fauna**

<b>Planned Mitigation Measures</b>	<p><i>NOTE: All mitigation measures planned for Avifauna (Table 5.6) also apply to the Terrestrial Flora and Fauna VC for bats and other terrestrial animals. Additional mitigation measures are listed below.</i></p> <ul style="list-style-type: none"> <li>• Disturbance to colonies of the Antillean fruit-eating bats has been identified as a potential significant environmental risk. The loudest components of construction, which include pile driving, sheet driving, and loading of trucks and end-dumping of armour layer and coastal protection material, have the potential to disturb and harm the bats. A monitoring program for bats shall be developed and implemented prior to and during the construction phase of the Project. This plan shall be developed by the Contractor in conjunction with the Department of Environment and a Caribbean bat expert (see Bat Monitoring and Adaptive Management Plan in Table 7.1).</li> <li>• A buffer zone will be established, extending the maximum possible distance from the entrance to the bat maternity cave, in which no Project activity, vessel or infrastructure is permitted</li> <li>• Construction-related wastes will be securely stored, removed daily from Site, and properly disposed of to avoid attracting wildlife</li> <li>• Sensitive areas will be fenced off to prevent equipment from damaging them</li> <li>• Native plants will be used for landscaping. Seeds and seedlings of appropriate species and hybrid species will be sourced locally including from the Montserrat National Trust.</li> <li>• Cargo inspection and monitoring at the port of origin of construction materials and supplies imported into Montserrat will be conducted rigorously to limit the transportation and introduction of potentially invasive species</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• In accordance with the Bat Monitoring and Adaptive Management Plan (refer to Chapter 7), a baseline count of bats in the maternity cave will be conducted prior to the initiation of construction activities, midway during construction, and at the end of construction; bat activity will be continuously monitored in real-time at the maternity cave during construction, particularly for uncommon excursions during day time</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Reporting and review of the results of bat activity monitoring will be conducted in accordance with the Bat Monitoring and Adaptive Management Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• A Bat Monitoring and Adaptive Management Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities and implemented by Contractor as prescribed in the Plan</li> </ul>

## 5.2 OPERATION AND MAINTENANCE PHASE

The VC-specific environmental impact management and monitoring requirements outlined in the following subsections have been compiled from Section 2.9 and Chapters 6 to 10 of the Original ESIA (Stantec 2019a) as well as Section 6.1.2 of the ESIA Addendum (Stantec 2021).





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#### 5.2.1 Atmospheric Environment

**Table 5.8 Potential Impacts: Change in Air Quality and Change in Greenhouse Gases**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>• Relevant construction-related mitigation measures will be implemented where applicable and as necessary during Project maintenance activities (refer to Section 5.1.1)</li> <li>• Vehicle and equipment emissions will be managed by conducting regular maintenance on all machinery and equipment</li> <li>• The burning of waste materials will be prohibited</li> <li>• Haul distances to disposal sites will be reduced as much as possible</li> <li>• A Waste Management Plan will be developed and implemented for the Port operations that include air emissions</li> <li>• A noise complaint and response system will be implemented in accordance with the Grievance Response Mechanism provided in Attachment B</li> <li>• Enclosures will be used for noise-generating equipment during operation</li> <li>• Routine preventative maintenance and inspection of hydraulic equipment will be undertaken to avoid a hazardous material release</li> <li>• A Project-specific Spill Prevention, Control and Response Plan will be developed and implemented for the Port</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• Air quality monitoring will be conducted in accordance with the Air Quality Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Reporting and review of air quality monitoring results will be conducted in accordance with the Air Quality Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• Mitigation measures will be implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• An Environmental Protection Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously under the direction of the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• A Waste Management Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• An Air Quality Monitoring Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of Port operations and implemented as prescribed in the Plan</li> <li>• A Spill Prevention, Control and Response Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities and as needed in the event of a spill</li> <li>• Applicable competence and training requirements will be fulfilled prior to the initiation of Port operations</li> </ul>



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### 5.2.2 Coastal Features

**Table 5.9 Potential Impacts: Potential Impacts: Change in Integrity of Coastal Landforms and Change in Known Archaeological and Historical Resources**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>• Relevant construction-related mitigation measures will be implemented where applicable and as necessary during Project maintenance activities (refer to Section 5.1.2)</li> <li>• Following the completion of access road construction activities and the removal of associated silt screens/traps along the catchment ditch abutting Rendezvous Bluff and the access road, ornamental grass or cuscus grass (also known as vetiver; <i>Chrysopogon zizanioides</i>) will be planted and maintained on the landside of the catchment ditch to stabilize soils and act as a filter to remove sediment</li> <li>• Periodic sampling for organic pollutants will be conducted within Little Bay during operation; limits for these pollutants will be established based on existing GOM guidelines</li> <li>• Beach profiles and morphology of Little Bay Beach will be regulatory monitored for potential accretion or erosion and to assess the potential need for further mitigation measures</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• During operation and maintenance, erosion and sedimentation at Little Bay Beach and water quality within Little Bay will be conducted on a regular basis, in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Reporting and review of the results of compliance monitoring for erosion and sedimentation at Little Bay Beach and water quality in Little Bay will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• Mitigation measures will be implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• An Environmental Protection Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• A Spill Prevention, Control and Response Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities and as needed in the event of a spill</li> <li>• Applicable competence and training requirements will be fulfilled prior to the initiation of Port operations</li> </ul>



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### 5.2.3 Marine Habitat and Fauna

**Table 5.10 Potential Impacts: Change in Marine Habitat and Change in Marine Populations**

<p><b>Planned Mitigation Measures</b></p>	<ul style="list-style-type: none"> <li>• Relevant construction-related mitigation measures will be implemented where applicable and as necessary during Project maintenance activities (refer to Section 5.1.3)</li> <li>• Following the completion of access road construction activities and the removal of associated silt screens/traps along the catchment ditch abutting Rendezvous Bluff and the access road, ornamental grass or cuscus grass (also known as vetiver; <i>Chrysopogon zizanioides</i>) will be planted and maintained on the landside of the catchment ditch to stabilize soils and act as a filter to remove sediment</li> <li>• Protected areas will be demarcated to avoid damage from equipment during maintenance dredging</li> <li>• Equipment and dredgers will be limited to areas required for maintenance dredging</li> <li>• A silt curtain will be installed around the area to be dredged in order to help reduce the amount of sediment that is resuspended in the water column and to reduce the extent of the sediment plume</li> <li>• The effectiveness of the silt curtain will be regularly monitored and must be acceptable to the local authorities</li> <li>• Pipes transporting the dredged material will be periodically inspected throughout the operation and maintenance phase, with any leaks identified and repaired</li> <li>• Prior to maintenance dredging, the Contractor will test the sediments in the dredge area for contaminants and compare the results against relevant guidelines for the intended fate of the material (e.g., reuse for fill and/or land reclamation, and/or disposal at sea of surplus material) to determine if it is safe for industrial land use, commercial land use, parkland/residential land use, and/or for disposal at sea of surplus material (if required)</li> <li>• Surplus and unsuitable dredged material will be disposed of off-site in an environmentally acceptable manner at an approved location</li> <li>• Artificial lighting will be kept to the minimum amount required for safety and security purposes, and full cut-off lighting will be used wherever possible</li> <li>• Where full cut-off lighting cannot be used:</li> <li>• Lights will be side-shielded and directed downward to reduce the attraction of predatory marine birds that prey on fish</li> <li>• Lights will be directed away from turtle nesting areas or will consist of low-pressure sodium or long wavelength (amber, orange, red) LED light fixtures</li> <li>• Discharges from vessels will be in compliance with the MARPOL Convention to reduce water quality impacts as well as the risk of introducing invasive species. Discharges will be prohibited within the turning basin and in the Port area, including associated MARPOL Convention restrictions on the discharge of treated waste within 3 nautical miles and untreated waste within 12 nautical miles of the shoreline. They will also be in compliance with Part 1, Section 11 (1) of the Port Authority Regulations, pursuant to the Port Authority Act, which prohibits the deposition, placement or discharge into the waterways and harbour of the Port any ballast, dunnage, sanitary sewage, butcher's offal, garbage, dead animals, gaseous liquid or solid matter, oil, gasoline, residium gas, calcium, carbide, trade waste, tar or refuse, or any other matter which is capable of producing floating matter or scum on the surface of the water, sediment or obstruction on the bottom of the ocean bed, or odors or gases of putrefaction.</li> <li>• Erosion and sedimentation controls will be established where necessary on land (e.g., at the shoreline) to reduce the potential for runoff from precipitation events and associated impacts to marine water quality</li> <li>• Post-development stormwater flows will be designed to match current stormwater flows, resulting in no net increase of stormwater</li> </ul>
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**Table 5.10 Potential Impacts: Change in Marine Habitat and Change in Marine Populations**

	<ul style="list-style-type: none"> <li>Oil-grit separators or equivalent technologies will be installed to maintain stormwater TSS concentrations at pre-development levels</li> <li>Project vessels will operate at reduced speeds when possible, to reduce the amount of underwater noise created and the risk of vessel strikes with marine wildlife</li> <li>Vessels will operate at speeds so as to produce no wake as they enter and exit the harbour, thereby reducing the quantity of sediment that is resuspended from propeller wash</li> <li>A Project-specific Coral Transplantation and Monitoring Plan will be developed that will attempt to transplant endangered colonies which may have recolonized the turning basin prior to maintenance dredging</li> <li>A Project-specific Spill Prevention, Control and Response Plan will be developed and implemented and made available at the Port</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>Periodic sampling for organic pollutants will be conducted within Little Bay during operation in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7); limits for these pollutants will be established based on existing GOM guidelines.</li> <li>Turtle nesting activity and behavior in Little Bay will be monitored in the first, third, and fifth year of Port operations, in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> <li>Water quality monitoring will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7) and will include monitoring for organic pollutants, total suspended solids and bacteria within Little Bay and beach area quarterly during the first, third, and fifth year of Port operations; limits for these pollutants will be established based on existing GOM guidelines.</li> <li>Prior to maintenance dredging, the Contractor will test the sediments for contaminants based on the intended reuse of the dredged material</li> <li>Monitoring for the presence of marine mammals during maintenance dredging activities will be conducted in accordance with the Marine Mammal Monitoring Plan (refer to Chapter 7).</li> <li>Monitoring for the health of corals, sedimentation, and water and sediment quality will be conducted in the first, third, and fifth year of Port operations, in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7). Monitoring the marine habitat of the exposed coastal protection works, inside the Port, and dredged area for the approach channel and turning basin will also be included during Port operations.</li> <li>The success of the coral transplantation of endangered colonies and any larger species (&gt;30 cm) that are not species at risk and that were removed from the Project footprint prior to construction of the pier and associated coastal protection works and prior to dredging the approach channel and turning basin will be monitored during the operation and maintenance phase of the Project in accordance with the Coral Transplantation and Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>Reporting and review of the results of turtle nesting activity and behavior monitoring, water quality monitoring, coral health monitoring, sedimentation monitoring, water and sediment quality monitoring, and marine habitat monitoring will be conducted in accordance with the Coastal Features and Marine Biophysical Monitoring Plan (refer to Chapter 7)</li> <li>Reporting and review of the results of marine mammal monitoring will be conducted in accordance with the Marine Mammal Monitoring Plan (refer to Chapter 7)</li> <li>Reporting and review of the results of coral transplantation monitoring will be conducted in accordance with the Coral Transplantation and Monitoring Plan (refer to Chapter 7)</li> </ul>



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**Table 5.10 Potential Impacts: Change in Marine Habitat and Change in Marine Populations**

<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• Mitigation measures will be implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• An Environmental Protection Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• A Spill Prevention, Control and Response Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities and as needed in the event of a spill</li> <li>• Competence and training requirements will be fulfilled prior to the initiation of Port operations</li> <li>• A Coastal Features and Marine Biophysical Monitoring Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of Port operations and implemented as prescribed in the Plan</li> <li>• A Marine Mammal Monitoring Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of Port operations and implemented as prescribed in the Plan</li> <li>• A Coral Transplantation and Monitoring Plan will be developed by the Contractor (refer to Chapter 7) prior to the initiation of construction activities, with the monitoring component implemented or delegated by the Port Authority's HSE Officer during the operation and maintenance phase of the Project and as prescribed in the Plan</li> </ul>
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### 5.2.4 Avifauna

**Table 5.11 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>• Relevant construction-related mitigation measures will be implemented where applicable and as necessary during Project maintenance activities (refer to Section 5.1.4)</li> <li>• Where feasible, ships and the navigation and approach channels will access the Port only from the south-southwest to reduce potential impacts on the sensitive habitats of the Rendezvous Bluff</li> <li>• Project vessels and activities must not occur within 150 m of the portion of Rendezvous Bluff that is used by marine nesting birds (i.e., the northwest face of the exposed cliff)</li> <li>• A buffer zone will be established, extending the maximum possible distance from the southern limit of the aforementioned sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff), in which no Project activity, vessel or infrastructure will be permitted</li> <li>• Artificial lighting will be kept to the minimum amount required for safety and security purposes, and full cut-off lighting will be used wherever possible</li> <li>• Where full cut-off lighting cannot be used, lights will be side-shielded and directed downward to reduce the attraction of birds</li> <li>• Wastes generated during Project operation and maintenance activities will be securely stored, frequently removed from site, and properly disposed of to avoid attracting birds and other wildlife</li> <li>• A Bird Monitoring Plan will be implemented to monitor the attraction of birds to lighting at the Port. If groups of birds aggregate around artificial light sources, lights will be temporarily turned off, if feasible, to release birds.</li> <li>• A Project-specific Spill Prevention, Control and Response Plan will be developed and implemented and made available at the Port</li> </ul>
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**Table 5.11 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury**

<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>Attraction of birds to lighting at the Port will be monitored during the operation and maintenance phase of the Project, in accordance with the Bird Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>Reporting and review of the results of bird monitoring will be conducted in accordance with the Bird Monitoring Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>Mitigation measures will be implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>An Environmental Protection Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>A Spill Prevention, Control and Response Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities and as needed in the event of a spill</li> <li>Competence and training requirements will be fulfilled prior to the initiation of Port operations</li> <li>A Bird Monitoring Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of Port operations and implemented as prescribed in the Plan</li> </ul>

### 5.2.5 Terrestrial Flora and Fauna

**Table 5.12 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury**

<b>Planned Mitigation Measures</b>	<ul style="list-style-type: none"> <li>Relevant construction-related mitigation measures will be implemented where applicable and as necessary during Project maintenance activities (refer to Section 5.1.5)</li> <li>Where feasible, ships and the navigation and approach channels will access the Port only from the south-southwest to reduce potential impacts on the sensitive habitats of Rendezvous Bluff</li> <li>A buffer zone will be established, extending a minimum distance of 100 m from the entrance to the bat maternity cave, in which no shipping or other activity is permitted; a buffer of 150 m is strongly recommended, if feasible</li> <li>Artificial lighting will be kept to the minimum amount required for safety and security purposes, and full cut-off lighting will be used wherever possible</li> <li>Where full cut-off lighting cannot be used, lights will be side-shielded and directed downwards to reduce the effects of artificial lighting on the Rendezvous Bluff bat colony and other terrestrial wildlife. Lights must also be directed to the south, where feasible, so as not to illuminate the entrance to the bat cave</li> <li>Heavy equipment and maintenance dredgers will be regularly inspected and maintained so that noise emission control systems are properly functioning and everything is in proper working order (including no fuel or oil leaks)</li> <li>Heavy equipment and maintenance dredgers will be shut down when stationary for long periods of time</li> <li>Wastes generated during Project operation and maintenance activities will be securely stored, frequently removed from site, and properly disposed of to avoid attracting wildlife</li> </ul>
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**Table 5.12 Potential Impacts: Change in Habitat Quantity, Quality or Use and Change in Risk of Mortality or Physical Injury**

	<ul style="list-style-type: none"> <li>• A Bat Monitoring and Adaptive Management Plan will be developed and followed during operation and an adaptive management approach will be used. If monitoring indicates that the bats are disturbed beyond the defined threshold (based on baseline conditions), additional mitigation measures will be put in place. A count of bats in the maternity cave will be conducted once in the first year of Port operation and every two years thereafter for a total of six years. These counts will provide important data on the potential impacts of the Project on the bat population and for the identification of additional mitigation measures (refer to Chapter 7).</li> <li>• If tourism increases as a result of the new Port, a proper visitor carrying capacity study will be conducted to guide the exploitation and management of the area (particularly with regards to the bat caves)</li> <li>• Restrict entry of equipment and maintenance dredgers into areas where they are not required</li> <li>• Sensitive areas will be fenced off to prevent equipment from damaging them</li> <li>• Native plants will be used for landscaping. Seeds and seedlings of appropriate species and hybrid species will be sourced locally including from the Montserrat National Trust.</li> <li>• Cargo inspection will be conducted to limit the transportation and introduction of potentially invasive species</li> <li>• A Project-specific Spill Prevention, Control and Response Plan will be developed and implemented and made available at the Port</li> </ul>
<b>Monitoring Programs and Parameters</b>	<ul style="list-style-type: none"> <li>• In accordance with the Bat Monitoring and Adaptive Management Plan (refer to Chapter 7), a count of bats in the maternity cave will be conducted once in the first year of Port operations and every two years thereafter for a total of six years during the operation and maintenance phase of the Project</li> </ul>
<b>Responsibilities for Reporting and Review</b>	<ul style="list-style-type: none"> <li>• Reporting and review of the results of bat monitoring will be conducted in accordance with the Bat Monitoring and Adaptive Management Plan (refer to Chapter 7)</li> </ul>
<b>Implementation Schedule and Work Plan</b>	<ul style="list-style-type: none"> <li>• Mitigation measures will be implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• An Environmental Protection Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities</li> <li>• A Spill Prevention, Control and Response Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of operation and maintenance activities and implemented or delegated continuously by the Port Authority's HSE Officer during applicable operation and maintenance activities and as needed in the event of a spill</li> <li>• Applicable competence and training requirements will be fulfilled prior to the initiation of Port operations</li> <li>• A Bat Monitoring and Adaptive Management Plan will be developed by the Port Authority (refer to Chapter 7) prior to the initiation of Port operations and implemented as prescribed in the Plan</li> </ul>





## 6.0 MITIGATION AND MANAGEMENT OF SOCIAL IMPACTS

Mitigation and management of social impacts will be implemented continuously by Contractor and subcontractor personnel (under the direction of the Contractor's Representative, construction supervisors, HSE Manager, Social and Gender Specialist and/or EM Officers) during applicable activities carried out in support of Project construction and Project operation and maintenance.

Implementation of the general mitigation measures identified for the environmental VCs in Section 2.9 of the Original ESIA (Stantec 2019a) and the VC-specific mitigation identified for the environmental VCs in Chapters 6 to 10 of the Original ESIA (Stantec 2019a), and summarized in Chapter 5 of this ESMP, will also serve to reduce the potential impacts of the Project on the social VCs. The following subsections outline the social mitigation and management measures to be undertaken during both phases of the Project and have been compiled from Chapter 16 of the Original ESIA (Stantec 2019a) and Chapter 7.0 of the ESIA Addendum (Stantec 2021). Refer also to Chapter 7 of this ESMP for more information regarding relevant management and monitoring plans.

Some of the recommendations respond to broader development needs and go beyond the typical mitigation measures that would be implemented by the Contractor and the Port Authority for the construction and the operation of the Project. These could be considered as a separate technical cooperation between the Government of Montserrat and an appropriate development banking institution.

The Coronavirus disease 2019 (COVID-19) pandemic has necessitated the establishment of health restrictions and protocols. All personnel working on this project will be required to comply with the COVID-19 protocols as stipulated by the Government of Montserrat.

### 6.1 PUBLIC HEALTH AND SAFETY

During the construction phase of the Project, the Community Liaison Officer will consult regularly with businesses in the Little Bay area to ensure that the measures being implemented to control potential adverse effects of the dust, noise, vibrations and visual impacts are effective. This is an aspect of the construction that can lead to complaints and grievances and the public should be made aware of the Grievance Redress Mechanism via the Communication Strategy recommended in the Stakeholder Engagement Plan (refer to Attachment A in this ESMP). If any impact exceeds acceptable levels and causes a public nuisance, swift action will be taken by the Contractor to implement additional contingency measures, which will be approved by the Project Engineer team, including the Social and Gender Specialist.

The Community Liaison Officer will consult with the Social and Gender Specialist and the Contractor to ensure that Public Service Announcements are prepared and disseminated via all relevant media, to inform the public of the construction schedule, especially the date and timing of aspects likely to create traffic congestion or delays; potential activities such as blasting that will create significantly loud noises and vibrations and potential increases in dust.



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The Port Authority will issue internal communications to the staff and personnel to ensure that their access to and use of the site is conducted safely. The Port Authority personnel will be working in areas in immediate proximity to the construction site and will be impacted by the adverse effects of the dust, noise, vibrations and visual impacts. Briefings with all departments will be given regarding safety protocols for construction sites, the supply of Personal Protective Equipment (PPE) where necessary, and work from home options for especially vulnerable staff (e.g., persons with respiratory conditions, pregnant women).

The Contractor is required to implement appropriate measures to minimize the potential impacts of the dust, noise, vibrations and visual impacts on the Port workers and the immediate businesses in Little Bay, such as the shops and restaurants in the Marine Village, as well as the Little Bay Beach recreational area. A Project-specific EPP will be developed for management of the construction sites (refer to Chapter 7). Issues to be addressed in the EPP will include, but not be limited to, the following:

- Construction vehicles traversing the adjacent areas will strictly observe the speed limit, and horns will be minimally used only as necessary.
- The equipment that will be used on the construction site will be equipped with mufflers and appropriate sound attenuation devices. Work onsite will only be conducted between 7:00 am to 5:30 pm and 6:30 pm to 10:00 pm. Any work outside this period must require approval by the Engineer after a request is submitted 48 hours prior to the proposed work detailing the reasons for this work and what additional mitigation measures will be included.
- Dust associated with the construction site will be controlled by the implementation of the following measures:
  - Use of waterproof boxes to minimize spillage along roadways
  - Ensuring that all trucks hauling material have tarps to cover the load
  - Cleaning spillages on roadways and property accesses promptly to minimize spread of sediment and dust and improve visual impact
  - Where necessary, water can be used on surfaces to manage dust
- With respect to vibrations, it is expected that the Contractor would have the required insurance policies to cover any legitimate claims made as a result of any damage that may occur during the construction phase.
- There will be adequate 24-hour security to prevent curious onlookers from wandering into the construction zones. As required, pedestrian walkways, sufficient and appropriate lighting, clearly visible signage, and open and unobstructed passageways will be installed to enforce safety in and around the construction zone.
- Locations for the disposal of dredged materials whether on land or at sea must be carefully selected and disposal will meet the provisions of pertinent protocols or conventions and approved by GOM.

During the Port operations phase, the Port Authority will address the public health and safety issues by effectively implementing standards to ensure that crew and passengers of cruise ships, ferries, cargo ships, etc. who use the pier do so in a safe manner. The following mitigation and management measures will be implemented to reduce potential impacts on public safety during Project operation and maintenance:

- Adequate signage, guardrails and fences will be installed so that members of the public cannot wander into restricted Port areas, and sufficient security will be in place to monitor and enforce these restrictions.



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- Drivers will be cautioned to obey the speed limit and other traffic laws, and should ideally be trained in defensive driving.
- 24-hour security measures will be in place to prevent the unauthorized entry of persons into the Port area, including the marine areas.

Ongoing use of the Grievance Redress Mechanism will facilitate identification and resolution of any issues, complaints and grievances that arise during operation of the pier.

Residual impacts associated with dust, noise and vibrations are expected to be low as long as all the measures are implemented and operate within expected parameters.

## 6.2 OCCUPATIONAL HEALTH AND SAFETY

The Contractor will operate the construction site with effective safety provisions according to the type of processes, machinery and materials being utilized. At a minimum, occupational health and safety onsite will include provision as follows:

- A designated health and safety officer will be appointed for the site.
- A fully equipped First Aid Box minimum for 50 worker kit will be accessible at all work sites at all times.
- A list of local emergency telephone numbers in case of accident will be clearly visible on the worksite.
- Daily health and safety briefings will be conducted by the construction supervisor before work commences to ensure that health and safety rules are understood and remembered.
- Personal Protective Equipment will be made available to all workers onsite. PPE will be appropriate to the work being undertaken and include but not be limited to:
  - Hard hats
  - Safety goggles
  - High visibility safety vests
  - Shirts with sleeves, long work pants, and sturdy work shoes or boots
  - Protective gloves
  - Hearing protection
  - Full face shields when cutting, grinding, or chipping
  - Chemical splash goggles
  - Respiratory protection
  - Fall protection equipment when working above 6 feet (e.g., harnesses)
  - Specific protective clothing such as welding leathers when welding or flame resistant clothing when working with live electric equipment
- Ongoing health and safety monitoring will be conducted to ensure that employees are wearing and using PPE correctly and that other required COVID- 19 protocols are upheld.
- At all times work sites will be maintained in an orderly, safe and tidy state.
- Precautions against fire accidents will all be taken and appropriate fire safety equipment supplied and clearly indicated at all work sites.

Health and safety is not only focused on the workers but also, it is critical to protect the public. As a consequence, adequate signage, fencing, guardrails and/or warning tape will be installed to ensure that members of the public, particularly children, cannot wander into working areas during the construction.



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Safety warning signs will be strategically placed near construction works to inform the public of prohibited activities. Signage related to COVID- 19 protocols as stipulated by the Government of Montserrat should be in place. This would include reminders for wearing of masks, physical distancing, and hand washing and sanitizing.

The Port Authority will update the Emergency and Disaster Management plans to ensure contingency measures are in place to deal with any accidents including fires, spills or leaks throughout the construction phase. Staff will be trained in emergency and disaster management, and drills conducted at least twice a year.

Training will be required for Port personnel in occupational healthy and safety (OHS) and emergency and disaster management. All staff will have at least three sessions per annum to keep them up-to-date on safety measures. In addition, the Port personnel should participate in the education workshops on human trafficking which can be organized by the Royal Montserrat Police Service.

Residual impacts associated with OHS incidents are expected to be low as long as all the measures are implemented and operate within expected parameters.

## 6.3 COMMUNITY INFRASTRUCTURE AND SERVICES

The following mitigation and management measures will be implemented to reduce potential impacts on community infrastructure and services during Project construction:

- Utilities will be properly mapped and considered during construction, and especially prior to ground disturbance activities
- Consultation will be carried out with utility providers and operators and arrangements will be made for addressing any conflicts
- Prior to work, the Contractor will consult with the Police Service, the Fire Service and Health Centre to discuss proposed activities and possible implications for community services
- Once the labour requirements for migrant workers are confirmed by the Contractor, an assessment of housing availability will be conducted. First options for housing will be hotels and guest houses or rental apartments. During the St. Patrick's festival, home accommodation becomes necessary. Similar arrangements can be made to house surplus labour, but strict guidelines will be in place to ensure that the accommodation has insurance, meets safety standards, and will provide the required amenities for sanitation and shelter. Contractual arrangements for accommodation for all labour will be made through the Contractor to ensure that rents are paid in a timely manner.
- Damage to surrounding roads as a consequence of construction vehicular activity will be repaired upon completion of the construction phase. If any damage to roads presents a danger to pedestrian or vehicular traffic it will be repaired prior to the end of the construction phase, even if it is only a temporary measure.
- The Contractor will be required to prepared a Road Traffic Control Plan which should include the following mitigation and management measures to reduce potential impacts on the use of public roadways during Project construction:
  - Transport of material and equipment will be scheduled for off-peak hours, to the extent practical.
  - The use of long convoys or trucks during construction will be avoided



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- Transport of over-sized loads (such as piles) will be coordinated with Traffic Management Branch or the Police. Arrangements will be made for police outriders to accompany long or wide loads during construction
- Flag persons will be used at intersections with existing roads, or where single lane traffic is created during construction
- Signs will be used to indicate construction zone and movement of trucks and equipment.
- High occupancy vehicles like buses will be used to transport workers to and from the site to the extent practical
- Roads, culverts and bridges which are located along the access routes to the construction site will be inspected prior to the start of construction to check the stated load capacity. This will determine whether they can withstand the expected traffic loads and any necessary mitigation will be carried out such as strengthening works, signage, diversions of routes (although options are limited on Montserrat).
- Roads, culverts or bridges which may be damaged as a direct result of construction traffic will be repaired. The nature of repairs will be agreed with the Public Works Department and repairs done as soon as practical.

Residual impacts on community infrastructure and services are expected to be low as long as all the measures are implemented and operate within expected parameters.

## 6.4 EMPLOYMENT

The Contractor is required to implement an equal recruitment policy and process that will provide opportunities for skilled residents to apply for the jobs that will be available during construction. Information about jobs will be shared locally by publishing advertisements in the local print, electronic and online media. Radio Montserrat is reported to be the most effective media for reaching the local audience. It can also be accomplished via job fairs held prior to the start of construction where information will be shared on the types of jobs available during the Project and applications can be submitted by individuals who are interested in employment. Advertisements for the job fairs should encourage participation by youth, women and persons with disabilities to encourage them to attend and apply for the employment opportunities available to these vulnerable groups in the Project. The Community Liaison Officer will ensure that all notices for hiring and employment are shared across the affected stakeholder groups via the mechanisms described in the Stakeholder Engagement Plan (Attachment A).

The recruitment policy and process will include procurement procedures that allow local companies to bid to supply goods and services to the Project. In particular, there are mining and trucking companies that could benefit from contracts for the Project.

Where appropriate, on the job training and mentoring will be a key feature of the employment on the worksite. This would serve to strengthen the skills of youth, women and persons with disabilities who work for the Project. All construction staff, consultants and implementing partners should be provided with training in gender/social inclusion sensitivity to cover the following topics, gender and social responsive behaviour and interactions; sexual and gender-based violence; sexual harassment; conflict resolution; sexual and reproductive health (refer to Attachments C, D and E).



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Imported labour will be considered for jobs that cannot be filled locally. Work permits will be issued in accordance with local labour and immigration legal requirements. Immigration Department will ensure that imported labour operates within the provisions of work permits and are vaccine compliant. Applications for extensions of time will be reviewed on a case-by-case basis and within the requirements of the local law.

During the operations phase it is recommended that Port Staff and Customs and Immigration personnel will be trained in Port regulations, workplace health and safety, customer service, sexual harassment, and on issues pertaining to human trafficking and smuggling. Procurement for any new positions should be based on equity and social inclusion to ensure that youth, women, men and persons with disabilities have an equal opportunity for employment at the Port.

Residual impacts associated with potential conflicts with imported labour are expected to be low as long as all the measures are implemented and operate within expected parameters.

## 6.5 VISUAL AMENITY AND COMMUNITY AESTHETICS

Construction sites can reduce the visual appeal and community aesthetic of the Little Bay area, which is a centre for commercial and recreational activities especially on the beach which is used regularly by locals and visitors.

The Contractor will be required to use painted hoarding to reduce the visual impact of the construction site which will have stockpiled materials, equipment, etc. Locations for the disposal of dredged materials whether on land or at sea must be carefully selected and disposal should meet the provisions of pertinent protocols or conventions and approved by GOM.

Residual impacts associated with the visual amenity and community aesthetics are expected to be low as long as all the measures are implemented and operate within expected parameters.

## 6.6 BUSINESS GROWTH AND DEVELOPMENT

The opening up of investment opportunities is one of the biggest expected outcomes from this Project. However, it is not automatic, and it should not be left to the chance that potential investors will “discover” the improved accessibility of the island. Rather, it should be selectively guided by the economic vision and strategies laid out in the Sustainable Development Plan 2008-2020, the 2018 Economic Growth Strategy and Delivery Plan for Montserrat, and other associated national policies and strategies.

Improving human resource capacity and business acumen will be essential if Montserratians are to take advantage of the immediate and long-term employment and investment opportunities that the construction of the Project will stimulate. Special consideration should be given to providing support to sub-sectors that are directly affected by the Project - fishers, diver and tour operators and other small business in close proximity to the Project. The 2018 Economic Growth Strategy and Delivery Plan for Montserrat includes a series of logic models that identify some ways that human resources and local businesses can be enhanced on the island. These include:

- Introducing an “enterprise in schools” programme
- Developing a women-in-business club with mentor support



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- A business start-up and self-employment programme
- Free access to business advice based on diagnostic reviews
- Business improvement grants and small firm loan fund
- Business centre offering a managed workspace (Mott MacDonald 2018, p.42)

These are areas that could be addressed through a technical assistance grant or loan. The objective would be to support the Little Bay businesses, the Chamber of Commerce as well as the wider business sector in Montserrat to engage in these programmes to enhance entrepreneurial activity in Montserrat; support more business start-ups; reduce failure rates of locally owned businesses; and provide collaborative workspace sharing ideas. In addition, special incentives could be developed to encourage Montserratians in the diaspora invest in the island or to return and develop businesses on the island.

## 6.7 LITTLE BAY BUSINESS COMMUNITY

The Little Bay business community is in the AOI of the Project and will be affected by the day to day effects of the construction. This community comprises a diversity of sectors inclusive of retail, wholesale, insurance, medical, mining, shipping agent, banking, restaurants and bar, transport and freighting, construction, diving and tourism, education and skills training, and culture. All of the measures listed under Section 6.1 will be applicable to ensure that these businesses and their clientele are not adversely affected by the public health and safety issues associated with influx of workers, potential dust, noise and vibrations, reduced visual aesthetics, and deterioration in roads caused by construction vehicles.

During construction there could be increased economic benefits, since the construction workers will require various goods and services. Companies should market and make their products visible to the potential clientele. This can include fliers and specials for workers at the Port. The Little Bay business community should aim to support and implement the measures recommended to stimulate business growth and development in The 2018 Economic Growth Strategy and Delivery Plan for Montserrat.

## 6.8 FISHERS

The moorings currently used by the fishers will be removed during the dredging phase of the Project and five permanent moorings will be placed near to the existing jetty for the remainder of the construction as well as operational phases of the Project. The GOM is considering providing trailers to the Little Bay fishers that do not currently own a trailer to facilitate launching and hauling up of the boats. The supply of these trailers will be considered prior to the removal of the moorings and the start of construction to avoid interruption of fishers' activities. The Government of Montserrat will also consider the use of the existing Fisheries Department vehicle in the short term, to assist the fishers that do not presently have a vehicle to transport the trailers.

Meetings will be convened amongst the fishers, the Project Manager, the Community Liaison Officer, the Director of Agriculture and Fisheries, and the Chief Fisheries Officer for the consideration of trailers and any other issues and concerns that the fishers may have. Details of this process are explained in the Resettlement Action Plan (Attachment F).





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Residual impacts associated with removal of the current moorings in the Bay during construction are expected to be low as long as all the measures are implemented and operate within expected parameters.

## **6.9 DIVERS AND ALL USERS OF THE LITTLE BAY REEF**

All the tour operators who conduct tours that include the Little Bay Reef will experience changes to the way they currently carry out their activities. In the Port construction phase, access to sections of the reef may be limited during key activities such as installing the seaward coastal protection rip rap and building the pier. Use of the reef will be possible during both the construction and operations phases of the project.

Decisions need to be made by the Port Authority whether an exclusion zone will be required when a vessel is present on the seaward berth, and the size of this exclusion zone. Currently it is not known if there will be a permanent or temporary exclusion zone when a vessel will be docked.

It is recommended that a floating marker line be installed for public safety to delimit the safe boundary limit for the Project during construction and operation activities beyond which the Little Bay Reef and the Bat Cave can be accessed.

Meetings should be convened amongst the tour operators who use the Bat Cave, the Project Manager, the Community Liaison Officer, the Tourism Division, and the Port Authority to discuss and address any possible issues and concerns that may arise during the construction phase. Details of this process can be found in the Resettlement Action Plan (Attachment F).

## **6.10 TOURISM**

The construction impacts on the Little Bay Reef, the Bat Cave and the marine bird habitat at Rendezvous Bluff will cause temporary adverse effects on the tours to these locations. The Tourism Division should prepare and implement a marketing strategy and campaign that deals with the short-term fall out from the construction, and which highlights the improvements that will accrue to the sector from the Project, i.e., improved pier for safer berthing of cruise ship. It should also direct interest to other attractions on the island that remain open for business during this phase, since there are a substantial number of tourism sites that can be visited.

Meeting should be convened amongst the tour operators who use the Bat Cave, the Project Manager, the Community Liaison Officer, the Tourism Division, and the Port Authority to address the operators' issues and concerns. Details of this process are explained in the Resettlement Action Plan (Attachment F).

## **6.11 SHIPPING AND RELATED SERVICES**

During construction, there is the potential for temporary interruption of regular marine and ship traffic. The following mitigation and management measures will be implemented to reduce potential conflicts with marine traffic during Project construction:

- Dredgers and marine equipment will be well lit at night to warn vessels and other marine traffic



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- The Port Authority will be kept informed of dredging operations in order that necessary Notices to Mariners will be issued
- Temporary buoys will mark the position of the outer end of the toe of the armour layer and coastal protection as construction proceeds. Buoys will meet the requirements of the Port Authority and be equipped with flashing beacon and radar reflectors.
- Details on the arrival and expected departure of the dredgers and other large marine equipment will be published in the local press
- Operators of the equipment and vessels will be vigilant concerning other marine users and adhere to the regulations of the Port Authority
- A Safety Boat will be used to patrol the proposed Project area during construction to ward off persons from entering the area (including swimmers, small boats, kayaks and jet skis)

The construction will be planned and phased to facilitate ongoing Port operations (i.e., visits by cargo, ferry and cruise vessels). Activities likely to be disruptive should be scheduled at a time and in a way to minimize inconvenience. To this end, the Contractor will prepare and communicate a scheduled down time with the Port Authority.

The Port Authority will prepare communications for Port personnel and any vessels to ensure they are aware ahead of time of planned disruptions to operations. This will also be communicated to shipping agents and other commercial entities who conduct shipping business with the Port. Contingency planning will be required to address disruptions.

#### 6.11.1 Security issues

There are several security issues associated with shipping and international trade that should be considered during the operation phase of the Port.

There is the potential for accidental spills or siltation which could negatively impact the reefs and marine environment during the construction phase. To address this, the Contractor will be required to install siltation curtains during the construction of the pier. The Port Authority will update the Emergency and Disaster Management plans to ensure contingency measures are in place to deal with any accidents including fires, spills or leaks throughout the construction phase. Staff will be trained in emergency and disaster management, and drills conducted at least twice a year.

Procedures are required to safeguard against human trafficking and the trans-shipment of contraband. The Police Commissioner has stated that Port security must be in compliance with the International Ship and Port Facility Security (ISPS) code. This will require collaboration between the Royal Montserrat Police Service and the Port Authority to ensure that the requisite Information and Communications Technology inclusive of cameras and technical surveillance are in place. It will also require training for the Police, Immigration, Customs and other Port personnel who will be responsible for monitoring Port security. In the long-term, it will be necessary to adopt specific legislation to protect victims, e.g., the ratification of the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime which are necessary to improve the situation of victims of sexual exploitation and trafficking (UNICEF 2015).



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Critical staff in the departments of agriculture, environmental health and customs who are required to perform monitoring or regulatory tasks, will be trained in areas, such as Port health and inspections in order to meet international health standards to facilitate trading with other ports. Ideally, as a point of entry into the country, the Port will have designated Port health officers. One area of importance is to adhere to guidelines pertaining to invasive species planning and management in island environments. One such guidance document was produced in 2018 by the IUCN and is designed to support compliance with the Convention on Biological Diversity, the Aichi targets and Sustainable Development Goals.

Impacts related to increase marine traffic during operation of the Port can be managed by coordination between Port operators and other marine users. Specifics such as scheduling, shipping lanes, zonation, restricted areas, accidents, etc. can be discussed and agreed upon to allow stakeholders fair use of the marine area. In addition, the establishment of an exclusion zone for Port operation safety and security around the Port may be considered to reduce the potential for conflicts.

## 6.12 SOCIAL MANAGEMENT PLAN SUMMARY

The following Table 6.1 provides a summary of the adverse social impacts and the management tasks required to address them.

**Table 6.1 Summary of Management Plan**

Description of impact	Management Task	Responsible Agency	Monitoring Responsibility
Disturbance from vibrations, dust and noise during construction	Preparation and implementation of construction environmental management plan	The Contractor responsible for construction of the Project	CLO to liaise with Affected Stakeholders to assess effectiveness of mitigation measures  The Project Engineer, Public Works and the Port Authority to ensure that the Contractor operates within compliance of the EPP.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Risks to public safety during Port operation	Implementing safety protocols and procedures	The Port Authority	Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances



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**Table 6.1 Summary of Management Plan**

Description of impact	Management Task	Responsible Agency	Monitoring Responsibility
Risks to the workers and the public on the construction site during construction and operations	On-site safety for construction workers and Port personnel	The Contractor responsible for construction of the Project  The Port Authority	The Labour Department will conduct inspections  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Strain on housing stock	Establishing and implementing guidelines for home accommodation for migrant workers	To be determined	Housing Division  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Deterioration of the surrounding roads has the potential to occur as a result of the usage by construction vehicles	Road and infrastructure improvements if there is damage during construction	The Contractor responsible for construction of the Project	The Department of Works to ensure that the roads are adequately repaired  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Damage to utilities during construction	Utility repair and restoration if there is disruption or damage during construction	The Contractor responsible for construction of the Project	Relevant Utility companies and Public Works to ensure resumption of service  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Increase in migrant labour	Issuing of work permits based on labour needs  Ensuring that the workers follow COVID-19 protocols including any mandatory travel related testing and quarantine periods	The Contractor responsible for construction of the Project  Immigration Department	Immigration Department to ensure that migrants operate within the provisions of their work permits and are vaccine compliant  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances



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**Table 6.1 Summary of Management Plan**

Description of impact	Management Task	Responsible Agency	Monitoring Responsibility
Temporary disruptions to Port operations	Establishing and communicating a schedule of down time to Port staff and other relevant personnel	Contractor and Port Authority	Port Authority to ensure that Port personnel and any vessels are aware ahead of time of planned disruptions to operations.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Reduction in potential visual amenity and community aesthetics	Use of painted boarding	The Contractor responsible for construction of the Project	The Project Engineer, Public Works and the Port Authority to ensure that the Contractor operates within compliance of the EPP.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Reduction in marine and beach quality	Installation of silt curtains	The Contractor responsible for construction of the Project	The Project Engineer, Public Works and the Port Authority to ensure that the Contractor operates within compliance of the EPP.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Reduced visual amenity from potential dredge material and solid waste	Use of painted boarding around any disposal sites to prevent visual impact	The Contractor responsible for construction of the Project	The Project Engineer, Public Works and the Port Authority to ensure that the contractor operates within compliance of the EPP.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances



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**Table 6.1 Summary of Management Plan**

Description of impact	Management Task	Responsible Agency	Monitoring Responsibility
Loss of mooring in Little Bay	Provision of boat trailers is being considered since the Resettlement Action Plan is not yet finalized	Government of Montserrat, Fisheries Unit, Department of Agriculture	The CLO, The Project Engineer, Public Works and the Port Authority to ensure that the transition is smooth  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Changes to tour activities on Little Bay Reef  Changes to activities associated with the Bat Cave	A floating marker line be installed for public safety  Implementation of the Resettlement Action Plan  Tourism press indicating alternate options	The Contractor responsible for construction of the Project  Government of Montserrat, Tourism Division and the tour operators	The CLO, Project Engineer and the Port Authority  Tourism Division  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Temporary disruptions to Port operations	Establishing and communicating a schedule of downtime to Port staff and other relevant personnel	Contractor and Port Authority	Port Authority to ensure that Port personnel and any vessels are aware ahead of time of planned disruptions to operations.  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Potential conflicts with marine traffic during Project construction	Diversity of safety measures (see Section 6.11)	Contractor and Port Authority	Port Authority to ensure that Port personnel and any vessels are aware of construction schedule  Use of the grievance redress mechanism to facilitate recording and addressing issues, complaints and grievances
Human trafficking and the movement of illegal drugs, firearms and other forms of contraband.	To conduct inspections and follow international security protocols Training of personnel	The Port security and Immigration	The Police and the Department of Social Services will ensure that protocols are in place and implemented



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### Other Management and Monitoring Plans

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**Table 6.1 Summary of Management Plan**

Description of impact	Management Task	Responsible Agency	Monitoring Responsibility
Importation of invasive species	To conduct inspections and follow international security protocols	The health officers	Environmental Health Department and the Department of Agriculture will conduct inspections and ensure that protocols are in place and implemented
Importation of disease vectors	To conduct inspections and follow international security protocols	The Health Officers	Environmental Health Department and the Department of Agriculture will conduct inspections and ensure that protocols are in place and implemented
Accidents - fires, spills or leak or local spread of COVID-19	To update the Emergency and Disaster management plans; conduct staff training and drills Ensure that COVID-19 protocols are observed	The Port Authority	Port Authority to ensure that plans are updated staff are trained

The perception of the local population did not include the impact from the influx of workers and migrant labour on safeguarding against sexual exploitation and abuse and sexual harassment (SEAH) in Table 6.1. Safeguarding against SEAH is included in Attachment C (Social and Gender Risk Assessment and Social and Gender Action Plan), Attachment D (Gender and Equal Employment Training Package), and Attachment E (Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat) with a focus on capacity and skills of the delivery team, management arrangements and budgets for prevention and response activities. Social safeguards related to public health and safety are further detailed in mitigation and management in Attachments C, D and E.

## 7.0 OTHER MANAGEMENT AND MONITORING PLANS

Table 7.1 briefly outlines key required management and monitoring plans that are to be developed by the Contractor (i.e., plans that are applicable for the construction phase of the Project) after Project design is completed and prior to the initiation of Project-related construction activities, as well as key required plans to be developed by the Port Authority (i.e., plans that are applicable for the operation and maintenance phase of the Project) after Project design is completed and prior to the initiation of Port operations and associated maintenance activities.





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Each of the management plans listed in Table 7.1 will provide details on relevant management measures and the timing, frequency, and duration of those measures (where applicable). For monitoring plans and management plans where monitoring and/or reporting is required, the plan will also specify relevant details such as:

- Performance indicators, parameters to be measured, methods to be used, sampling locations and frequency of measurements, detection limits and thresholds to signal the need for corrective actions
- The structure, content, and timing of reporting
- Roles and responsibilities for preparing, submitting, receiving, reviewing, and approving key reports

The Stakeholder Engagement Plan (Attachment A) and Grievance Redress Mechanism (Attachment B) are key social impact management plans that have been developed and are included as attachments to this ESMP. Other key required social impact management plans that have been developed and attached to this ESMP include: the Social and Gender Risk Assessment and Social and Gender Action Plan (Attachment C), the Gender and Equal Employment Training Package (Attachment D), and Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat (Attachment E), and a Resettlement Action Plan for the fishers and other users that may be physically or economically displaced by the Project (Attachment F). Social safeguards related to gender issues and social inclusion, gender-based violence (GBV) and sexual exploitation and abuse and sexual harassment (SEAH) are further detailed in mitigation and management in the Social and Gender Risk Assessment and Gender Action Plan (Attachment C) and will be addressed with the roll out/implementation of the Gender and Equal Employment and Social Inclusion Training package (Attachment D) and the Guidelines for Implementing Gender-Sensitive and Socially Inclusive Infrastructure Projects in Montserrat (Attachment E).

During the construction phase of the Project, the Contractor will be responsible for familiarizing the Contractor's Representative, Contractor Personnel, and/or subcontractors with the contents of each of the plans identified in this chapter as it relates to the work they are conducting and the Engineer will monitor the implementation of these plans.

During the operation and maintenance phase of the Project, the Port Authority will be responsible for familiarizing their employees with the contents of each of the plans identified in this chapter as it relates to the work they are conducting and the Port Authority's HSE Officer, the Environmental and Social/Gender Specialists will monitor the implementation of these plans.

This chapter is not intended to provide an exhaustive list of all of the management and monitoring plans that may be required in support of the Project. Existing plans related to Port operations will also be updated to address the new Port infrastructure and any Project-related changes to operations.



## MONTSERRAT PORT DEVELOPMENT PROJECT

### Other Management and Monitoring Plans

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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Air Quality Monitoring Plan (AQMP)	The AQMP will provide technical guidance (e.g., required equipment and sampling methods, locations, and frequency) for the measurement of ambient concentrations of selected air pollutants during Port operations. The monitoring results will be compared against GOM guidelines to identify any exceedances potentially requiring adaptive management.		✓
Archaeological/Historical Resource Discovery Plan (AHRDP)	<p>The AHRDP will be developed in consultation with the Montserrat National Trust and will include contingency plans for the treatment of potential archaeological or historical finds during construction activities and the procedures for the preservation of sites where such discoveries are made. It will also prescribe the circumstances under which construction activities may resume and who has the authority to make that decision.</p> <p>If archaeological/historical sites or artefacts are discovered at any time during construction, work will be suspended in the vicinity of the find. As per Part IV, Section 47 (1) of the <i>Physical Planning Act</i>, the accidental discovery of an artifact is required to be reported to the Authority through the Cultural Office within seven days of the discovery. The Montserrat National Trust will be consulted, and arrangements will be made for a surficial inspection approximately 30 m on each side of the discovery before further disturbance is permitted. Sufficient time will be allowed for the Montserrat National Trust to arrange for the assessment of the find and the preparation of recommendations.</p>	✓	
Bat Monitoring and Adaptive Management Plan	<p>A monitoring program for bats will be developed and implemented during the construction phase of the Project. It is expected that if bats are disturbed, they will fly around inside the cave, and some will likely fly out of the entrance of the cave. Based on this assumption, disturbance will be measured based on the frequency and abundance of bats leaving the cave during the day time, when bats are expected to remain inside. Before construction begins, monitoring will be conducted to establish baseline data, and to test this assumption.</p> <p>An infrared trail camera will be installed at the entrance to the maternity cave. This camera will detect and record when bats fly out of the cave entrance. Camera footage will be monitored remotely. A threshold for an unacceptable level of disturbance will be set based on the baseline data, and in consultation with an expert Caribbean bat biologist. If the monitoring indicates that bat activity has exceeded this threshold, it will trigger adaptive management practices and the requirement for additional mitigation, as necessary. In this way, the adaptive management strategy will be used to alter construction activities that caused exceedance of the bat activity threshold and based on the disturbance reaction of the bats. Additional mitigation measures that may be triggered include reducing the frequency of loud activities during construction, slowing the rate of end dumping during construction of coastal protection works (e.g., lowering rip-rap slowly into the water, rather than</p>	✓	✓



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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
	<p>dropping quickly) or adjusting the timing of certain activities. These details will be finalized during the development of the bat monitoring program.</p> <p>In addition, the population of bats in the maternity cave will be monitored. A pre-construction count will be conducted to develop an up-to-date baseline data set. Roosting counts will be conducted once per year during construction, and once in the first year of Port operations and every two years thereafter for a total of six years (i.e., for a total of 4 counts post construction in Year 1, 2, 4 and 6). These counts will provide important data to help understand the trends in this population of bats, and to determine potential impacts of the Project at the population level and the requirement for additional mitigation measures.</p> <p>Bat monitoring will also include monitoring movement patterns of the colony as they leave the roost at night, to determine whether they are avoiding the Project area.</p> <p>The objective for the monitoring work is obtain an understanding of the Antillean fruit-eating bat population on Montserrat. Ideally, an academic partnership would be formed, with the intention of publishing the results of the monitoring program.</p> <p>The Contractor undertaking activities that will generate noises and vibrations, likely to disturb the bats, such as but not limited to pile driving, sheet driving, loading of trucks and end-dumping of armour layer and coastal protection material must ensure that such activities are carried out with minimal disturbance and harm to the bats.</p> <p>Regular assessment of the impact of the work-related construction activities on the bat colony will be carried out for the duration of the Project jointly by the Contractor and an assigned representative from the Department of Environment (DOE). The stated parties, that is, the Contractor and DOE representative, will undertake fortnightly inspections of the bat habitat to assess if there has been any impact on the bat population. The Contractor will provide a written fortnightly status report on their findings to the Department of Environment.</p> <p>During the pupping season and thereafter (i.e. up to two months), the Contractor will increase the bat monitoring to a weekly schedule to determine the impact of the construction on the pups and ensure that the pups are not adversely affected.</p>		
Bird Monitoring Plan	The Bird Monitoring Plan will describe procedures for monitoring the attraction of birds to construction-related lighting and Port lighting and how to determine when aggregations of birds warrant temporarily turning off lights, if feasible and allowable given safety standards, to release birds.	✓	✓



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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Coastal Features and Marine Biophysical Monitoring Plan	<p>This Plan will describe procedures for monitoring related to non-archaeological/historical coastal features as well as sensitive marine habitat, sea turtles, and corals during the construction and operation phases of the Project.</p> <p>Water quality monitoring for organic pollutants such as hydrocarbons and fecal bacteria will be conducted prior to construction to identify baseline concentrations, as well as monthly during construction. Water quality monitoring will also be conducted for TSS prior to and during dredging. Limits for these pollutants will be established based on existing GOM guidelines.</p> <p>Periodic sampling for organic pollutants will be conducted within Little Bay during operation, and limits for these pollutants will be established based on existing GOM guidelines. Water quality monitoring will include monitoring for organic pollutants, total suspended solids and bacteria within Little Bay and beach area quarterly during the first, third, and fifth year of Port operations. Regular study of the morphology of Little Bay Beach and erosion will be monitored based on GOM guidelines.</p> <p>Turtle nesting activity and behavior in Little Bay will be monitored prior to and following construction, including in the first, third, and fifth year of Port operations. Monitoring for the health of corals, including Stony Coral Tissue Loss Disease (SCTLD) and other coral diseases, sedimentation, and water and sediment quality will be conducted in the first, third, and fifth year of Port operations. Monitoring the marine habitat of the exposed coastal protection works, inside the Port, and dredged area for the approach channel and turning basin will also be included during Port operations.</p>	✓	✓
Coral Transplantation and Monitoring Plan (CTMP)	<p>A Project-specific CTMP will be developed that will attempt to transplant as many endangered colonies as practical including large coral species (&gt; 30 cm) that are not at risk prior to dredging or infilling activities during construction. This Plan will consider the health of the corals marked for transplantation, the environmental requirements of the site at which they are currently found, the environmental conditions at the replanting site, the criterion and frequency of monitoring after transplantation, and a procedure to address die-off should it occur post-transplantation. In addition, this Plan will monitor for potential coral diseases including Stony Coral Tissue Loss Disease (SCTLD).</p> <p>For the operation and maintenance phase of the Project, a CTMP will be developed that will attempt to transplant endangered colonies which may have recolonized the turning basin prior to maintenance dredging. The success of the coral transplantation of endangered colonies and large colonies (&gt;30 cm) of species not at risk that were removed from the Project footprint prior to construction of the pier and associated coastal protection works and prior to dredging the approach channel and turning basin will be monitored during the operation and maintenance phase of the Project.</p>	✓	✓



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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Disaster Risk (DRMP) Management Plan and Emergency Response Plan (ERP)	<p>The DRMP will identify potential Project-related hazards as well as natural hazards that could impact the Project, and prescribe measures to manage or reduce potential risks.</p> <p>The ERP will indicate details on the different levels of potential emergencies, proposed emergency response procedures, necessary response equipment, necessary response personnel, and communication plans (e.g., to address public protection, sheltering and evacuation).</p>	✓	✓
Environmental Protection Plan (EPP)	The EPP will be the primary mechanism for implementing mitigation measures for all Project construction and maintenance activities. The EPP will describe responsibilities, expectations, and methods for environmental protection associated with Project construction and maintenance activities, as well as inspection/monitoring and maintenance of equipment and environmental controls during Project construction and maintenance activities. The EPP will include, but not be limited to, the general mitigation measures identified in Sections 5.0 and 6.1.1 of this ESMP.	✓	✓
Grievance Redress Mechanism (Attachment B)	<ul style="list-style-type: none"> <li>Provides an approach for the management of issues, complaints and grievances that could arise during the implementation of the Project</li> <li>Recommends avenues for stakeholders to voice their concerns</li> <li>Gives transparency on how grievances will be managed to reduce conflict and strengthen relationships between stakeholders</li> <li>Applies to all internal and external stakeholders associated with, or affected by, the Project</li> </ul>	✓	✓
Hazardous Material Management Plan (HMMP)	The HMMP will include procedures for the identification of hazardous materials and wastes; proper handling, storage, and disposal procedures; and emergency environmental and medical response procedures for releases.	✓	✓
Health and Safety Management Plan (HSMP)	<p>The HSMP will indicate the uncontrolled potential health and safety risks, the means through which these risks will be reduced, and the necessary personnel and resources required to implement these measures.</p> <p>HSE Officer(s) will be designated to ensure Project personnel have the required personal protective clothing for their tasks during Project construction, operation, and maintenance (e.g., hard hats, steel-toed boots, high visibility jackets, safety glasses, welding shades, etc.). PPE/Hand washing station for COVID-19. An on-site First Aid Station will be made available and the ERP will include procedures to get injured personnel to the nearest health facility. Workers will be trained appropriately when required to undertake specialized tasks involving the operation of specialized equipment. In general, measures will be taken to safeguard workers throughout all Project phases, and to promote a culture of safety awareness.</p>	✓	✓



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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Marine Mammal Monitoring Plan	Trained marine mammal observers (MMOs) will monitor for the presence of marine mammals during blasting, dredging, and maintenance dredging activities to enforce a 200 m safety radius within which certain Project activities will cease if a marine mammal is observed. This Plan will outline training requirements and establish the procedures for MMOs equipped with 7x35-power binoculars to monitor and report on marine mammal and sea turtle sightings during Project construction and maintenance dredging activities.	✓	✓
Noise Management Plan (NMP)	The NMP will detail best management practices, environmental protection procedures, and mitigation measures for reducing the potential impacts of acoustic emissions on sensitive receptors.	✓	
Resettlement Action Plan (RAP) (Attachment F)	The objective of the RAP is to reduce potential adverse effects on fishers who moor in Little Bay, users of the Little Bay Reef and users of the Rendezvous Bluff so that they are not left significantly worse off economically than they were before the commencement of the Project. The RAP yet to be finalized is intended to describe the mechanisms through which compensation and other assistance might be delivered to stakeholders affected by the Project and to provide a time-bound action plan that sets out the strategy, entitlement criteria, schedule and budget, responsibilities, procedures for stakeholder consultations and grievance redress, as well as monitoring and evaluation.	✓	✓
Road Traffic Control Plan	<p>The purposes of this Plan will be to:</p> <ul style="list-style-type: none"> <li>reduce the risk of traffic-related incidents that could adversely impact the health and safety of Project personnel and other road users travelling within or through the work zone during Project construction and maintenance activities</li> <li>reduce Project-related traffic delays and disruptions in Little Bay, and associated impacts to local businesses, local residents, tourists, Port users, and other stakeholders, that could arise due to the movement of Project personnel, vehicles, and equipment during construction and maintenance activities</li> </ul> <p>The Plan will consider current and anticipated local road use requirements; prescribe the temporary traffic control devices and measures that will be used to protect Project personnel from traffic-related hazards and facilitate the safe movement of non-Project road users through the work zone; indicate how, where and when specific traffic control devices will be used; and outline the traffic staging procedures that will be implemented to reduce delays and disruptions. The Grievance Redress Mechanism (Attachment B) will also be available to help find a mutually satisfactory solution if traffic-related impacts to local businesses or other stakeholders continue to be a concern despite implementation of the Road Traffic Control Plan.</p>	✓	✓



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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Social Risk Assessment and Social/Gender Action Plan (Attachment C)	This document focuses on the social and gender risks with potential to compromise expected outcomes and benefits of the Project, and as such is complementary with the Original ESIA (Stantec 2019a) and ESIA Addendum (Stantec 2021), which focus on the impacts of implementing the Project itself. The assessment identifies the risks, assesses how they may impact Project outcomes, and proposes measures to be implemented within the Project in order to, where possible, reduce or mitigate the negative impacts on the Project. The risk assessment addresses gender, persons with disabilities, youth, migrants and security, and human trafficking.	✓	✓
The Gender and Equal Employment Training Package (Attachment D)	Outlines for a course that explores key gender concepts and strategies to support equal employment opportunities. After completion, participants should have acquired the knowledge and skills to contribute to gender mainstreaming and ensuring social inclusion in their workspaces and communities	✓	✓
Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat (Attachment E)	Presents a framework for ensuring gender and social inclusion in infrastructure projects in Montserrat	✓	
Spill Prevention, Control and Response Plan (SPCRP)	This Plan will outline the equipment and procedures required to prevent spills and leaks of fuel and lubricants from vessels, equipment, and storage areas, as well as the equipment and procedures required to respond to (e.g., contain and clean up) a spill or leak. Typical components of such a plan include requirements and layout for storage of fuel, lubricants, and waste hydrocarbons; spill containment and cleanup equipment and procedures; and frequency and intention of inspection. The SPCR will also include an Oil Spill Response Plan (OSPRP).  The SPCR will include, but not be limited to, the spill prevention, control and response measures identified in Chapter 5 of this ESMP.	✓	✓
Stakeholder Engagement Plan (SEP) (Attachment A)	<ul style="list-style-type: none"> <li>To recommend effective methods to disseminate Project information to ensure regular, accessible and transparent consultation;</li> <li>To guide the Montserrat Port Authority in building mutually beneficial and respectful relationships amongst the stakeholders;</li> <li>To recommend processes that allow the stakeholders to influence the Project planning and implementation; and</li> <li>To define reporting and monitoring measures to ensure the effectiveness of the SEP.</li> </ul>	✓	✓





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**Table 7.1 Required Management and Monitoring Plans to Be Developed and Implemented**

Management and/or Monitoring Plan	Scope of Plan	Applicable Project Phase(s)	
		Construction	Operation and Maintenance
Waste Management Plan (WMP)	<p>The WMP will include the collection methods for the various types of waste to be generated, the frequency of disposal of these collected wastes, the point of disposal of these wastes, and associated environmental impact monitoring requirements. It will instruct Project personnel as to their responsibilities in terms of waste collection, storage, and disposal.</p> <p>The WMP for the construction phase of the Project is also expected to include requirement(s) for the number, type, and placement of portable toilets, and the frequency of inspection, maintenance and replacement, thereby avoiding the improper disposal of sewage. The WMP will also indicate the requirement(s) for disposal of sewage from vessels, either from an approved onshore facility, or by releasing it as per MARPOL requirements, as well as provide a system to ensure and document that this is undertaken.</p> <p>The WMP will contain, but not be limited to, the waste management measures identified in Chapter 5 of this ESMP.</p>	✓	✓

## 8.0 PRELIMINARY DESIGN GUIDELINES

The following subsections present preliminary design guidelines that have been compiled from the Original ESIA (Stantec 2019a), ESIA Addendum (Stantec 2021), and Chapter 5 of this ESMP. These preliminary guidelines provide a basis for the Project design and will be considered in the development of Project-specific design criteria that will:

- Provide the technical requirements and guidance for subsequent detailed design of the major components of the Montserrat Port Development Project
- Be clearly described and integrated into bidding/contract documents so that Contractors are clear about their obligations
- Be used for future reserve matters applications which will then be assessed against for compliancy

Design guidelines and criteria will be updated and expanded as the design development process moves forward. While technical details regarding the design are expected to continue to evolve as the design process continues, changes to agreed upon functional performance requirements will only be revised through recorded documentation discussed with, and approved by, the Proponent.



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## 8.1 PROJECT DESIGN STANDARDS, CODES AND GUIDELINES

The following lists the reference documents and their priority to be used in the design of the Project, unless specifically stated otherwise:

- Laws of Montserrat
- Caribbean codes and standards
- Canadian (Canadian Standards Association [CSA]) codes and standards or, in their absence, British (British Standards Institution) and/or American (American Society for Testing and Materials [ASTM] and American Society of Civil Engineers [ASCE]) codes and standards,
- Other international codes (British Standards, Eurocodes, OCDI Standard) wherever relevant

Current versions of the following codes, standards, guidelines, and reference materials will be referred to where appropriate for design, and in specifications, to define loads, performance, materials and quality. These include, but are not limited to, the following:

- Caribbean Uniform Building Code
- Montserrat Building Code (Draft) 2016
- CAN/CSA S6 Canadian Highway Bridge Design Code (CHBDC) 2014
- CAN/CSA S16 Design of Steel Structures
- CSA A23.3 Design of Concrete Structures
- National Fire Code of Canada
- National Fire Protection Association (NFPA) 307 Standard for Construction and Fire Protection of Marine Terminals, Piers and Wharves
- ASCE 61 -14 "Seismic Design of Piers and Wharves"
- World Association for Waterborne Transport Infrastructure (PIANC) (2002): "Guidelines for the Design of Fender Systems"
- PIANC (2014): "Harbour Approach Channels Design Guidelines" Report n° 121
- PIANC (2015): "Guidelines for Protecting Berthing Structures from Scour Caused by Ships". Report n° 180
- PIANC (2015): "Design and Maintenance of Container Terminal Pavements"
- International Ship & Port Facility Security Code
- Carl A. Thoresen (2014) Port Designer's Handbook: Recommendations and Guidelines
- Canadian Foundation Engineering Manual
- Unified Facilities Criteria (UFC) 4-152-01 – Design: Piers and Wharves
- U.S. Army Corps of Engineers, Coastal Engineering Manual (2012)
- Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads
- CSA C22.1-15, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations and all British Columbia Amendments
- Roadway Lighting ANSI/IES RP-8-14
- Lighting Recommendations of the Illuminating Engineering Society
- Lighting for Parking Facilities RP-20-14
- CIRIA C683: The Rock Manual 2007
- BS 5950: Parts 1 through 9: Structural Use of Steelwork in Building



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- BS 8110: Parts 1 through 3: Structural Use of Concrete
- BS6349-2:1988: Maritime Structures: Design of Quay Walls, Jetties and Dolphins
- BS6349-1:2000: Maritime Structures: Code of Practice for General Criteria
- BS6349-4:1994: Maritime Structures: Code of Practice for Design of Fendering and Mooring Systems
- EurOTop 2018: Manual on Wave Overtopping of Sea Defenses and Related Structures
- AASHTO (Green Book) A Policy on Geometric Design of Highways and Streets
- AASHTO Guide for Design of Pavement Structures
- OCDI Technical Standards and Commentaries (applicable to reinforced concrete caissons)
- USS Steel Sheet Piling Design Manual, 1984
- Arcelor Mittal Design and Execution Manual, AS500 Straight Web Steel Sheet Piles
- USS Steel Sheet Piling Design Manual

Relevant codes, standards, guidelines, and reference materials are not limited to the above and will be adjusted based on progression of design from feasibility onward.

## 8.2 CLIMATE CHANGE DESIGN CONSIDERATIONS AND MITIGATIONS

One design consideration is to establish the size of the pier and associated coastal protection works to protect the Port, considering climate change and associated tides, storm surges, and sea level rise that are projected for the future. In doing so, the water level to be used in the design needs to be established so that the pier and associated coastal protection works will be sized large enough to protect the Port. The Design Water Level (DWL) includes the contribution of astronomical tide, storm surge and future sea level rise (SLR) due to climate change, for proposed coastal structures in Little Bay area.

A preliminary review of metocean and coastal information has been conducted for Little Bay. The findings related to tides, storm surges, and sea level rise are summarized in Table 8.1 for return periods (RPs) of 50 and 100 years (Stantec 2019c).

**Table 8.1 Design Water Level for Little Bay Pier**

Design Water Level (DWL)	Design Life for 2070 (50 years) Extreme Event RP = 50 years DWL Components (m)	Design Life for 2070 (50 years) Extreme Event RP = 100 years DWL Components (m)
Highest Astronomical Tide (m CD)	+0.70 m	+0.70 m
Storm Surge <sup>1</sup>	+0.44 m	+0.57 m
Sea Level Rise (SLR) <sup>2</sup>	+0.57 m	+0.57 m
<b>Total DWL (m CD)</b>	<b>+1.71 m</b>	<b>+1.84 m</b>
Notes: CD is approximately the Lowest Astronomical Tide (LAT). Mean Sea Level (MSL) is +0.5 m. <sup>1</sup> Storm Surge values are from Martec (2010), Tables 3.4 and 3.5. <sup>2</sup> SLR values are from Stantec (2019d), Climate Risk and Vulnerability Assessment – Montserrat Port Development Project at Little Bay.		



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A preliminary conclusion is therefore that the design water elevation at the pier for 2070 (in 50 years) is:

DWL  $\approx$  +1.75 m CD for an extreme event with 1:50-year return period

DWL  $\approx$  +1.85 m CD for an extreme event with 1:100-year return period

The effects of severe weather (including as these variables may change with a change in climate) will be mitigated through:

- Careful and considered design in accordance with factors of safety, best engineering practice, and adherence with standards and codes
- Engineering design practices that will consider projections for climate and climate change (e.g., DWL)
- Inspection and maintenance programs that will reduce the deterioration of the infrastructure and will help to maintain compliance with applicable design criteria and reliability of the pier and associated coastal protection works
- Design, construction and planning of operation will consider the potential normal and extreme conditions for flooding that might be encountered both now and, in the future

Further to responsible design and construction of the Project, and ongoing inspection and maintenance, the selection of materials that are able to withstand temperatures and loads will more than adequately address climate concerns. The selection of materials that withstand potential environmental stressors related to climate will include engineering specifications of the construction standards that contain design specific provisions, such as:

- Critical structures that will be constructed to withstand the structural loading expected with high winds

In addition, Stantec conducted a Climate Risk and Vulnerability Assessment (CRVA) (Stantec 2019d) that recommended a number of risk mitigation measures. While some recommendations are related to the development of internal GOM policies and beyond the scope of this Project-specific ESMP, they are provided below in Table 8.2 as some are applicable to the construction and operation of the proposed Project.



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**Table 8.2 Risk Mitigation Measures Recommended through the CRVA**

Category	Specific Recommendation
<b>Policies and Practices</b>	
Emergency Planning	<ul style="list-style-type: none"> <li>Review emergency management policies for the protection of the staff, public, and infrastructure. The plan should include detailed actions for emergency response on the approach, passage, and after a storm</li> <li>Maintain policies related to personnel protection including early warning advisories, bunkers or safe places, evacuation planning, etc. during intense weather events. Include specific directions for the safety practices of security personnel as they are posted at the site 24/7. Advise the public and other Port users of Port closures or weather warnings that may cause dangerous conditions at the Port</li> <li>It is recommended that a drought management plan be developed and include consideration to water harvesting and on-site water storage for use when water supplies are reduced to ensure a reliable reserve of fresh water for the population. Holding water in storage tanks at the Port is an example of how the Port can ensure continuity of service during these periods. Capturing rainwater for use in toilets and for washing is an example of how potable water use may be reduced at the Port. It is noted that rainwater capture in this way has already been included in the Planning Act and the Physical Development Plan</li> </ul>
Infrastructure Maintenance	<ul style="list-style-type: none"> <li>Port infrastructure should be adequately maintained, and inspected and repaired following intense storm or hurricanes to ensure that the infrastructure is in a state of good repair</li> <li>Consider the development of a Port maintenance plan and include concepts relating to asset management and life-cycle management</li> <li>Ensure that stormwater infrastructure is well maintained and free of debris</li> <li>Currently, the Little Bay Ghaut is dredged of collected sediments once per year before the start of hurricane season. If flooding of the ghaut occurs regularly, it is recommended that dredging take place more frequently</li> </ul>
Occupational Health and Safety Planning	<ul style="list-style-type: none"> <li>The Montserrat Port Authority should review their internal policies related to occupational health and safety and look for opportunities for improvement</li> <li>It is recommended that the Montserrat Port Authority develop a heat stress policy, which currently does not exist for Port workers (this was identified as a need during the May 30, 2019 workshop)</li> <li>It is recommended that workers be provided with space under shelter where they may retreat to during high rainfall events</li> <li>Consider providing worker uniforms made from more breathable material and include UV protection</li> <li>Workers must have proper wet weather gear (high-traction boots, rain jacket) if they will be working under heavy rainfall conditions</li> <li>Workers must have the freedom to refuse work if they feel that the working conditions are not safe</li> </ul>



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**Table 8.2 Risk Mitigation Measures Recommended through the CRVA**

Category	Specific Recommendation
Cargo Management	<ul style="list-style-type: none"> <li>Consider the development of a warehouse management plan with consideration to the risks of extreme weather events</li> <li>Encourage the rapid clearance of goods and cargo cleared by customs or the identification of protected off-site storage areas during the hurricane season or when a storm warning is in place</li> <li>Develop construction and cargo storage setbacks from shoreline to limit future exposure to potential water inundation from rising sea levels or storm surge risks</li> <li>Ensure remaining on-site cargo and equipment is secure during high wind and cyclone events</li> <li>Proper maintenance of the cargo storage building located on-site is recommended to protect stored cargo from damage</li> </ul>
Shoreline Management	<ul style="list-style-type: none"> <li>Shoreline vegetation should be inspected following intense storm or hurricane events and an action plan to replace damaged or destroyed vegetation to maintain levels of coastal protection should be considered</li> <li>Consider increasing beach maintenance, solid and liquid waste management infrastructure, and ocean safety and Port function awareness programs</li> <li>Maintenance of the sand at Little Bay Beach, including raking, following rainstorms will mitigate excessive damages to the sand caused by heavy rainfall</li> <li>Consider cordoning off a safe swimming area with floating rope or buoys for beach users to provide defined separation between the beach and Port activities</li> <li>Consider dust control practices to limit dust and grit accumulation on hard surfaces that may ultimately be washed into the Bay</li> </ul>
<b>Infrastructure-Based Measures</b>	
Flood Management	<ul style="list-style-type: none"> <li>Consider the use of porous concrete surfaces to increase infiltration and decrease stormwater runoff</li> <li>The walls of the ghaut may need to be built up in the future to help manage the increased water volume within the ghaut due to sea level rise</li> <li>The capacity of adjacent stormwater infrastructure, including ditches, may need to be increased as needed in the future to accommodate potential sea level rise</li> <li>It is recommended that Montserrat Port Authority consider the installation of elevated storage areas for cargo</li> </ul>
Public and Personnel Safety	<ul style="list-style-type: none"> <li>Consider the installation of railings on the piers and walkways where possible to protect public and staff from fall risks from the shoreline during heavy wind events</li> <li>It is recommended that workers be provided with space under shelter where they may retreat to during high rainfall events</li> <li>More intensive greenery (e.g., trees), including consideration to 'green engineering' or green roofs to provide natural cooling and shade and could aid in turtle navigation</li> <li>Consider the installation of misting stations, water coolers, covered walkways, and passive ventilation systems in buildings</li> <li>Consider using golf carts or similar to transport tourists from vessels to Port terminal building</li> <li>Install floating signage and communication to vessels, warning of recreational beach use in the vicinity of the active Port area</li> </ul>



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**Table 8.2 Risk Mitigation Measures Recommended through the CRVA**

Category	Specific Recommendation
Dust, Debris and Sedimentation Management	<ul style="list-style-type: none"><li>• Consider modification of the upstream catchment area to limit sediment accumulation from the former upstream quarry through Little Bay Ghaut</li><li>• Installation of sediment traps to control dust pickup; this can include the use of vegetation for this purpose</li><li>• Installation of fencing or cliff reinforcement to inhibit rock falls from steep slopes and cliff faces</li></ul>
Source: Stantec 2019d	

## 8.3 OTHER ENVIRONMENTAL DESIGN CONSIDERATIONS

### 8.3.1 Construction Phase

- Artificial lighting will be kept to the minimum amount required for safety and security purposes, and full cut-off lighting will be used wherever possible
- Where full cut-off lighting cannot be used:
  - Lights will be side-shielded and directed downward
  - Lights will be directed away from turtle nesting areas or will consist of low-pressure sodium or long wavelength (amber, orange, red) LED light fixtures
  - Lights must also be directed to the south, where feasible, so as not to illuminate the entrance to the bat cave entrance, where feasible
- Timing of in-water work will be conducted in consideration of sensitive biological periods (e.g., reproductive life stages), where practical as determined through discussions with local regulators
- Coastal protection works will be composed of non-toxic material, free from excessive fines
- Prior to dredging, the Contractor will test the sediments in the dredge area for contaminants and compare the results against relevant guidelines for the intended fate of the material (e.g., reuse for fill and/or land reclamation, and/or disposal at sea of surplus material) to determine if it is safe for industrial land use, commercial land use, parkland/residential land use, and/or for disposal at sea of surplus material (if required)
- Blasting will be avoided during the construction of the access road, if possible
- Underwater blasting will be avoided during dredging, if possible
- Project vessels and activities must not occur within 150 m of the portion of Rendezvous Bluff that is used by marine nesting birds (i.e., the northwest face of the exposed cliff)
- A buffer zone will be established, extending the maximum possible distance from the southern limit of the aforementioned sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff), in which no Project activity, vessel or infrastructure will be permitted
- A buffer zone will be established, extending the maximum possible distance from the entrance to the bat maternity cave, in which no shipping or other activity is permitted



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#### 8.3.2 Operation and Maintenance Phase

- Artificial lighting will be kept to the minimum amount required for safety and security purposes, and full cut-off lighting will be used wherever possible
- Where full cut-off lighting cannot be used:
  - Lights will be side-shielded and directed downward
  - Lights will be directed away from turtle nesting areas or will consist of low-pressure sodium or long wavelength (amber, orange, red) LED light fixtures
  - Lights must also be directed to the south, where feasible, so as not to illuminate the entrance to the bat cave entrance, where feasible
- A catchment ditch abutting the Rendezvous Bluff and the access road is required for drainage during rainfall. The catchment ditch will be designed to mitigate and avoid a focused plume discharge. The bed of the ditch will promote rapid drainage and possibly allow drainage through several access points or channels across the width of the access road into the harbour to enhance mixing and reduce environmental effects; however, all drainage will be directed towards the south into the inner harbour (i.e., not towards the north of the new pier where coral reefs are present and not impacted by the Project footprint).
- Drainage systems will be designed to accommodate rainfall flows generated from a 1 in 25-year rainstorm. All collected drainage water will pass through oil interceptors to remove oil, grease, sand and other substances that are harmful or hazardous to the structure or to the environment.
- Ornamental grass or cuscus grass (also known as vetiver; *Chrysopogon zizanioides*) will be planted on the landside of the catchment ditch abutting Rendezvous Bluff and the access road to stabilize soils and act as a filter to remove sediment
- Post-development stormwater flows will be designed to match current stormwater flows, resulting in no net increase of stormwater
- Where feasible, ships and the navigation and approach channels will access the Port from the south-southwest
- Project vessels and activities must not occur within 150 m of the portion of Rendezvous Bluff that is used by marine nesting birds (i.e., the northwest face of the exposed cliff)
- A buffer zone will be established, extending the maximum possible distance from the southern limit of the aforementioned sensitive bird habitat (i.e., the portion on the western face of Rendezvous Bluff), in which no Project activity, vessel or infrastructure will be permitted
- A buffer zone will be established, extending a minimum distance of 100 m from the entrance to the bat maternity cave, in which no shipping or other activity is permitted; a buffer of 150 m is strongly recommended, if feasible





### 9.0 ENVIRONMENTALLY, SOCIALLY AND GENDER RESPONSIVE PROCUREMENT

According to the CDB's *Environmental and Social Review Procedures* (2014), when mandated by the CDB or the Borrower (i.e., the entity receiving direct and/or indirect financing from the CDB's resources), the ESMP must include a description of the measures that need to be taken into account to facilitate environmentally, socially and gender responsive and preferential/affirmative procurement. This requirement is not known to be applicable with respect to the Project.

### 10.0 COST ESTIMATES

The potential costs for implementation of the ESMP are unknown at this current stage in Project planning and design, as they will depend on the design-build contractor that is selected; the methods for Port construction; the dredge volumes; or the construction schedule. These factors may determine the extent of management and monitoring plans and/or the frequency of sampling conducted in support of the monitoring plans. Cost estimates cannot be provided until further Project details are available.



## MONTERRAT PORT DEVELOPMENT PROJECT

### References

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# **ATTACHMENT A**

## Stakeholder Engagement Plan



**Montserrat Port Development Project, Montserrat**

**Stakeholder Engagement Plan**

# A.0 STAKEHOLDER ENGAGEMENT PLAN

*“Consultation is a two-way process. It is not simply a matter of holding formal meetings or public hearings. Rather, it is a process of informing and listening. It is the means by which a project engages with the people and communities (the stakeholders) that may be affected by the project, either positively or negatively, directly or indirectly.”<sup>1</sup>*

This stakeholder engagement plan (SEP) has been prepared to provide guidance to the Montserrat Port Authority (Port Authority) in their implementation of the Montserrat Port Project (the Project). The SEP will be updated and restructured as the Project progresses. The purpose of this SEP is to:

- Recommend effective methods to disseminate Project information to ensure regular, accessible and transparent consultation;
- Guide the Port Authority and the Ministry of Communications, Works, Energy and Labour (MCWL) in building mutually beneficial and respectful relationships amongst the stakeholders;
- Recommend processes that allow the stakeholders to influence the Project planning and implementation; and
- Define reporting and monitoring measures to ensure the effectiveness of the SEP.

The health and safety of all stakeholders is absolutely critical. At the time of preparing this Plan, the Coronavirus disease 2019 (COVID-19) pandemic has necessitated the establishment of health restrictions and protocols. As such, it is currently advised that during in-person interactions, all parties must adhere to COVID-19 protocols as required by the Government of Montserrat.

## A.1 ENGAGEMENT PRINCIPLES

This SEP is based on a series of principles to derive best practice in stakeholder consultation. These are:

- **Commitment** to identifying and engaging the diverse stakeholders throughout the project;
- **Respect** for the rights, values and interests of the diverse stakeholders who are engaged in the project;
- **Transparency** in sharing project information across all stakeholder groups; and
- **Inclusiveness** by aiming for widespread participation using appropriate methods.

At all times the Port Authority and the Public Works Department should adopt a proactive approach to stakeholder engagement ensuring that there is open and timely communication in order to maintain beneficial relationships with the stakeholders. All stakeholders should be clear on the roles and responsibilities of all individuals and groups as well as be well acquainted with the various media that will be used for exchanging of ideas, data and information between and amongst the various groups.

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<sup>1</sup> Inter-American Development Bank Environmental Safeguards Unit. 2013. Guidelines on Consultation and Stakeholder Engagement in IDB Projects. IDB DISCUSSION PAPER No. IDB - DP - 301



### A.2 GOOD STAKEHOLDER ENGAGEMENT PRACTICES

Accomplishing the goal of successful stakeholder engagement requires a few key practices:<sup>2</sup>

1. Stakeholder identification and analysis – invest time in identifying and prioritizing stakeholders and assessing their interests and concerns.
2. Information disclosure – communicate information to stakeholders early in the decision-making process in ways that are meaningful and accessible, and continue this communication throughout the project cycle.
3. Stakeholder consultation – plan each activity thoroughly and document the process and follow-up.
4. Negotiations – use mediation as a means of hearing the interests of all parties and arriving at satisfactory outcomes.
5. Grievance Redress Mechanism (GRM)– establish accessible and responsive means for stakeholders to raise concerns about the project and have same resolved.
6. Monitoring – engage the stakeholders in the monitoring of the project impacts and benefits and use external objective monitors as necessary to enhance transparency and credibility.
7. Reporting – consistently report to stakeholders on all aspects of the project.

Importantly, stakeholder engagement is a process that occurs throughout the life of the Project:

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<sup>2</sup> Based on the practices produced by International Finance Corporation, 2007, Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets, [www.ifc.org/enviro](http://www.ifc.org/enviro)



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Figure A.1 Stakeholder Engagement by Project Phase

A.3 CONSULTATION REQUIREMENTS

Early engagement of stakeholders improves the likelihood that the implementation of the Project will be equitable, effective and efficient. Those who have been part of the decision-making process will more readily embrace the Project, because greater attention was paid to their needs and expectations.

The first step in the engagement of the stakeholders is identification and analysis. This will take place very early in the process, e.g., within the first 3 months from Project initiation. During this phase, the objective is to identify all of the individuals, groups and institutions potentially affected by or benefitting from the Project. Once identified, it is necessary to analyse the past, current and potential relationships amongst the varying stakeholders, as well as their current and potential use and management of the resources required for the Project.



### A.3.1 Stakeholder Identification and Analysis

Stakeholders are people, groups, or institutions that are likely to be affected by a proposed intervention<sup>3</sup> (either negatively or positively), or those that can affect the outcome of the intervention. Stakeholder identification is not a mere listing of the individuals and groups that live near to or work within the specific geographic area where the project will take place. It requires understanding the relationship to the proposed project, so that the full list of stakeholders who will utilise its products and services, or who will negatively or positively affect and benefit from the project can be developed.

Critical questions that facilitate the identification process include:

- Who are the people/groups/institutions that are interested in the project?
  - What role do they play? (e.g., regulator, direct consumer, indirect consumer, etc.)?
- Who are the potential beneficiaries of the project?
- Who might be adversely impacted by the project?
- Who might be opposed to the project?
- Who has the power to influence the project?
- Who currently uses the resources required by the project?
- Who is currently denied access to the resource(s) required by the project?
- Who owns or has rights and responsibilities over the use of the resource(s) required by the project?<sup>4 5</sup>

Engaging in brain storming sessions with key informants during the ESIA process provided an initial list, and the information was expanded through field visits. Once the initial stakeholders were identified and engaged, they added to the list by revealing additional relationships and linkages that were previously unknown – a snowballing technique. Thus, the process of stakeholder identification is not a once-off activity, but is a process that remains open to allow continued involvement of the key persons and agencies that need to be consulted during the process of planning and implementing the Project.

Putting the stakeholders into categories can also help with the process. Table A.1 categorizes the stakeholders who have already been engaged in the process of preparing the ESIA and its Addendum. This list should be updated regularly as stakeholders and their relationships to the project can change over time. Table A.1 defines and clarifies the relationships amongst the stakeholders and with the Project as of November 2020.

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<sup>3</sup> RIETBERGEN-McCRACKEN, J.; NARAYAN, D. ; WORLD BANK (Editor) (1998): [Participation and Social Assessment: Tools and Techniques](#). Washington: World Bank. [URL](#) [Accessed: 7/3/2017].

<sup>4</sup> Renard, Y. 2004. Guidelines for Stakeholder Identification and Analysis: A Manual for Caribbean Natural Resource Managers and Planners. CANARI in collaboration with The John D. and Catherine T. MacArthur Foundation. ISBN 1-890792-07-1

<sup>5</sup> Lienert, J. Stakeholder identification. <http://www.sswm.info/content/stakeholder-identification> [Accessed: 7/3/2017]





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**Table A.1 Categorization of Project Stakeholders**

Stakeholder	Stakeholder is unaware, resistant, neutral, supportive or leading the project?	How could the stakeholder contribute to the project?	How could the stakeholder hinder the project?
The Montserrat Port Authority	Leading the project	Provide visionary leadership to the Project's implementation	Fail to provide critical human and material resources to ensure the success of the Project Poor communication of key information with stakeholders
Public Works Department	Leading the project	Provide visionary leadership to the Project's implementation	Fail to provide critical human and material resources to ensure the success of the Project Poor communication of key information with stakeholders
The Contractor	Supportive	Best practice state of the art building of the pier	Utilisation of poor materials and building practices Poor communication of key information with stakeholders
The Construction Workers	Supportive	Provide highest quality skills in the construction of the project	Poor craftsmanship could lead to unstable infrastructure
Business community in Little Bay	Supportive	Provide advice on the positive and negative impacts of the Project Provide goods and services including quality skills to Project construction Provide business for the Port during Operation of the new Pier Facilitate growth and development in the local business sector to realise the commercial potential of the pier	Opposition to the Project Supply of inadequate goods and services Delays in the supply of goods and services Develop conflict with the project based on grievances
Wider Business Community in Montserrat	Supportive	Provide advice on the positive and negative impacts of the Project Provide goods and services including quality skills to Project construction Provide business for the Port during Operation of the new Pier Facilitate growth and development in the local business sector to realise the commercial potential of the pier	Vocal opposition to the Project Supply of inadequate goods and services Delays in the supply of goods and services Develop conflict with the project based on grievances



## MONTSERRAT PORT DEVELOPMENT PROJECT

**Table A.1 Categorization of Project Stakeholders**

Stakeholder	Stakeholder is unaware, resistant, neutral, supportive or leading the project?	How could the stakeholder contribute to the project?	How could the stakeholder hinder the project?
Residents in Montserrat	Supportive	Provide advice on the positive and negative impacts of the Project Provide business for the Port during Operation of the new Pier Support growth and development in the local business sector to realise the commercial potential of the pier	Vocal opposition to the Project  Develop conflict with the project based on grievances
Fisheries Unit	Supportive	Provide ongoing services to Port inspections	Fail to provide adequate Port inspections due to limited resources
Royal Montserrat Police Service, Customs and Immigration	Supportive	Provide quality security support to the Port  Process inflows and outflows of people and goods efficiently and effectively?  Enforce procedures to prevent drugs or human trafficking and any other negative social issues associated with international travel	Fail to provide security services due to limited resources. Inefficient processing of passengers and cargo
Physical Planning Department	Supportive	Provide regulatory advice and oversight during the planning, construction and operations phases of the Project to ensure compliance with national standards	Fail to conduct required monitoring because of limited resources
Department of Labour	Supportive	Ensure that Project construction meets required health and safety standards and that employment is equitable and fair Provide guidance on the importation of required labour to ensure that regulatory requirements for permits are met	Fail to conduct required monitoring based because of limited resources
Environmental Health Department	Supportive	Provide ongoing services to Port inspections	Fail to provide adequate Port inspections due to limited resources



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**Table A.1 Categorization of Project Stakeholders**

Stakeholder	Stakeholder is unaware, resistant, neutral, supportive or leading the project?	How could the stakeholder contribute to the project?	How could the stakeholder hinder the project?
Montserrat Association for Persons with Disabilities	Supportive	Provide advice on how to ensure that the pier and Port facilities are fully accessible	Develop conflict with the project based on grievances
Tourism Division	Supportive	Conduct marketing research and campaigns to increase usage of the new pier	Fail to attract increased visitors to the island to realize the commercial potential of the investment in the new pier
Department of Social Services	Supportive	Support the Police and the Port in ensuring that procedures are in place and enforced to prevent drugs and human trafficking and other negative social issues associated with international travel	Fail to assist in enforcement
Access Department	Supportive	Positive liaising with vessels, Port personnel and Customs and Immigration	Failure to liaise effectively with Port personnel etc. leading to inefficiencies in the processing of passengers and cargo
Chamber of Commerce	Supportive	Facilitate growth and development in the local business sector to realize the commercial potential of the pier	Failure to realize the commercial potential of the investment in the pier
Shipping Agents	Supportive	Positive liaising with vessels, Port personnel and Customs and Immigration and wholesalers and retailers	Failure to liaise effectively with Port personnel etc. leading to inefficiencies in the processing of cargo
Montserrat Tour and Taxi Association & other independent taxis	Supportive	Provide transportation for workers on the Project	Develop conflict with the project based on grievances
Fishers	Supportive	Work with the Department of Agriculture and Fisheries to ensure a smooth transition from mooring in Little Bay to owning trailers and launching and hauling up their boats during the construction phase of the project  Effective use of the five moorings during the operations phase of the project	Mooring in locations that could lead to problems with vessels using the new pier  Develop conflict with the project based on grievances



**Table A.1 Categorization of Project Stakeholders**

Stakeholder	Stakeholder is unaware, resistant, neutral, supportive or leading the project?	How could the stakeholder contribute to the project?	How could the stakeholder hinder the project?
Migrant workers	Supportive	Provide quality skills to Project construction  Observe all laws in Montserrat whilst working temporarily of the construction	Provide poor craftsmanship to the Project construction  Fail to follow local laws and create tensions with residents
Divers	Supportive/Resistant (there are mixed feelings about the project amongst stakeholders in this group)	Provide information on the marine environment, especially the reef at Little Bay	Opposition to the Project - Develop conflict with the project based on grievances
Tour operators at Little Bay reef and Rendezvous Bluff	Supportive/Resistant (there are mixed feelings about the project amongst stakeholders in this group)	Provide information on the ecology of the Little Bay and Rendezvous Bluff	Opposition to the Project - Develop conflict with the project based on grievances
The Media	Supportive	They can disseminate critical facts about the project in a timely manner to a wide audience; can offer an effective mechanism for building support for the project	Opposition to the Project – disseminating negative press that could undermine effective stakeholder engagement and build opposition to the project

## A.4 STAKEHOLDER ENGAGEMENT ROLES AND RESPONSIBILITIES

The roles and responsibilities for the management of the stakeholder engagement process should be shared in a participatory manner between and amongst the following groups:

- The Montserrat Port Authority
- The Public Works Department
- The Project Manager
- The Community Liaison Officer
- The Contractor
- The Stakeholders (see list in Table A.1)

There is already a steering committee to give guidance to the Project. It currently consists of public sector personnel. A separate committee should be established, that comprises members of the Steering Committee as well as representatives from a broader cross section of the stakeholders. It could be called the Stakeholder Engagement Council (the Committee should be allowed to determine its title at the first session). This would be an efficient way of providing Project oversight and securing the engagement of



## MONTSERRAT PORT DEVELOPMENT PROJECT

all stakeholders in terms of the activities and progress. Representatives should be drawn from the list in Table A.1. Council tasks would include, but not be limited to:

- Managing, monitoring and updating the SEP/GRM/RAP
- Coordination of the Project communication strategy
- Networking across the stakeholder groups
- Monitoring and evaluation of the overall project

A timetable of meetings and events should be established with agendas and desired outputs to ensure that the Council operates purposefully and contributes in a meaningful way to the Project. Reports of each meeting should be prepared and circulated to the entire Council.

The roles and responsibilities of each group are as follows:

The Montserrat Port Authority and the Public Works Department:

- Overall project guidance and management
- Conduct risk assessments and recommend appropriate strategies to ensure project success
- Convene and effectively lead Project Council Meetings
- Respond in a timely fashion to any stakeholder needs or grievances that could hinder the project
- Ensure that the Grievance Redress Mechanism functions effectively
- Approve all communication strategy that will guide the stakeholder engagement
- Implement and ensure that the Communication Strategy for the Stakeholder Engagement works effectively

The Project Manager:

- Management of the environmental and social aspects of the project
- Conduct risk assessments and recommend appropriate strategies to ensure project success
- Attend and actively participate in Project Council Meetings
- Manage internal and external communication for the project
- Implement and ensure that the Communication Strategy for the Stakeholder Engagement works effectively
- Ensure that the Grievance Redress Mechanism functions effectively
- Guide and ensure quality stakeholder engagement
- Supervise Community Liaison Officer (CLO)
- Review CLO reports and recommend any necessary actions to address stakeholder concerns

The Community Liaison Officer:

- Lead the implementation, review and revision of the stakeholder engagement plan
- Operate as the main interface between the Montserrat Port Authority and the Public Works Department and the stakeholders
- Implement the Communication Strategy for Stakeholder Engagement
- Conduct regular field visits to meet with stakeholders and provide a local presence for the project
- Respond to stakeholder enquiries and monitor issues of interest and concern to the stakeholders
- Provide up to date and ongoing information to the stakeholders



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- Recommend and conduct meetings with the stakeholders as required
- Ensure that stakeholders understand the channels for lodging complaints and grievances regarding the project
- Ensure that the Grievance Redress Mechanism is implemented and functioning effectively
- Attend and actively participate in Project Council Meetings
- Establish and maintain a Consultation Register to document weekly engagement activities
- Provide a written monthly status report on all activities

The Contractor:

- Follow the requirements of the Environmental and Social Management Plan
- Conduct risk assessments and identify and implement appropriate strategies to ensure project success
- Ensure that the Grievance Redress Mechanism is implemented and functioning effectively
- Respond with alacrity to any issues affecting the stakeholders as a consequence of the construction

The Stakeholders (see list in Table A.1):

- Meet with the Community Liaison Officer to gain and share information about the Project
- Understand the Communication Channels and stay abreast of the Project's progress
- Understand the Grievance Redress Mechanism and use it to deal with any challenges experienced during the construction and operations phases of the Project
- Ensure that a representative from each group (See list in Table A.1) attends and actively participates in Project Council Meetings

### A.4.1 Community Engagement Liaison

An essential requirement to ensure that the Project's communication is two-way is to establish a hotline, as well as identify a Project Community Liaison whose contact details (email and telephone) are made available via all of the aforementioned communication methods.

The roles and responsibilities of the liaison were listed earlier. The required skills and expertise, include *inter alia*:

- Experience of managing engagement with stakeholder groups
- Experience in developing and successfully implementing stakeholder engagement plans
- Proven ability to work and multi-task under pressure, respond quickly to changing situations in complex project environments, prepare responses/narrative quickly and clearly and use personal initiative
- Good interpersonal and networking skills, highly articulate team player
- Strong people management skills
- Good oral and written communication skills
- Ability to schedule work and deliver to tight deadlines

The liaison would take the lead on ensuring that grievances are tracked, reported and responded to as necessary. The liaison should be responsible for maintaining the Consultation Register that provides



## MONTSERRAT PORT DEVELOPMENT PROJECT

updates on the engagement and communication activities to demonstrate progress and impact of the activities. Reports should include:

- A brief description of the activities undertaken
- Resources used in the implementation
- Planned and achieved outputs and outcomes, and an explanation for whether were achieved or exceeded.
- Upcoming plans for the next reporting period

### A.5 COMMUNICATION STRATEGY

Once the stakeholders have been identified, communications must be established. There is preliminary communication to inform stakeholders of the Project and solicit their participation, as well as ongoing communication to keep them informed of the progress of the Project. There are varying ways to communicate with the stakeholders, depending on the objectives and resources available. Discussions with the stakeholders during the production of the ESIA revealed that Radio Montserrat is the primary media used to provide public information in Montserrat. They also suggested that town hall meetings usually experience low attendance. Other recommendations included issuing public service announcements ahead of meetings; utilizing the call-in programme; targeting specific groups and utilizing social media for stakeholder engagement.

#### A.5.1 Preliminary Contact/Project Notification

Official stakeholders in public and private sector agencies or NGOs and community-based organisations were easily contacted by letter, email or telephone, and initial discussions have already taken place in one-on-one and small meetings during the ESIA and the Addendum preparation process. However, stakeholders, such as residents, who are not part of a formalized group will require media intervention, and first contact may be through a large event such as a public/town hall meeting, even though the turnout may be low. It can be followed up with subsequent announcements on Radio Montserrat.

During the preliminary contact, the purpose is to inform the stakeholders of the intention to develop the Project and should explain the planned intervention and its proposed outcomes, and obtain feedback from the stakeholders on their impressions of the Project and how they would participate in the planning and implementation processes. Critical outcomes of the preliminary contact meetings include:

- Stakeholders informed of proposed Project – including the communication strategy and Grievance Redress Mechanism
- Stakeholders identified to participate in the Project
- Establishment/expansion of the Project Council
- Ongoing compilation of the database of Project stakeholders

#### A.5.2 Project Launch

Having an official Project launch is another very good way of informing the wider public, who may choose not to attend the Public Meeting about the Project and its benefits. It also showcases the partnership between Montserrat Port Authority and the other stakeholders. In this regard the Ministry of Public Works



## MONTSERRAT PORT DEVELOPMENT PROJECT

held a press conference in 2019, which provided some details about the Project and the fact that the ESIA was being conducted. However, once the contractor has been hired, there can be a ground-breaking ceremony.

In preparation for the launch a press release should be prepared and distributed via all media. The press release should be distributed even if there is no official launch, because it informs the wider public about the Project and by so doing, individuals or groups that are interested in participating in the Project can get in contact with the Project office. Basic details that should be included in a Project launch press release are:

- Date of launch (if official event is planned)
- Brief description of the Project – focusing on its objectives, activities and outputs, its start date and duration.
- Information on the Project partners –administrative, technical and funders
- The benefits that the Project will provide to the country
- Contact information for the Project office
- Information on hiring and employment opportunities in the Project

A Project website is a great way to provide up to date information as the project progresses. Photos of the launch should be posted to the site as well as photos of the construction that depict progress. The schedule of construction activities could be posted on the site. In addition, critical information about components that could affect the public, such as any upcoming road closures, increases in dust or noise as a consequence of a particular construction activity could be posted along with the expected duration.

### A.5.3 Meetings with Key Affected Stakeholders

The fishers, users of the Little Bay Reef and the Bat Cave and bird watching tour operators, are the stakeholder groups most affected in the immediate short term of the project because of changes to, or restrictions that the construction requirements will place on their activities. It is therefore recommended that meetings be initiated with these individuals and groups immediately, to begin the process of understanding their concerns and implementing measures to reduce potential adverse effects.

The first set of meetings should be held with each affected individual. The Community Liaison Officer, the Project Manager and a representative of the relevant government department should attend each meeting. The departments would include the Fisheries Unit and the Tourism Division for the tour operators.

The social surveys collected most of the required data about the use of the resources. This can be verified and updated. This first meeting should clearly explain how the project is likely to affect each individual and their livelihood, and clarify any concerns that they might have. Critical at this juncture will be the introduction of the RAP which details the procedures to be followed and the actions to be taken in order to properly compensate persons affected by the Project. This will include discussing the potential solutions that could resolve any challenges that the individuals might encounter. For example, a discussion with the fishers who do not own vehicles to transport the trailers to determine viable options; or marketing strategies with the tour operators to boost their business during the construction period when the use of the Little Bay reef might be somewhat restricted. At the end of the meetings, a schedule of





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actions should be agreed upon that will be undertaken by each party. In the case of the fishers the schedule will address the provision of trailers and the means of transporting the trailers being considered for the Resettlement Action Plan that is not yet finalized. For the tour operators it would include the marketing strategy for their business.

Follow up sessions can then be scheduled with each group to ensure that the schedules are being followed and implemented. The CLO would take the lead in ensuring that the plans are running on time and smoothly.

### A.5.4 Ongoing Communications

Beyond the Council, the wider group of stakeholders needs to be kept abreast of the Project's activities. They also need a mechanism by which they can continue to make input into the Project. There are several communication techniques that can facilitate this. Ideally, it is best to utilize a diversity of approaches, since each one will have benefits and challenges Table A.2 identifies the most effective means of communicating with each group, some should be required as a rule by the project whereas others could be additional or optional depending on resources. The role of each technique is described below. Given the apparent popularity of Radio Montserrat, this could be the primary media for ongoing communication.

**Formal meetings, including Project Council:** This has already been described in Section A.4. It should be convened by The Montserrat Port Authority and the Public Works Department and should comprise a representative of each Stakeholder group. A schedule of meetings, agendas and regular reports should be prepared and shared with the members for dissemination of information to their constituents. It provides oversight and guidance to the Project and ensures that all concerns are addressed. The Council should meet every two months.

**Site visits as required:** Site visits with stakeholders who may be experiencing challenges, especially during the construction phase, is a good way of seeing and understanding the nature of problems and brainstorming solutions. The Project Manager and the Community Liaison Officer should take the lead on the visits, ensuring that they include any relevant personnel or stakeholders such as the Contractor are present.

**Phone / email / WhatsApp messaging:** These informal techniques are useful for swift sharing and exchanging ideas or information. However, they do not facilitate a formal record of decisions made or actions to be taken.

**Progress reports:** These should be prepared by the Community Liaison Officer and the Project Manager to report to the Council on stakeholder engagement and other Project activities.

**Project website and social media:** This is an effective mechanism to ensure that all parties are kept up-to-date on key project information such as relevant environmental and social reports, information on community information sessions and notices of upcoming meetings, the construction schedule and changes to the schedule; activities that could affect stakeholders, such as increased in traffic, dust, noise or vibrations during specific periods; and the hiring and employment opportunities.



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**Focus groups:** Focus groups can be used to engage specific stakeholder on issues relevant to their groups that could affect them and or the project. For example, meetings with the business community would facilitate development and implementation of strategies to enhance economic growth opportunities that could accrue as a consequence of the new pier. Focus groups could also be used to engage the Department of Social Services, the Montserrat Association for Persons with Disabilities and the Gender representative to identify ways of providing jobs during the Project for vulnerable groups as well as ensuring that the Port ultimately becomes fully accessible. This would also be an effective mechanism for identifying challenges faced by the fishers and ensuring a smooth transition from mooring in the Bay and the implementation of the requirements of the Resettlement Action Plan.

**Press Releases:** The media is an essential stakeholder and can disseminate factual and up to date information about the project. All local media should be engaged including Radio Montserrat, Alliouana Express, the Montserrat Reporter, Discover Montserrat, 664connectinc, Spirit of Montserrat and other social media. The press should cover the launch of the project and be engaged to provide details on public meetings, as well as the construction schedule. They can keep the public abreast of the hiring and employment opportunities.

**Information Centre:** The Project could establish an Information Centre at the Public Works Department with a dedicated telephone number for receiving queries and complaints; or where any stakeholder can come to obtain information and raise a query or register a complaint. It would also serve as an ideal location to provide information on hiring and employment opportunities. The Community Liaison Officer would be required to maintain regular contact with the Centre to be informed of any issues or concerns raised by stakeholders and to provide up to date information for the stakeholders.

**Grievance Redress Mechanism:** This is a procedure that provides a clear, consistent and transparent framework for receiving, evaluating, and addressing project-related grievances from affected stakeholders. It is also a means of maintaining a record of all complaints and the status of their resolution.



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**Table A.2 Stakeholder Engagement Techniques and Frequency**

Stakeholder Groups	Recommended Engagement Technique	Topics	Engagement Frequency
Government agencies – including but not limited to The Montserrat Port Authority; Public Works Department; Department of Agriculture and Fisheries; Royal Montserrat Police Service, Customs and Immigration; Royal Montserrat Police Service, Customs and Immigration; Department of Labour; Environmental Health Department; Tourism Division; Department of Social Services; Access Department and other key stakeholders	<p>Required:</p> <ul style="list-style-type: none"> <li>Formal meetings, including Project Council</li> <li>Site visits as required</li> <li>Phone / WhatsApp/ Other messaging</li> <li>Emails</li> <li>Progress reports</li> <li>Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>Project website and social media</li> <li>Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>Update on project progress and activities</li> <li>Plans for upcoming periods</li> <li>Issues and changes</li> <li>Invitations to participate in meetings</li> </ul>	<p>Key agencies such as The Montserrat Port Authority and the Public Works Department should be updated on real time</p> <p>The Project Council should convene every two months. They can convene more often if critical issues need to be addressed.</p> <p>All other agencies should be engaged on a quarterly or as needed when issues associated with their sectors need to be addressed</p>
The Contractor	<p>Required:</p> <ul style="list-style-type: none"> <li>Formal meetings, including Project Council</li> <li>Site visits as required</li> <li>Phone / WhatsApp/ Other messaging</li> <li>Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>Project website and social media</li> <li>Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>To provide and receive updates on stakeholder issues</li> <li>To address matters raised through the Grievance Redress Mechanism</li> </ul>	<p>Communications with the Contractor will primarily be via the Project Manager. However, the Contractor can be required to attend formal meetings and site visits as necessary to address matters pertaining to issues faced by the stakeholders, e.g., noise, dust, access.</p>
The Business Community in Little Bay, The Chamber of Commerce, Shipping Agents, The Montserrat Tour and Taxi Association & other independent taxis and other businesses in Montserrat	<p>Required:</p> <ul style="list-style-type: none"> <li>Formal meetings, including Project Council</li> <li>Group and individual meetings</li> <li>Focus groups</li> <li>Emails</li> <li>Phone / WhatsApp/ Other messaging</li> <li>Press releases</li> <li>Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>Project website and social media</li> <li>Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>To provide and receive information about the project</li> <li>To obtain information about opportunities for providing goods and services to the project</li> <li>To facilitate strategizing to enhance the growth opportunities presented by the investment in the pier</li> <li>To lodge and address concerns and grievances</li> </ul>	<p>Representatives of the key private sector groups attend the Council meetings.</p> <p>Focus groups can be convened as needed.</p> <p>Regular updates via the press releases and social media as required</p>



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**Table A.2 Stakeholder Engagement Techniques and Frequency**

Stakeholder Groups	Recommended Engagement Technique	Topics	Engagement Frequency
Department of Social Services, the Montserrat Association for Persons with Disabilities and the Gender representative	<p>Required:</p> <ul style="list-style-type: none"> <li>• Focus groups</li> <li>• Emails</li> <li>• Phone / WhatsApp/ Other messaging</li> <li>• Press releases</li> <li>• Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• Project website and social media</li> <li>• Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>• To provide and receive information about the project</li> <li>• To identify ways of providing jobs during the Project for vulnerable groups</li> <li>• To lodge and address concerns and grievances</li> </ul>	<p>Focus groups can be convened as needed.</p> <p>Regular updates via the press releases and social media as required</p>
Fishers and Department of Agriculture and Fisheries	<p>Required:</p> <ul style="list-style-type: none"> <li>• Formal meetings, including Project Council</li> <li>• Group and individual meetings</li> <li>• Focus groups</li> <li>• Emails</li> <li>• Phone / WhatsApp/ Other messaging</li> <li>• Press releases</li> <li>• Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>• Project website and social media</li> <li>• Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>• To provide and receive information about the project</li> <li>• To identify challenges faced by the fishers and ensure a smooth transition from mooring in the Bay</li> <li>• To ensure effective implementation of the requirements of the Resettlement Action Plan.</li> <li>• To lodge and address concerns and grievances</li> </ul>	<p>A Representatives of the fishers should attend the Council meetings.</p> <p>Focus groups should be convened early in the process to assist with the relocation of the fishers from Little Bay and the provision of the trailers</p> <p>Regular updates via the press releases and social media as required</p>



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**Table A.2 Stakeholder Engagement Techniques and Frequency**

Stakeholder Groups	Recommended Engagement Technique	Topics	Engagement Frequency
Divers and tour operators	<p>Required:</p> <ul style="list-style-type: none"> <li>Formal meetings, including Project Council</li> <li>Group and individual meetings</li> <li>Focus groups</li> <li>Emails</li> <li>Phone / WhatsApp/ Other messaging</li> <li>Press releases</li> <li>Grievance Redress Mechanism</li> </ul> <p>Additional:</p> <ul style="list-style-type: none"> <li>Project website and social media Information Centre</li> </ul>	<ul style="list-style-type: none"> <li>To provide and receive information about the project</li> <li>To identify challenges faced by the divers and tour operators based on the changes to their use of Little Bay Reef and the Rendezvous Bluff</li> <li>To ensure effective implementation of the requirements of the Resettlement Action Plan.</li> <li>To lodge and address concerns and grievances</li> </ul>	<p>A Representatives of the divers/tour operators should attend the Council meetings.</p> <p>Focus groups should be convened early in the process to confirm and address challenges faced by these stakeholders</p> <p>Regular updates via the press releases and social media as required</p>
The Media	<p>Required:</p> <ul style="list-style-type: none"> <li>Press briefings</li> </ul>	<ul style="list-style-type: none"> <li>To provide updates on project progress and activities</li> <li>To provide details for information dissemination</li> <li>To gain feedback on issues raised by the public</li> </ul>	<p>Press briefings could be quarterly or whenever an occasion arises that information needs to be shared with the public.</p>



## A.6 MONITORING AND EVALUATION

The Council should periodically evaluate the stakeholder activities and their outputs to determine whether the engagement is being effective. Objectives and targets should be defined for each initiative against which the evaluation can be measured (See table A.3). The use of Knowledge, Attitude and Perception surveys could provide feedback on the community's perspectives of the Project. Feedback from the stakeholder groups and grievances recorded are also evidence that can be used in assessing the effectiveness of the SEP. Data compiled from the Consultation Register can be used to measure stakeholder perceptions about the project. Adjustments should be made to the SEP based on the results of the evaluation. The wider stakeholders can be engaged in the monitoring and evaluation of both the Project as well as the SEP. Creation of brief evaluation surveys is one way of accomplishing this.

**Table A.3 Objectives and Targets**

Objective	Method of evaluation	Frequency	Performance indicators
Inform stakeholders about the project	Consultation register Feedback and observation from all engagement activities	Weekly based on the Register	<ul style="list-style-type: none"> <li>• Number of meetings convened.</li> <li>• Diversity of stakeholders engaged</li> <li>• Content of discussion at engagement, i.e. information shared, questions asked, follow up activities completed</li> </ul>
Identify and address stakeholder issues and grievances	Consultation register Grievance records	Weekly based on Register As concerns and grievances are reported	<ul style="list-style-type: none"> <li>• Grievances reported</li> <li>• Actions taken to resolve issues and grievances</li> <li>• Close-out reports</li> </ul>
Provide opportunities for engaging vulnerable groups in the Project	Consultation register Meeting records	Prior to start of project	<ul style="list-style-type: none"> <li>• Number of vulnerable persons engaged in the Project implementation</li> </ul>
Ensure effective functioning of the Council	Council minutes and reports	Every two months	<ul style="list-style-type: none"> <li>• Reports of meeting convened</li> <li>• Actions taken as follow up to decisions made at meetings</li> </ul>
Ensure issues and concerns of tour operators are addressed	Minutes of meetings held	Weekly	<ul style="list-style-type: none"> <li>• Actions taken as follow up to decisions made at meetings</li> </ul>
Ensure smooth transition of the fishers from the moorings in the Bay	Minutes of meetings held	Weekly	<ul style="list-style-type: none"> <li>• Actions taken as follow up to decisions made at meetings</li> </ul>



### A.7 REPORTING

Reporting is an essential aspect of the stakeholder engagement process. Every meeting or consultation should be recorded. This should include – the date; time of start and closure of the meeting; persons present; the agenda; the main items discussed and decisions made; actions to be taken and persons responsible. It is also essential to maintain the Consultation Register, which would record all stakeholders, contact details, dates of engagement with comments and including follow up requirements. These records are important because they provide evidence that the stakeholder engagement is taking place. They also provide continuity in instances where Project staff or members of the stakeholder group change during the Project.

### A.8 RISKS

Stakeholder engagement is not without its challenges and risks. Some of the challenges that may present during the Project are:

**COVID-19:** the Coronavirus disease 2019 (COVID-19) pandemic has necessitated the establishment of health restrictions and protocols. As such, it is currently advised that during in-person interactions, all parties must adhere to COVID-19 protocols as required by the Government of Montserrat. One way of addressing this is to increase use of media presence e.g. articles in the paper about the project including contact details. If a project website is available, information can be placed there for access by the public.

**It takes time and resources:** It takes time to develop and build trust-based relationships with stakeholders. The consensus from practitioners is that from the outset relationships with stakeholders should be nurtured. Additional stakeholders might be identified that also want to be engaged. No willing stakeholder should be excluded from the process of engagement. Some stakeholders will need to be educated about the concept of engagement itself, as well as on the complex issues requiring specialised and technical knowledge. These demands can increase the cost of consultation required to meet external expectations, and often this occurs at a time when a project lacks the internal capacity and resources to implement a broad engagement strategy.

**It raises expectations:** Stakeholders can have unrealistically high expectations of benefits that may accrue to them from a project. The Montserrat Port Authority from the outset must be clear on the Project boundaries.

**Consultation fatigue:** Stakeholders can easily tire of consultation processes especially when promises are unfulfilled, and their opinions and concerns are not taken into consideration. In addition, stakeholders are often engaged in several projects simultaneously, and unable to give their fullest commitment to any one initiative.



## **A.9 BUDGET FOR STAKEHOLDER ENGAGEMENT PLAN**

The salary for the Community Liaison Officer (inclusive of travel expenses); provision of a dedicated telephone line or cell phone to communicate with the public, and a website where information can be made available, are amongst the key resources needed to support the implementation of the stakeholder engagement plan. Table A.4 provides a provisional budget for one year for the implementation of the Stakeholder Engagement Plan.

**Table A.4 Provisional budget for the Stakeholder Engagement Plan**

<b>Resource</b>	<b>Costing (US\$)</b>
Community Liaison Officer	24,000
Cell phone (hardware and monthly bills)	2,000
Expenses for 2 public meetings (rental of venue, PA system, advertisements in local papers; catering)	6,000
Expenses for focus groups and other stakeholder meetings (advertising and catering)	3,000
Paid advertisements or Public Service Announcements in media	1,500
<b>Total</b>	<b>35,000</b>

## **A.10 DRAFT STAKEHOLDER ENGAGEMENT PLAN SCHEDULE**

The following Table A.5 is a draft outline of the likely timing of key milestone required in the implementation of the SEP. The actual schedule will have to be developed by the Government of Montserrat in collaboration with the Contractor.





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**Table A.5 Stakeholder Engagement Plan Schedule**

	Tasks	Responsible Institutions	Period (Months)																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Familiarisation Phase (preliminary contact)	MPA MoC																								
1.1	Press releases (at start and periodically)																									
1.2	Town Hall Meeting (date to be determined)																									
1.3	Focus groups / Group and individual meetings / etc.																									
1.4	Implementation of the Resettlement Action Plan (RAP)																									
2	Engagement Phase	MPA MoC																								
2.1	On-going communications																									
2.2	Establish and publicise Grievance Redress Mechanism (GRM)																									
3	Undertake civil works	MPA, PWD																								
4	Feedback Phase	MPA MoC																								
4.1	Post-project qualitative surveys/focus group meetings																									
4.2	Final SEP Report																									



# **ATTACHMENT B**

## Grievance Redress Mechanism



### B.0 GRIEVANCE REDRESS MECHANISM

During any project, it is likely that there will be concerns or complaints. Affected stakeholders must be able to raise their grievances and be given an adequate hearing, and satisfactory solutions should be found that mutually benefit both the stakeholders and the project. It is therefore very important to establish and provide access to legitimate, reliable, transparent, and efficient institutional mechanisms that are responsive to their complaints. If left unattended, these complaints can escalate into full-blown conflicts.

In this Grievance Redress Mechanism, the following definitions<sup>6</sup> are used:

An **affected stakeholder** is a person or group that is adversely affected temporarily or permanently as a result of the project works.

A **complaint** is a statement (verbal or written) or expression of displeasure that an impact or effect arising from a project related activity is unsatisfactory or unacceptable to the complainant. *A complaint is a concern about a minor impact or effect that is short term, low in risk, often temporary, that typically does not require an investigation but does require a specific response to remove or remediate the unsatisfactory or unacceptable impact or effect.* Unresolved complaints may become grievances if not dealt with appropriately and within a short (typically 2 days but a maximum of 14 days) timeframe. Complaints able to be dealt with or resolved immediately can be referred to as minor complaints.

A **grievance** is a statement about an action, impact or effect arising from a project related activity that *adversely affects the rights, health and/or well-being of an affected person or people to the extent that it forms legitimate grounds for grievance and if upheld, may result in compensation, legal action or a change to the sub-project in order to resolve the grievance.* A grievance will require specific response and potentially formal intervention by supervisor or client for resolution and such resolution must be formally agreed and recorded. Grievances may be raised verbally or in writing but must be reported using the Grievance Report Form which must be completed in every instance.

A **project-level grievance redress mechanism** for affected stakeholders is *a procedure that provides a clear, consistent and transparent framework for receiving, evaluating, and addressing project-related grievances from affected stakeholders.* It is also a means of maintaining a record of all complaints and the status of their resolution.

Currently, the Montserrat Port Authority does not have a customer service department or any formalized grievance redress mechanism in place. Members of the Management team can be contacted by telephone or email, and are tasked with addressing queries and concerns. In general, in Montserrat, public concerns are often anonymously aired through calling into local radio talk shows. Typically, people

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<sup>6</sup> These definitions were taken from the Grievance Redress Mechanism for the Vanuatu Infrastructure Reconstruction and Improvement Project. Prepared by the Ministry of Infrastructure and Public Utilities of Vanuatu. Financed by the World Bank. March 2018



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will take their concerns or complaints directly to the agency in question. Therefore, the grievance redress mechanism for the project must be trustworthy and responsive; stakeholders should buy into and understand the process.

Both the project as well as the Affected Stakeholder derive benefits from grievance redress mechanisms (GRM). GRMs provide cost-effective ways for Affected Stakeholders to report complaints and grievances, with dignity and with access to a fair hearing and remedy. GRMs create a space to Affected Stakeholders to negotiate and influence decisions of the projects that could adversely affect them and they facilitate access to information. From the project's perspective, GRMs provide a structured and systematic way of resolving grievances and disputes relatively quickly before they escalate to an unmanageable level. They facilitate effective communication between the project and Affected Stakeholders, and can help to win trust and confidence thereby creating productive relationships between the parties. GRMs aid in ensuring equitable and fair distribution of benefits, costs, and risks, especially amongst vulnerable groups such as women, children, the disabled and the elderly. These mechanisms ultimately can mitigate or prevent adverse impacts of the project on communities and produce appropriate corrective or preventive action, thereby avoiding project delays and cost increases, and also improving the quality of work (Asia Development Bank, 2010)<sup>7</sup>.

Grievances can result from either real or perceived impacts of Project activities. The project personnel will therefore work proactively to prevent grievances through the implementation of proposed mitigation measures as per the ESMP. The following criteria may be applied in order to distinguish grievances from other types of communication received from stakeholders:

- Reports about harmful impacts, disturbance, disruption, injury and damage caused by the Project activities, including contractor operations (such as noise, traffic, pollution, restricted access to natural resources without prior notification, damage to common amenities and private assets, sustained losses, impacts on the natural environment and community health).
- Dissatisfaction with outcomes of the compensation process as part of the Resettlement Action Plan (RAP).
- Dissatisfaction with some aspects of the Project recruitment and hiring process (e.g., limited number of positions available to the local population, insufficient advertising of vacancies).
- Reports about misconduct by Project personnel, security or contractor workers.

The above list is not exhaustive and does not exclude other types of communication identified by Project personnel as a grievance.

This section describes a clear, transparent, and consistent procedure that the Project will employ to deal with concerns and complaints received from affected persons or groups and other external stakeholders. Once received they will be investigated and decisions will be taken on whether they will be treated as grievances to be dealt with under the Grievance Redress Mechanism. Those deemed not to be grievances will be suggested to alternative channels for proper management.

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<sup>7</sup> Asian Development Bank. 2010. Designing and Implementing Grievance Redress Mechanisms. A Guide for Implementers of Transport Projects in Sri Lanka. Available online: <https://www.adb.org/sites/default/files/institutional-document/32956/files/grievance-redress-mechanisms.pdf>. Assessed April 2020.



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The project specific Grievance Redress Mechanism presented below will remain an important element of the SEP and RAP throughout the Project's entire lifespan.

### B.1 OBJECTIVES

The purpose of this document is to begin to create a process for the management of grievances that could arise during the implementation of the Project. This document should be reviewed and amended by the stakeholders (See list in Appendix A) to best suit their needs, so that it is tailored to be culturally appropriate, accessible, and user-friendly. Based on the social and gender impact assessment, it can be anticipated that during the construction phase there will be concerns associated with adverse effects from noise, dust and vibrations, visual impacts, migrant labour, and displaced fishers, divers and tour operators. During the operational phase there could be ongoing issues associated with the displaced fishers, divers and tour operators. The processes outlined in this document, recommend avenues for Affected Stakeholders to voice their concerns and gives transparency on how grievances should be managed to reduce conflict and strengthen relationships between stakeholders. The grievance redress mechanism procedure applies to all internal and external stakeholders associated with, or affected by the Project. The objective is to design a grievance redress mechanism that will be utilized, so that stakeholders do not resort to alternate means for resolving issues and conflicts.

### B.2 PRINCIPLES

The IFC Good Practice Note on Addressing Grievances from Project-Affected Communities recommends that grievance redress mechanisms be based on the following five principles:

1. Proportionality: Scaled to risk and adverse impact on affected communities
2. Cultural Appropriateness: Designed taking into account culturally appropriate ways of handling community concerns
3. Accessibility: Clear and understandable mechanism that is accessible to all segments of the affected communities at no cost
4. Transparency and Accountability: To all stakeholders
5. Appropriate Protection: A mechanism that prevents retribution and does not impede access to other remedies

Added to this should also be Confidentiality, i.e. - whilst general information should be shared to ensure transparency, personal and other important details must be kept confidential. This principle is especially important in small communities.

### B.3 RESOURCES

The grievance redress mechanism must be established early in the development of the Project and must be adequately resourced with:

1. People—trained staff or external resources experienced in social and environmental management and in dealing with community concerns and complaints.
2. Systems—systems for receipt, recording, and tracking of the process (for example, grievance log, tracking cards, examples are provided in Sections B.8 and B.9).



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3. Processes—a written procedure for handling grievances and responsibilities assigned for each step as well as for management oversight.
4. Budget —estimating, allocating, and tracking costs associated with grievance handling.

### B.4 ROLES AND RESPONSIBILITIES

A Project Grievance Committee (PGC) should be established comprising the Community Liaison, Project Coordinator, Port Manager, another staff member of the Montserrat Port Authority and a community representative (See Appendix A). The PGC will be responsible for managing the GRM including updating the grievance database to track the progress of formal grievances for the duration of projects. The tasks will include:

- Receiving grievances
- Investigating the grievances and liaising with the stakeholders
- Developing resolutions and actions to rectify any issues
- Tracking progress of individual grievances
- Documenting any interactions with external stakeholders
- Making sure the grievance redress mechanism procedure is being adhered to and followed correctly
- Making sure resolution actions are completed
- Maintaining a grievance register and monitoring any correspondence
- Monitoring grievances/trends over time and reporting findings to the Project Steering Committee and Project Council (See Appendix A) where necessary.
- Raising awareness of the grievance redress mechanism among project personnel and stakeholders.

The Community Liaison Officer or a focal point in the Port Authority can be designated to take the lead on managing the complaints and grievance procedures. The Committee will meet as needed and personnel time will be compensated by the Port Authority

All members of the PGC should receive training in conflict resolution, mediation and negotiation. They in turn should facilitate training for relevant Project personnel in these areas. All Project personnel and stakeholders should be made aware of the grievance redress mechanism. Designated personnel should be identified and trained on how to receive and record grievances from stakeholders using the grievance recording form in Section B.7.

The PCG should ensure that the Project Contractors are briefed on the GRM because they will be expected to follow its requirements as part of the oversight of their work. For example, the Contractor is responsible for logging all complaints in the site daybook (or equivalent) for inspection by the Project Engineer. The Contractor is also responsible for ensuring that all minor complaints are dealt with and resolved directly without any undue delays.



### B.5 REPORTING CHANNELS

Various channels must be established for stakeholders to formally report their grievances. Grievances may be reported verbally or in written format, e.g., letters. Channels that will be established include:

1. Telephone – The Montserrat Port Authority will establish and publicize a specific contact telephone number at which stakeholders can call and request to speak to the liaison officer.
2. Email – The Montserrat Port Authority will establish and publicize an email at which stakeholders can send their grievances.
3. Face to face – The Montserrat Port Authority will establish a liaison officer to whom grievances can be made.
4. Online form – If a website has established, grievance reporting forms can be placed on the site so that stakeholders can complete and submit them.

Key to addressing any complaint or grievance is having a well-defined and efficient system in place, and effective communication with the Affected Stakeholders. All Project personnel and stakeholders should be made aware of the grievance redress mechanism. The notification will include:

- The mechanism and how it should be used
- Who can raise complaints
- Details of the process, such as who is responsible for receiving and responding to grievances
- The process to evaluate, investigate and adjudicate grievances
- The sort of response that can be expected
- Safeguards in place to ensure confidentiality
- Contact details for lodging a complaint

Communication about the grievance redress mechanism can be done via any of the channels recommended in the Stakeholder Engagement Plan for the ongoing communication about the Project's activities. These include the Project website, Radio Montserrat, town hall meetings, workshops and focus groups. The notification process can facilitate feedback on how the procedure could be tailored for the Project.

The Community Liaison Officer is a critical asset in the grievance management process. Interactions with the stakeholders will provide early insight into potential problems that can be averted. Ongoing meetings will serve to assure the stakeholders that their concerns are being addressed. Specific attention must be paid to any situations that are disadvantaging or adversely affecting women and children or other vulnerable groups such as the elderly or disabled. Any such matters must be prioritized for swift resolution.

### B.6 GRIEVANCE REDRESS PROCESS

As explained in the introduction, a distinction can be made between *complaints* which are more minor in nature and can typically be easily and swiftly addressed, and *grievances* which tend to be more serious and require more time for investigation and may necessitate a specific response. Therefore, the process of screening and distinguishing between the two is important to the grievance redress process.



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Complaints are typically of low level severity and should be resolved within a week of receiving the initial report. The PGC should follow up by acknowledging the complaint. If the matter was dealt with immediately by the person receiving the complaint, the purpose of the follow-up call, email or letter from the PGC is to confirm that the action taken was satisfactory and that the matter is closed. If the matter is still to be addressed, the PGC should confirm the nature of the complaint and indicate the action that will be taken and the length of time anticipated for the matter to be resolved. Once the action is taken, the PGC should communicate this to the complainant and confirm that the matter is resolved. If the matter escalates to a more serious level, the grievance procedures will be utilized.

Upon receipt of a grievance, a record must be made. The grievance should be screened to evaluate if it is a valid grievance and the level of severity and action required, and the Affected Stakeholder should be acknowledged and informed that the Grievance will be investigated. Appropriate action must be taken and there must be follow-up with the complainants to ensure that the actions taken had the desired effect for resolving the issue. **Figure B.1** shows the main steps in the grievance redress process, which are further elaborated in the following subsections.





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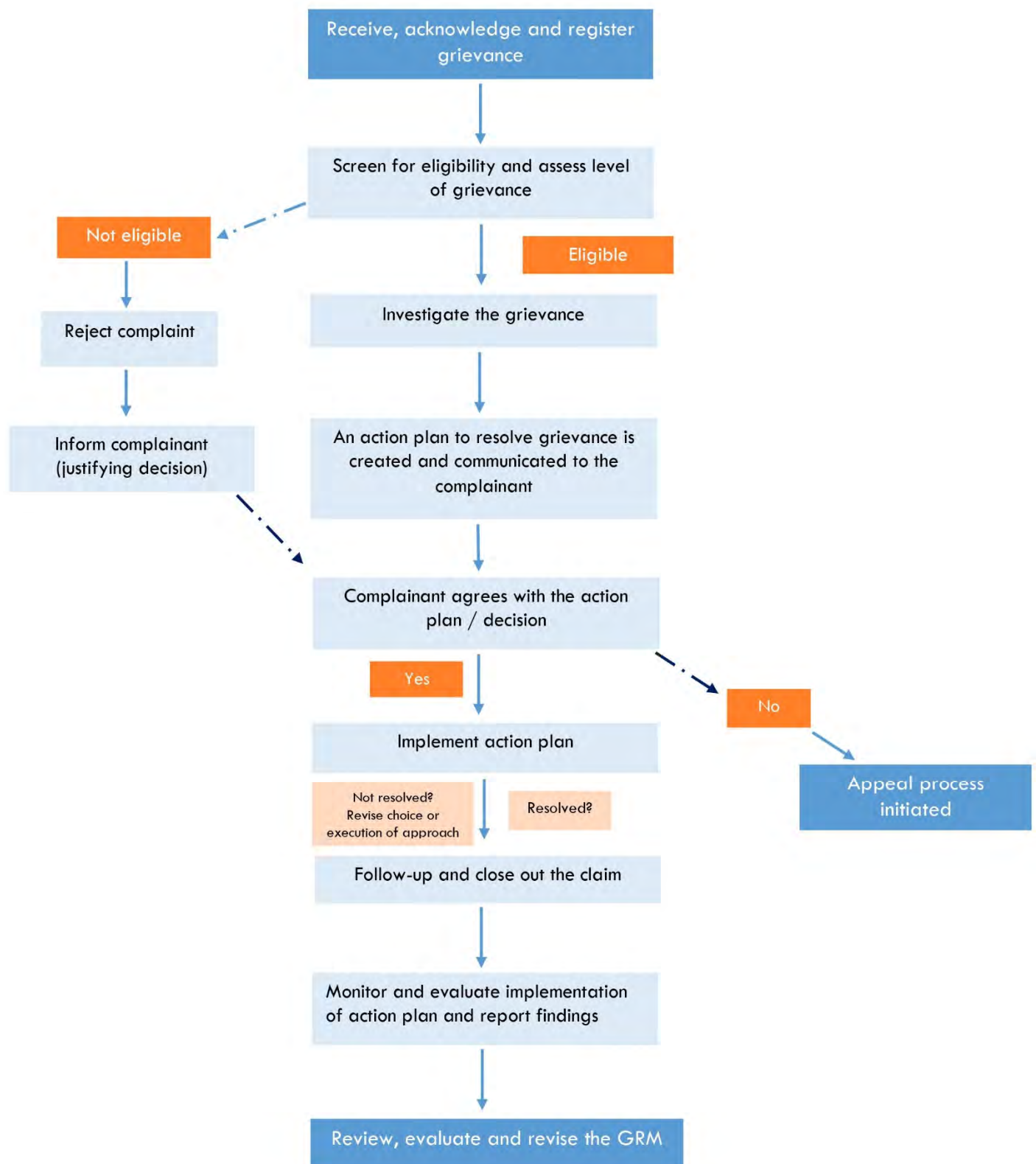


Figure B.1: Overview of the Grievance Redress Process



### B.6.1 Receiving Grievances

If a grievance is received face to face or over the phone, it is the responsibility of the individual who receives the grievance to complete a grievance recording form (Section B.7). The completed form must be passed on to the Community Liaison Officer/focal point for processing. The Community Liaison Officer/focal point should also receive all grievances that come via email or the website.

### B.6.2 Acknowledge the Grievance

Any grievance should be formally acknowledged by the CLO/focal point ideally within 48 hours and no later than five working days of being submitted. Communication can initially be by telephone but should be followed up by an email or letter so that an official record of the response can be maintained. The verbal and written acknowledgement should include a summary of the grievance, whether it has been deemed to be an eligible grievance (justification should be provided if not considered valid), the proposed next steps, including the method that will be taken to resolve the grievance (e.g., site visits with the Affected Stakeholders and the Contractor), and an estimated timeframe in which the grievance will be resolved. The acknowledgment provides an opportunity to clarify issues or request further information if required. Time scales for the provision of corrective actions to achieve resolution will depend on the complexity of the issue raised; however, normally it should not be later than 30 calendar days after receipt, except for complex cases where it might take up to 45 calendar days.

### B.6.3 Registering/Logging Grievances

The CLO shall log all incoming concerns /complaints in a dedicated grievance register and assign an individual reference number. An example is found in Section B.8. The Grievance Redress Committee (GRC) will be informed of all grievances entered into the grievance register. The grievance register can be used to track the status of a grievance, and to analyse the frequency of concerns/complaints arising, their geographic distribution, gender impacts, typical sources and causes of complaints, as well as identifying prevailing topics and any recurrent trends.

The party initiating a concern /complaint will have an opportunity to lodge their grievance in a confidential manner. In this case, the name and contact details of the initiating party will not be disclosed without their consent and only the person/team directly working on the investigation will have access to such information.

Incoming concerns, complaints and enquiries can be submitted through the following means:

By telephone to Community Liaison Officer (664)\_\_\_\_\_

By email address to: [portproject@gov.ms](mailto:portproject@gov.ms)

By post to: Community Liaison Officer, Montserrat Port Development Project, P.O. Box \_\_\_\_  
\_\_\_\_\_, Brades, Montserrat

By information leaflet on the Grievance Redress Mechanism

By online form

Via Grievance Box located at \_\_\_\_\_

Via the Project office located at \_\_\_\_\_



### B.6.4 Screening Grievances

Upon receipt of a grievance, the CLO will complete a grievance form, review and screen to determine the authenticity and eligibility of the complaint and level of severity in order to decide how the grievance will be addressed. Levels of grievance can be categorized as follows:

1. Ineligible grievance – An answer explaining why the grievance has been deemed not valid can be provided immediately or within a defined period.
2. Low-level grievance - An answer can be provided immediately or within a defined period.
3. Mid-level grievance – Once-off grievances that are not likely to escalate and affect the Project's progress.
4. High-level grievance – Repeated, extensive and high-profile grievances that may jeopardize the Project.

### B.6.5 Investigate the Grievance

The Grievance Redress Committee (GRC) is responsible for investigating the grievance and working with the complainants to arrive at a resolution. The investigation may require collecting relevant documents, making site visits, consulting appropriate project personnel, contacting stakeholders, and other activities. Records will be kept of all associated meetings, discussions and activities. Information gathered during the investigation will be analysed and will assist in determining how the grievance will be resolved. Where necessary, advice will be sought from outside parties such as the Attorney General Chambers, and insurance companies, especially in cases of damage claims. Subsequent meetings with the complainant may be required to collect more evidence, conduct further investigation, and launch a dialogue towards resolution.

### B.6.6 Action to Resolve the Grievance

Following the investigation, the GRC will use the findings to create an action plan outlining the steps to be taken in order to resolve the grievance. The GRC is responsible for assigning actions, monitoring actions undertaken and ensuring that deadlines are adhered to for all grievances. Resolutions to complaints will be commensurate with the nature of grievances. Regardless of the outcome of the investigation, the response will be communicated to the complainant, preferably in writing. The response will clearly state the results of the investigation and the status of the complaint. It will also detail the actions that will be taken, by whom and when, and the outcome expected. If no further action will be taken, this too must be communicated, with a detailed and respectful explanation, as well as any compelling evidence of why the decision has been made.

### B.6.7 Exceeding Deadline

Where a resolution cannot be provided within the specified timescale, the CLO/GRC will inform the initiating party accordingly. Once all investigations have been completed, the CLO/GRC will contact the initiating person to discuss further actions and /or to agree on a possible resolution.



### B.6.8 Follow Up and Close Out

The Community Liaison Officer/focal point should make contact with the complainant within a month after the grievance is resolved to verify that the outcome was satisfactory, and also gather any feedback on the grievance process. Minutes of the meeting with the complainant should be recorded. As required, the Community Liaison Officer/focal point may need to follow up with the complainants on numerous occasions to confirm all parties are satisfied, and to obtain a collective agreement to close out the claim.

Cases should only be closed out when an agreement with complainants is reached. It is a good practice to collect proof that corrective actions have taken place. This can be accomplished through photos, videos or other documentary evidence that demonstrate how the grievance was resolved.

The grievance record form and the grievance register should be fully updated with all of the necessary details. This should include confirmation from the complainants that the matter has been satisfactorily resolved.

### B.6.9 Appeal

If the complainant is unhappy with the resolution and/or does not agree with the proposed actions, then the Community Liaison Officer/focal needs to escalate the matter to the Project Steering Committee. The Steering Committee will review the grievance and all documentation gathered throughout the investigation and determine whether further actions are required to resolve the grievance. If necessary, the committee may seek advice from other independent parties, e.g., lawyers etc.

### B.6.10 Reporting

The Project Steering Committee should receive monthly updates on stakeholder grievances. Information outlining the number of grievances, time to resolution and outcomes of grievances should be communicated utilizing the grievance register (Section B.8) The Grievance Redress Committee will strive to complete the process of investigating the incoming grievance and identifying a resolution within 30 calendar days, and in more complex cases, within 45 calendar days of the receipt of a grievance. The complainant will be informed, before elapse of 30 calendar days, if a decision has been made to extend the complaint processing period for complex cases.



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### B.6.11 Review, Evaluate and Revise the GRM

It is essential to always assess the effectiveness of the GRM. Critical questions to focus the review include:

- Are stakeholders using the GRM
- Are complaints and grievances increasing, decreasing or remaining the same?

Feedback should be obtained from all stakeholders. The Community Liaison Officer/focal and project staff should provide feedback and offer suggestions for improving the GRM. The following is an example of a short questionnaire that can be administered to Affected Stakeholders can be asked to rate the GRM as part of the close out process:

1. How did you learn about the GRM?

Project Website	
Project Liaison	
By calling the Port Authority	
Word of mouth	
Other (please specify)	

2. Please rate the following indicators based on your experience with using the GRM.

Indicator	Poor	Average	Good	Excellent
The time it took for your complaint to be acknowledged				
The quality of the PRE project officers communication with you during the process				
The length of time it took for your complaint to be resolved				
The resolution of your complaint				

3. Would you recommend the GRM to others?

Yes (why)	
No (why not)	



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### 4. What would you recommend to improve the GRM?

#### **Scenario: Noise and Dust Complaints:**

##### ***Complaint***

Business owners and their clients have been on the call-in programmes complaining about the dust and noise being generated during the construction of the Project Access road. No formal complaint has come in to the Port Authority or to the Project Grievance Committee.

##### ***Response***

The Community Liaison Officer/focal point becomes aware of the complaints and contacts some of the business owners in Little Bay. He/she also visits the area to observe the situation and to see whether the recommended noise and dust management protocols recommended in the Construction Management Plan are being implemented and whether they need to be adjusted. The CLO/FP consults with the Project Manager and they set up a site visit with the Contractor to discuss the course of action required to address the complaint. They agree a schedule for implementation.

The CLO/FP issues a press release informing the public of the proposed measures to address the situation. The CLO/FP also visits the businesses in the affected areas to reassure them of the measures that will be implemented. The situation is observed over the agreed timeframe to ensure that the measures successfully resolve the situation.

The CLO/FP maintains and updates the Grievance Register Template.



## B.7 GRIEVANCE RECORD TEMPLATE

<b>Grievance template:</b>
Date of complaint
Time of complaint
Name of person taking the complaint
Job title of person taking the complaint
Signature of person taking the complaint
Name and signature of supervising officer
<b>Complainant information:</b>
Name of complainant
Telephone number of complainant
Address of complainant
Email address of complainant
<b>Details of the complaint:</b>
Nature of complaint: <i>(In recording the complaint please prompt for the following information where available – dates and times the incident(s) occurred; who was involved in the incident(s); gender and age of people impacted; cost of problem if possible (e.g., cost of doctor's visit and medication; cost of repair to vehicle, cost of repair of third party property, impact of utility outage, etc.)</i>
Signature of person making the complaint: <i>(Complaints can be made by email or in person and should be signed. If made by phone the complainant should be encouraged to come into the office and sign off on the complaint. In the event that complainants wish to remain anonymous, the issue should still be investigated and a report compiled.)</i>
<b>Details of the investigation:</b>
Investigation recommended: <ul style="list-style-type: none"> <li>Information to be gathered</li> <li>Persons/agencies to be contacted</li> <li>Assessment of resolution mechanisms to be utilized, e.g., mediation, compensation, etc.</li> </ul>
<b>Reporting:</b>
Record of the results of the investigation and actions recommended
Cost of recommended solutions
Report of action taken including the signature of the person investigating the complaint
Date complainant contacted with the results of the investigation and action taken

## B.8 GRIEVANCE REGISTER TEMPLATE

Reference Number	Complainant	Gender of Complainant	Date Received	Officer who Received the Grievance	Eligibility & Grievance level	Grievance Description	Cause of Grievance	Next Steps / Resolution Approach	Status	Outcome	Additional comments



# **ATTACHMENT C**

## **Social and Gender Risk Assessment and Social and Gender Action Plan**





**Montserrat Port Development Project, Montserrat**

**Social and Gender Risk Assessment  
Social and Gender Action Plan**

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## 1.0 INTRODUCTION

The Government of Montserrat is proposing to expand current facilities at the Port of Little Bay to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and commercial fishing vessels. The Montserrat Port Authority is the Proponent for the Project, with the Ministry of Communications, Works, Energy and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department (PWD). Funding to support the Project was secured from the Caribbean Development Bank (CDB) – United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF).

This Social and Gender Risk Assessment focuses on the risks with potential to compromise expected outcomes and benefits of the Project, and as such is complementary to the ESIA and the Addendum to the ESIA, which focuses on the impacts of implementing the Project itself. It is important to have an increased understanding of the array of social and gender risks for improved ability to ascertain likelihood and impact of risks and to define strategies to mitigate risks. Risk can mean both threats to and unexpected opportunities for achieving results.

The social and gender risks associated with the Project fall into one of two categories:

- The risks inherent to the project itself, i.e., the potential adverse impacts of implementing the project. The potential adverse impacts as well as the benefits that could be derived from the project have already been identified and characterised in the Environmental and Social Impact Assessment (ESIA) the Addendum to the ESIA, and the revised Environmental and Social Management Plan (ESMP) have been prepared with recommendations for mitigating the potential adverse impacts.
- The relevant external social and gender risks, which may be defined as social conditions in Montserrat that have a significant probability of adversely affecting the achievement of Project outcomes.

On the surface, it may seem that the proposed Project will directly lead to benefits for Montserrat. Literature review indicates that it is often assumed that infrastructure projects will automatically deliver benefits equitably and flow to vulnerable groups (OECD, 2019; Rajé, 2018; ADB, 2009). However, on reflection, there is potential that externalities may compromise the expected outcomes and benefits. If there are existing inequalities inherent in the broader enabling environment, these may hinder social inclusion despite efforts to include measures in the Project itself. For example, it may be the intention that the Project creates economic opportunities and benefits through facilitation of increased tourism visitation to the island. However, without adequate tourism plans and infrastructure, these economic benefits may not be fully realised and/or such economic benefits and opportunities as a result may not be equitably distributed or accessible. This is highlighted by a statement made by a stakeholder during the Validation Workshops; she said: “If we pushed a remote and built the port right now there would also be a problem with providing sufficient properly trained transportation and accommodation services. The country does not currently have the capacity to deal with the increase in tourism arrivals that this proposed project could create.” In short, while the new pier can be technically designed and engineered for structural integrity and berthing operations, there are some broader economic, social and gender issues that need to be addressed to ensure that the country derives the fullest benefits of the investment.



## **SOCIAL AND GENDER RISK ASSESSMENT, SOCIAL AND GENDER ACTION PLAN**

### Identification of the Social and gender Risks of the Project

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This assessment will identify the external risks, assess how the externality may impact project outcomes, and propose measures, to be implemented within the Project in order to, where possible, reduce or mitigate the negative impacts on the project. The specific areas addressed in this risk assessment are gender, persons with disabilities, youth, migrants and security, especially with respect to human trafficking and COVID-19. The risks shine a light on the vulnerabilities and capacity, the strengths, attributes and resources available within the community that can be used to achieve agreed goals and results of the project.

## **2.0 IDENTIFICATION OF THE SOCIAL AND GENDER RISKS OF THE PROJECT**

### **2.1 LEGAL AND POLICY FRAMEWORKS; INSTITUTIONAL AND HUMAN RESOURCE CAPACITY**

The scoping exercise for the ESIA revealed several gaps in the social, legal and policy framework in Montserrat that have a bearing on the Project. As an internally governed overseas territory of the United Kingdom (UK), Montserrat does not ratify international conventions or treaties, but it can request extension of a convention<sup>1</sup>. This has been done for example, in the case of the Convention on the Rights of the Child. Furthermore, information from the Director of Social Services and the Police Commissioner indicates that, legally and institutionally, significant effort is made to protect all children on the island. Similarly, there are provisions for care of the elderly. However, what is lacking is any policy to support gender and vulnerable groups such as persons with disabilities. Montserrat has not sought extension of the relevant international conventions, including:

- The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)
- The Convention on the Rights of Persons with Disabilities
- The Palermo Protocols

Signing on to or seeking extension of international conventions brings an expectation that the country will put the relevant supportive national legislation and policies in place. As Montserrat positions itself to expand its port facilities as a means to expanding the growth of its economy, ensuring that it has established a framework to protect the potentially vulnerable groups in its society is essential.

These gaps in the legal and policy frameworks have been identified as risk as they further manifest in the inability of institutions and human resources to function effectively and efficiently to address gender and social disparities. In the assessment of the Port Authority, further risks were identified such as the absence of policies and training to cover the projection of vulnerable groups:

- Gender concerns in the workplace, including sexual harassment
- Gender-based violence (GBV) and conflict management

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<sup>1</sup> As an overseas territory, Montserrat does not ratify international conventions or treaties; nevertheless, if requested by the United Kingdom or by the territory, a convention can be extended if necessary legal aspects are complied with (Government of the United Kingdom 2013). Extracted from: Situation Analysis of Children in Montserrat Published by UNICEF Office for the Eastern Caribbean Area 2016



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- Transactional sex work and human trafficking
- Sexual and reproductive health and rights, including sexually-transmitted diseases and HIV/AIDS
- Inclusion of people with disabilities among other at-risk social groups

#### 2.1.1 Gender

The CEDAW highlights women's human right to equality and non-discrimination, and maps out the range of actions that must be taken to achieve this equality. Most importantly, when a country becomes a State party to CEDAW, it voluntarily accepts a range of legally binding obligations to eliminate discrimination against women and bring about equality between women and men. In the case of the construction phase of the Project, it is extremely likely that the majority of the jobs will be occupied by males, because construction is regionally and globally a male-dominated industry. However, as economic opportunities, including jobs, become available during the operational phase, and due to the expected growth in the economy, Montserrat should have laws and policies and training programmes to ensure that women have equal access to those opportunities. Currently, Montserrat relies on the following legislation to protect the rights of women:

- Cap. 1.01 Constitution of Montserrat, which prohibits discrimination on the basis of sex;
- Cap. 15.03 Labour Code, which also prohibits discrimination against women and also against pregnancy. It also requires employers to take into account special circumstances of pregnant women and to provide maternity leave; and
- Cap. 5.02 Matrimonial Proceedings Act ensures that both spouses in a marriage have the same rights including rights of termination of marriage;

Part 8 of the Labour Code focuses on Equality of Treatment in Employment, and the 2015 UNICEF report (Morlachetti, 2015) acknowledges that there are several provisions related to the protection of women in the area of employment, but cautions that Section 81 of the Labour Code may constitute discrimination based on gender, because it serves to preserve practices, instead of combating socially constructed identities, attributes and roles for women and men in the labour field. Section 81 makes allowance for some distinction, exclusion or preference where a "genuine occupational qualification for a job exists", including when a job needs to be held by a man or a woman to preserve privacy or to comply with recognised cultural practices. Regulations, such as Section 81, help to perpetuate pervasive gender stereotyping in which male workers are predominantly in sectors that include construction and transport. In the absence of appropriate laws and policy, there is a risk that women could be discriminated against with respect to employment. The institutional and human resource framework in Montserrat to support gender equality and women's empowerment is limited and requires strengthening.

It was noted that the Finance / Administrative Officer of the Port Authority attended a Workshop in Belize in October 2018 – Women in Maritime Association of the Caribbean (WiMAC) where gender sensitivity training was given. Essentially, there is social and gender risk, with the absence of an institutional framework and the human capacity/resources to address social and gender issues in Montserrat. This is further exacerbated by the lack of monitoring of the situation of women and men in the country, who are at risk of discrimination.



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#### 2.1.2 Persons with Disabilities

The Convention on the Rights of Persons with Disabilities seeks to ensure that people with disabilities have access to the same rights and opportunities as everybody else. However, Montserrat has not sought extension to this Convention. Cap 1.01 of the Constitution of Montserrat prohibits discrimination on the basis of disability. However, there is no other direct legislation to ensure essential rights covered in the Convention which would guarantee fundamental equality and non-discrimination towards persons with disabilities to ensure that they are afforded the right to work and employment.

The CARICOM Regional Organization for Standards and Quality (CROSQ) requires full accessibility of facilities, with which Montserrat, as a CROSQ associate member, should be compliant. However, air and seaports and many public sector buildings are fully not accessible, and do not have fully accessible washrooms. One of the anticipated benefits of the Project is that it should eliminate barriers to persons with disabilities who are unable or chose not to use the tender from the ferry to come ashore. With the new quay, visiting persons with disabilities should be able to safely disembark from the ship. When they arrive at the ferry terminal and beyond into Montserrat, they should also be able to access the restaurants, bars and any other building that they choose to as part of their visitor experience. All persons with disabilities in Montserrat should be able to do so. However, currently without adequate provisions, there is effective discrimination against persons with disabilities.

The absence of such laws and guidelines for Persons with Disabilities has been identified as a social risk and these are urgently required in order to safeguard the opportunities that the new port development could provide for persons living with disabilities.

In terms of institutions, the Montserrat Association for Persons with Disabilities, a non-governmental organisation (NGO), was formed in 2012, and there are currently 20 registered members. The group meets once a month and continuously tries to identify persons with disabilities. According to a representative from the Association, a recent census determined that there are more than 900 persons living with disabilities. Many of the persons with disabilities in Montserrat are unable to work. Diabetes is very prominent among the population resulting in many amputees. It is also a consequence of the aging population within the country. There is a need for enhanced institutional and human capacity to support the needs and priorities of persons with disabilities and to advocate for fully accessible facilities within the Port, as well as the provision of employment to eliminate discrimination against persons with disabilities.

#### 2.1.3 Youth

There is a draft National Youth Policy that aims at capitalizing on the dynamism, imagination and creativity of youth. There is also some institutional and human capacity in place to support youth development. The Ministry of Education and Youth Affairs has overall responsibility for Youth Affairs. There is also a National Youth Co-ordinating Mechanism, institutional collaboration across the public sector Programmes, as well as training and capacity building of youth operatives.

The surveys revealed that high school aged youth tend to be engaged by social media and sports. However, stakeholders confirm that youth migration is high, and the 2018 Labour Force Survey revealed that youth



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unemployment rates are higher than the overall unemployment rates, with levels of female youth unemployment being particularly concerning.

The opportunities that are offered by the construction of the pier could be a catalyst for youth engagement. The actual pier construction will require highly specialized skills. However, there could be opportunities, e.g., the Government of Montserrat could deploy junior engineers from their technical department to learn on the job by assisting the Consultant Resident Engineer with day to inspection and reporting activities. In addition, the contractors could hire and train youth and females for less specialized jobs associated with the landside of the project such as causeway/roadway construction, trenching, installation of buried utilities as well as office work if effective programmes to stimulate entrepreneurship amongst youth are developed and implemented.

#### 2.1.4 Migrants

The scoping exercise for the ESIA confirmed that the overall population of Montserrat continues to decrease, as Montserratians, especially the youth, continue to migrate primarily to the UK. Gaps in the labour force are filled through the immigration of nationals from the UK and other Caribbean territories, mainly Guyana, Jamaica, Dominica and the Dominican Republic. There are no support services to help migrants settle in Montserrat. The Director of Social Services indicated that migrants who are in need receive financial assistance through grants that the Department provides to the Red Cross. Beyond this, the migrant community has to rely on itself to settle into a new country.

This was confirmed during the ESIA surveys, when female Haitian and Dominican respondents indicated that they experienced challenges when they relocated to Montserrat. The problems they experience point to discrimination against a vulnerable group, that manifests in difficulty finding employment, the language barrier, a stigma against people from the Dominican Republic resulting in a lack of assistance, and family problems. These respondents also indicated that the majority of the jobs that were available for people from Haiti and the Dominican Republic were in the domestic or construction sectors, and one respondent said that they got the lowest paying jobs that locals did not want. In the event that the contractor hires migrants from the Dominican Republic or Haiti, provisions must be made to ensure that they are treated and paid equitably as any other personnel on the project.

Another social risk identified is a perception that imported skilled personnel can earn higher salaries than their Montserratian counterparts because of the benefits packages that they receive. The Montserratians are not happy with this situation and it can be source of workplace discord or even conflict for the project. Recognising that the pier construction is very specialised and some skills will be imported, on the job mentorship programmes could be considered for junior engineers in the Government of Montserrat who could benefit from the opportunity to work with trained and experienced specialists.

#### 2.1.5 Personal Safety and Security

The Palermo Protocols are three protocols that were adopted by the United Nations to supplement the 2000 Convention against Transnational Organized Crime (the Palermo Convention). These Protocols consist of the Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially women and children; the Protocol against the Smuggling of Migrants by Land, Sea and Air; and the Protocol against the Illicit



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Manufacturing and Trafficking in Firearms, Their Parts and Components and Ammunition. The significance of these Protocols for Montserrat should be understood in the context of an expanded port which creates the opportunity for nefarious forms of trade such as human trafficking and smuggling and the movement of illegal drugs, firearms and other forms of contraband.

The Montserrat Constitution is explicit on the prohibition and punishment of human trafficking and smuggling. In addition:

- Cap. 4.02 Penal Code makes kidnapping, including by fraud, as well as the smuggle of migrants by fraud and/or coercion an offence; it also covers offences with respect to firearms; and
- Cap. 10.02 Firearms Act regulates the use of firearms by prohibiting the manufacture, sale and use of firearms except under controlled circumstances.

However, there is no legislation providing for treatment and rights of victims of trafficking, sex working and other forms of sexual exploitation. There is also no legislation addressing sex tourism; and although sex work is illegal and women and men may also be criminalised for engaging in sex work, there is no mechanism for prosecuting those who sexually exploit girls, boys, women and men (Morlachetti, 2015). The absence of this legislation has been identified as a risk to the project.

The above global protocols provide guidance that could enable Montserrat to strengthen the Police Act and create any other legislation or policies necessary to prevent the risk of human trafficking and smuggling and the trans-shipment of other contraband.

There are institutions and staff in Montserrat to address personal safety and security issues. The Commissioner of Police confirmed that currently the Port Authority and the Royal Montserrat Police Service (RMPS) have a close working relationship. The RMPS provides the training for the Port security under the legal mandate in the *Police Act* 10.01, which makes provisions for Special Constables. The Commissioner stated that human trafficking and smuggling is very small scale on the island, but notes that there is a concern that Montserrat could be used as a trans-shipment point for Haitians and Hispanics with the development of the new pier. In response, the RMPS has had public meetings within migrant communities regarding their vulnerability, and there are plans for public education for the wider Montserrat community to discuss human trafficking and smuggling and all its manifestations in the 2019-2020 strategic plan. There is a need for enhanced education to raise the awareness of Police Officers, Customs, Immigration and Port personnel about human trafficking and smuggling, firearms, drugs and other forms of contraband as it would strengthen the sector's ability to detect, prevent and manage this risk in anticipation of the expanded port facility.

## 2.2 COVID-19

The Coronavirus disease 2019 (COVID-19) pandemic has necessitated the establishment of health restrictions and protocols in Montserrat. Cases of the virus in Montserrat led to a national shut down in February 2021 in order to contain the spread of COVID-19 on the island.

Persons travelling to Montserrat to work on the project present a risk of exposing residents to COVID-19 that may inadvertently be contracted during travel. All persons entering Montserrat would therefore have





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to comply with the national requirements for COVID-19 testing and results, as well as quarantine. This information is available on the Government website <https://www.gov.ms/covid-19/>

Project personnel will be required at all times to adhere to COVID-19 protocols as stipulated by the Government of Montserrat. This would include the wearing of masks, washing and sanitizing of hands and physical distancing.

## 3.0 ASSESSMENT OF THE SOCIAL AND GENDER RISKS

The risks identified in the foregoing section have the potential to reduce or compromise the desired outcomes of the Port project. Many of these risks need to be understood, managed and communicated across the project. The complexity of the issues may be outside the scope of the Project; however, there are some actions that can be taken within the Project to manage and mitigate the risks. There are social and gender risks that pose as threats to the project, but there are also unexpected opportunities for achieving social/gender results. Table 3.1 displays the risks that need to be managed within the scope of the Project and those that may be beyond the scope.

**Table 3.1 Assessment of Social and Gender Risks**

<b>Social and Gender Risks for Project Outcomes</b>	<b>Potential Risk(s) to Project Outcomes</b>	<b>Recommended Mitigation Measures within the Project</b>	<b>Potential Mitigation that may be Beyond the Scope of the Project</b>
The absence of legal and policy framework, institutional and human capacity to address gender equality and women's empowerment.	Discrimination against women in equal employment recruitment and project operations; increased sexual discrimination and harassment from Project personnel.	Raising personnel, community and Government awareness through training and devising recruiting and Project practices that promote gender equality and women's empowerment.	Requesting extension of the CEDAW; developing a national gender policy; gender training across the public sector; hiring staff to create a gender unit
The absence of legal and policy framework, and limited institutional and human capacity to address the needs and protect the rights of persons with disabilities.	Discrimination against persons with disabilities in employment recruitment project operations and accessibility to the Port.	Raising personnel, community and Government awareness through training, and devising recruiting and project practices that enable persons with disabilities to participate in the Project. Ensuring that Project designs are fully accessible.	Requesting extension of The Convention on the Rights of Persons with Disabilities Developing building standards that require all existing public buildings to be retrofitted, and new buildings to be fully accessible Creating and implementing a plan to make all public spaces fully accessible



## SOCIAL AND GENDER RISK ASSESSMENT, SOCIAL AND GENDER ACTION PLAN

### Assessment of the Social and Gender Risks

March 17, 2021

**Table 3.1 Assessment of Social and Gender Risks**

<b>Social and Gender Risks for Project Outcomes</b>	<b>Potential Risk(s) to Project Outcomes</b>	<b>Recommended Mitigation Measures within the Project</b>	<b>Potential Mitigation that may be Beyond the Scope of the Project</b>
The absence of legal and policy framework to address human trafficking and human smuggling and the transshipment of illegal contraband.	There is the potential for increased human trafficking and smuggling and the movement of illegal firearms, drugs etc. through the new pier.	Training for Port personnel and the communities to better detect signs of, report and respond to human trafficking and smuggling.	Requesting extension of the Palermo Protocols Creating and enacting legislation Implementing surveillance and inspections to decrease or eliminate the importation of contraband Capacity building and sensitization to issues of Human trafficking and smuggling.
The out-migration of youth; high youth unemployment rate	Limited opportunities to employ youth in the Port project.	Provide opportunities for on-the-job skills training and employment prior to and during the Project construction phase.	Implementing recommendations from the Economic Growth Strategy and Delivery Plan for Montserrat, e.g. (i) Introducing an "enterprise in schools" programme; (ii) Developing a women in business club with mentor support; (iii) A business start-up and self-employment programme; (iv) Free access to business advice based on diagnostic reviews; (v) Business improvement grants and small firm loan fund; (vi) Business centre offering a managed workspace
Absence of support systems for migrants; local discrimination against migrants.	Negative on-the-job interactions between migrants and locals.	Training of personnel and communities to raise awareness and promote socially inclusive behaviour and practices within the Project.	Creation and implementation of support services for migrants. National social inclusive awareness campaigns.
COVID-19	Risk of infections amongst workers on the project	Strict adherence to National COVID-19 protocols.	National vaccination programme.



## SOCIAL AND GENDER RISK ASSESSMENT, SOCIAL AND GENDER ACTION PLAN

Social and Gender Action Plan

March 17, 2021

### 4.0 SOCIAL AND GENDER ACTION PLAN

The Project is intended to expand the current port facilities at Little Bay, in order to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and fishing vessels. This is necessary to achieve national strategic goals and objectives for infrastructural development and help create an environment that promotes and supports private sector-led sustainable economic activities. This Social and Gender Action Plan is designed to mitigate key social and gender risks that could compromise the expected outcomes and benefits of the Project.

**Table 4.1 Action Plan**

<b>Objective: Promote gender equality in Project implementation</b>		
<b>Activities:</b> <ul style="list-style-type: none"><li>• Conduct 'train the trainer' workshops to train Montserratians to present half day workshops on gender awareness</li><li>• Conduct training for Contractors and all personnel associated with the Project</li></ul>	<b>Resources:</b> <ul style="list-style-type: none"><li>• Consultant to prepare training materials and conduct train the trainer sessions with personnel from the Ministry, Port Authority the Contractor, and other relevant groups</li><li>• Port Authority/Project Manager to organize training for the Contractors and project staff</li></ul>	Budget US\$ 20,000
<b>Objective: Promote socially inclusive practices and standards in the Project's implementation</b>		
<b>Activities:</b> <ul style="list-style-type: none"><li>• Conduct train the trainer workshops to train Montserratians to present half day workshops on socially inclusive awareness</li><li>• Conduct training for Contractors and all personnel associated with the Project</li></ul>	<b>Resources:</b> <ul style="list-style-type: none"><li>• Consultant to prepare training materials and conduct train the trainer sessions with personnel from the Ministry, Port Authority the Contractor, and other relevant groups</li><li>• Port Authority/Project Manager to organize training for the Contractors and project staff</li></ul>	Budget US\$ 20,000
<b>Objective: Encourage interest in the Project and the potential opportunities, targeting youth and other vulnerable groups</b>		
<b>Activities:</b> <p>Contractor to provide on-the-job training and work opportunities to youth, women and persons with disabilities for tasks associated with the landside of the project and in the office.</p>	<b>Resources:</b> <ul style="list-style-type: none"><li>• Contractor to advertise for local personnel and include appropriate on the job training and capacity building</li></ul>	Budget US\$ to be determined based on job requirements



### References

March 17, 2021

## 5.0 REFERENCES

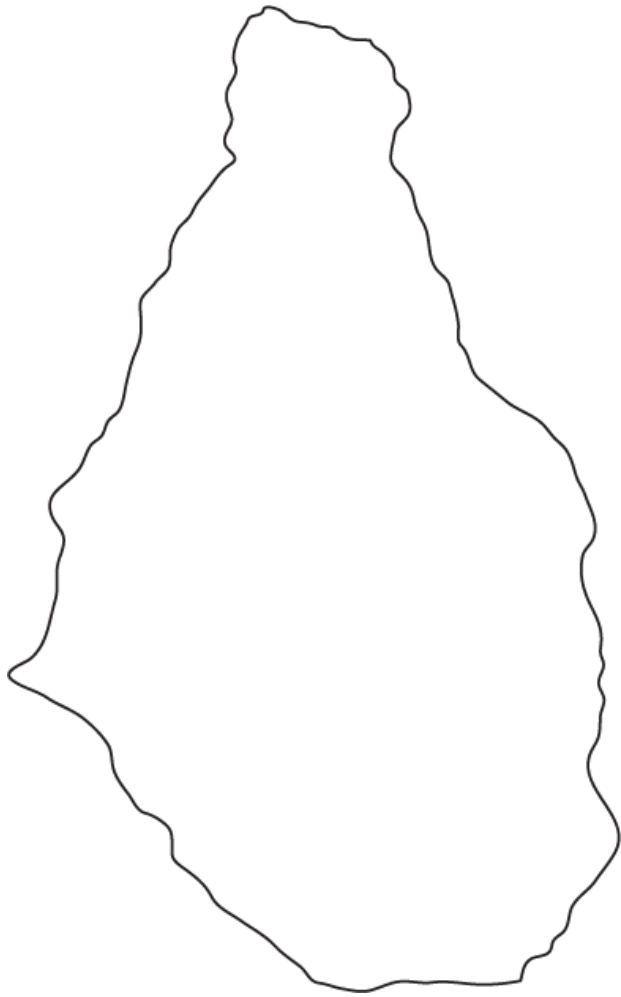
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- OECD. (2019). *OECD Council on SDGs: Side-Event, 7 March 2019, Issues Note: Gender Equality and Sustainable Infrastructure*. Retrieved 08 19, 2019, from Organisation for Economic Co-operation and Development (OECD): <http://www.oecd.org/gov/gender-mainstreaming/gender-equality-and-sustainable-infrastructure-7-march-2019.pdf>
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# **ATTACHMENT D**

## **Gender and Equal Employment and Social Inclusion Training Package**





**Montserrat Port Development Project, Montserrat**

**Gender and Equal Employment and  
Social Inclusion Training Package**

## Table of Contents

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# GENDER AND EQUAL EMPLOYMENT AND SOCIAL INCLUSION TRAINING PACKAGE

Gender and Equal Employment and Social Inclusion Training Package  
March 17, 2021

## 1.0 GENDER AND EQUAL EMPLOYMENT AND SOCIAL INCLUSION TRAINING PACKAGE

Course Title	Gender and Equal Employment Opportunities
Course Description	<p>While some advancements have been made towards gender equality, on the whole, structural issues still persist that undermine the empowerment of women (United Nations, 2019). One area where this is especially apparent is the employment sector. Sustainable Development Goal (SDG) 8 challenges nations to achieve full and productive employment and decent work for all women and men. Such a transformation is vital for traditionally male-dominated industries like mining, construction and utilities.</p> <p>In the development of infrastructure, it is often assumed that economic and social benefits will be equitably distributed and will automatically flow to vulnerable groups (OECD, 2019; Rajé, 2018; ADB, 2009). However, people of different genders and/or social groups often have different needs; different groups may use a given infrastructure service to varying extents, in different ways, for different purposes or at different times. Therefore, if the needs of all users are not considered in the design and delivery of the infrastructure, there is a risk that some segments of the society may be excluded, or that while some groups benefit, others are negatively impacted (Rajé, 2018; World Bank, 2010).</p> <p>This course will explore key gender concepts and strategies to support equal employment opportunities. After completion, participants should have acquired the knowledge and skills to contribute to gender mainstreaming and ensuring social inclusion in their workspaces and communities.</p> <p>The course is comprised of 9 units. For an introduction to gender and equal employment opportunities (non-discrimination against persons based on characteristics such as disability, ethnicity, and age) participants will complete the first two units. Subsequent units will provide more in-depth training in gender concepts.</p>
Proposed Award	Certificate of Achievement
Delivery Mode	Face-to-Face or online
Methodology	Participatory, experimental, creative, practical, lectures

## 2.0 GENERAL OBJECTIVES

At the end of the course, participants will be able to:

1. Identify and use gender concepts to promote equal employment opportunities.
2. Analyse the barriers to women's empowerment, especially related to employment.
3. Understand the gender based violence and preventative strategies
4. Understand human trafficking and recognise the risk factors
5. Use basic gender analysis tools to support gender mainstreaming in the employment sector.
6. Advocate the adoption institutional gender policies.





## 3.0 COURSE CONTENT

This course is divided into 9 units. Each unit is the equivalent of one half-day session (3 hours). The units to be covered are as follows:

- **Unit 1:** Gender Concepts and Definitions
- **Unit 2:** Social Inclusion
- **Unit 3:** Equal Employment Opportunities in Male Dominated Occupations
- **Unit 4:** Gender-Based Violence (GBV)
- **Unit 5:** Sexual Harassment
- **Unit 6:** Human Trafficking
- **Unit 7:** Legal and Policy Frameworks Protecting Women's Rights and Promoting Gender Equality
- **Unit 8:** Women's Empowerment & Gender Analysis
- **Unit 9:** Promoting Gender Equality through Gender Mainstreaming

Units	Unit Objectives	Topics Covered
Unit 1: Gender Concepts and Definitions	<ul style="list-style-type: none"> <li>• Explain key terms and concepts</li> <li>• Gain a greater awareness of personal assumptions about the roles and abilities of women and men</li> </ul>	<ul style="list-style-type: none"> <li>• Gender vs. Sex; Gender Equality vs. Equity; Gender Roles; Changes in gender identity and relations</li> </ul>
Unit 2: Social Inclusion	<ul style="list-style-type: none"> <li>• Explain key terms and concepts</li> <li>• Gain a greater awareness of personal assumptions about vulnerable groups, i.e., persons with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Social, exclusion, Social inclusion, Equality, Discrimination, Equity, Promoting Social inclusion</li> </ul>
Unit 3: Equal Employment Opportunities in Male-Dominated Industries	<ul style="list-style-type: none"> <li>• Explain key terms and concepts</li> <li>• Identify barriers to equal employment opportunities for women</li> <li>• Recommend strategies to promote equal employment and equal pay</li> </ul>	<ul style="list-style-type: none"> <li>• Gender-based division of labour; Gender Gap; Barriers to increasing women's representation in male-dominated occupations (e.g., mining, construction and utilities); Equal employment opportunity; Equal Pay</li> </ul>
Unit 4: Gender-Based Violence (GBV)	<ul style="list-style-type: none"> <li>• Define gender-based violence</li> <li>• Explore the link between gender and GBV</li> <li>• Identify the causes of GBV</li> <li>• Discuss the consequences of GBV on victims and society</li> <li>• Explore response strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Definitions of GBV; Cultural stereotypes and GBV; Causes and consequences of GBV; Response strategies.</li> </ul>
Unit 5: Sexual Harassment in the Workplace	<ul style="list-style-type: none"> <li>• Define sexual harassment</li> <li>• Identify the legal framework addressing sexual harassment</li> <li>• Discuss the correct procedures for dealing with sexual harassment in the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• What is sexual harassment? The employers' responsibility for workplace policies and procedures addressing sexual harassment; Employees rights relating to sexual harassment; Procedures for dealing with sexual harassment in the workplace.</li> </ul>



## GENDER AND EQUAL EMPLOYMENT AND SOCIAL INCLUSION TRAINING PACKAGE

### Assessment & Evaluation

March 17, 2021

Units	Unit Objectives	Topics Covered
Unit 6: Human Trafficking	<ul style="list-style-type: none"><li>Defining human trafficking</li><li>Identifying risk factors and signs</li><li>Response mechanisms</li></ul>	<ul style="list-style-type: none"><li>Identifying different types of trafficking; Recognising victims and traffickers; Assessing suspected cases of trafficking; Procedures for reporting cases; Providing support to victims; Advocacy for support and referral resources</li></ul>
Unit 7: Legal and Policy Frameworks Protecting Women's Rights and Promoting Gender Equality	<ul style="list-style-type: none"><li>Review soft law, policies, and international goals related to women's rights and gender equality</li><li>Evaluate national labour legislation and policies against internationally recognised standards</li></ul>	<ul style="list-style-type: none"><li>Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW); ILO Equal Remuneration Convention, 1951 (No. 100); ILO Discrimination (Employment and Occupation) Convention, 1958 (No. 111); Sustainable Development Goals 5 and 8</li></ul>
Unit 8: Women's Empowerment & Gender Analysis	<ul style="list-style-type: none"><li>Explain key terms and concepts</li><li>Explain structural factors that hinder women's empowerment</li><li>Identify pathways to women's empowerment</li><li>Use Gender Analysis as a tool to assess and understand the differences in the lives of women and men.</li><li>Apply Longwe's Women's Empowerment Framework</li></ul>	<ul style="list-style-type: none"><li>Structural factors that facilitate gender inequality; Women's Empowerment Framework (Control, Participation, Conscientisation, Access, Welfare); Gender Analysis Tools</li></ul>
Unit 9: Promoting Gender Equality through Gender Mainstreaming	<ul style="list-style-type: none"><li>Explain key terms and concepts</li><li>Make practical recommendations for gender mainstreaming</li><li>Develop gender-sensitive indicators for projects</li></ul>	<ul style="list-style-type: none"><li>Gender Mainstreaming; Strategies for mainstreaming gender in the employment sector; Gender-sensitive Indicators</li></ul>

## 4.0 ASSESSMENT & EVALUATION

Participants will be assessed based on level of attendance and participation.

Learning activities are completed in groups and include tasks such as debates and review of case studies.



### Recommended Readings and Resources

March 17, 2021

## 5.0 RECOMMENDED READINGS AND RESOURCES

- International Labour Organization. 2007. *ABC of Women Worker's Rights and Gender Equality* (2nd ed.). Geneva: ILO.
- Martin, P., & Barnard, A. 2013. The experience of women in male-dominated occupations: A constructivist grounded theory inquiry. *SA Journal of Industrial Psychology*, 39(2), 1-12.
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# Gender and Equal Employment Opportunities

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## Unit 1: Gender Concepts and Definitions



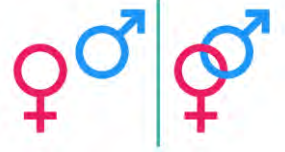
# Learning Objectives

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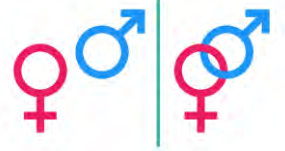
- Explain key terms and concepts
- Gain a greater awareness of personal assumptions about the roles and abilities of women and men

# Gender vs. Sex



- The term “gender” is not interchangeable with the term “sex”
- **Sex** is understood to be the biological and physical characteristics which organise individuals into two categories: male and female.
- **Gender** refers to the economic, social and cultural attributes and opportunities associated with being male or female, as well as the underlining power structures that govern relationships between the two sexes.
  - Alternately, it refers to the roles, behaviours, activities, and attributes that a given society at a given time considers appropriate for men and women (UN Women, 2019).
- Gender is a social construction.

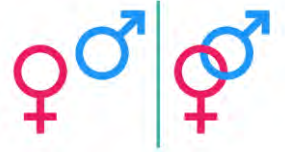
# Gender vs. Sex



- **Transgender** is an umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth.
  - Many transgender people are prescribed hormones by their doctors to bring their bodies into alignment with their gender identity. Some undergo surgery as well.
- **Transsexual** is an older term that originated in the medical and psychological communities. It is still preferred by some people who have permanently changed - or seek to change - their bodies through medical interventions, including but not limited to hormones and/or surgeries.
  - Unlike transgender, transsexual is not an umbrella term.

(GLAAD, 2019)

# Gender Equity vs. Gender Equality



- **Gender Equity** relates to being fair to women and men according to their respective needs (e.g. treatment that is different but considered equivalent in terms of rights, benefits, obligations and opportunities).
  - The preferred terminology, however, is gender equality.
- **Gender Equality** refers to the equal rights, responsibilities and opportunities of women and men and girls and boys (UN Women, 2019). It means all humans should be free to develop their personal abilities and make choices without the limitations set by society (e.g. stereotypes, rigid gender roles, or prejudices).
  - Gender equality does not mean that men and women become the same; only that access to opportunities and life changes is neither dependent on, nor constrained by, their sex.





# ACTIVITY

As Aguilar, Castañeda, & Salazar (2002) point out, differences in sex, alone, do not lead to inequality. It is when a social group assigns a value to these differences that inequalities occur!

Gender inequality prevents both women and men from having the same access to opportunities for their personal and group development.

- 1. What are some basic premises that result in gender inequality?**
- 2. Does gender equality exist in your community?**

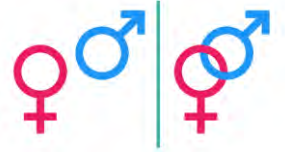
# Gender Norms

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- **Gender Norms** are ideas about how men and women should be and act.
- These standards and expectations are learned and internalised early in life. This sets-up a life-cycle of gender socialisation and stereotyping.
- Gender norms become the “rules” to which gender identity generally conforms in a particular society, culture and community at a point in time (UN Women, 2019).

# Gender Roles and Gender Relations



- **Gender Roles** refer to the activities ascribed to women and men based on accepted social and behavioural norms.
- Gender roles often determine the traditional responsibilities and tasks assigned to women, men, girls, and boys. For example, cooking may be seen as a “feminine” role, while fishing is a “masculine” role in most societies.
  - NB: gender division of labour will be covered further in Unit 2.
- **Gender relations** refer to the social relationships between women and men, including how power and access to and control over resources are distributed between the sexes.
  - Gender relations intersect with other influences on social relations – age, ethnicity, race, religion – to determine the position and identity of people in a social group.
  - It relates to co-operation, connection, mutual support; as well as conflict, separation, competition, and inequality.



# ACTIVITY

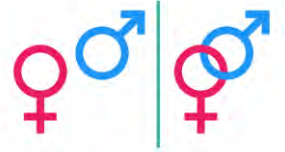
1. Individually, participants write a list of the functions/roles they play at home.
2. Participants read out list to the rest of the class.
3. Facilitator writes the answers in two columns on the flipchart/board, e.g.:

Women	Men
Cooking, etc.	Gardening, etc.

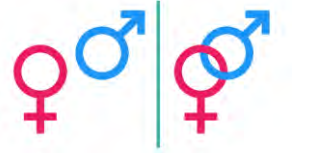
4. Class discuss/brainstorm the reasons for the differences, if any, in the roles played by women and men.

# Changes in Gender Roles and Relations

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- **Gender roles** can evolve over time and space, as they are influenced by the social, cultural and environmental factors that characterises a particular society, community or historical period.
- Because **gender relations** are also socially constructed, they too can change over time to become more equitable.
- Changes can be brought about through the empowerment of women and transformation of masculinities, and technological change.



## UNIT 2: Social Inclusion

# Gender and Equal Employment Opportunities

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**Unit 2: Social Inclusion**



# Learning objectives:

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- Explain key terms and concepts
- Gain a greater awareness of personal assumptions about vulnerable groups





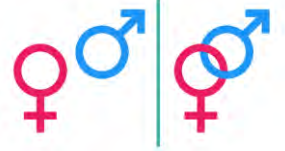
# Activity

Working in pairs.....

- Have you ever felt like an outsider? What caused this to happen? Describe how you felt.
- Who are the groups in Montserrat that are socially excluded?
- What characteristics make them socially excluded?

# Social Exclusion

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- In every country, certain groups minorities confront barriers that prevent them from fully participating in their nation's political, economic, and social life.
  - E.g. migrants, indigenous peoples, persons with disabilities, the elderly, PLHIV
- These groups are excluded through a number of practices:
  - E.g. stereotypes, stigmas, and superstitions based on gender, race, ethnicity, religion, sexual orientation and gender identity, or disability status.
- Such practices can rob them of dignity, security, and the opportunity to lead a better life.

<https://www.worldbank.org/en/topic/social-inclusion#1>

# Social Exclusion

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- “There is a moral imperative to address social exclusion. Left unaddressed, exclusion of disadvantaged groups can also be costly. And the costs—whether social, political, or economic—are likely to be substantial.”

<https://www.worldbank.org/en/topic/social-inclusion#1>

- Left unchecked, people who are socially excluded can ultimately suffer from unemployment, poor skills, low incomes, poor housing, high crime, bad health and family breakdown.

# Activity

## *The Realities of Social Exclusion*

<https://pjp-eu.coe.int/documents/42128013/47262469/15-act1-1-1.pdf/8d854659-caa2-be28-bf93-447970929516>



### Aim

An interactive exercise exploring the effects of exclusive grouping on an individual while exploring how we react to experiences of rejection and what it feels like to belong to a group.



#### **Time needed**

10 minutes



#### **Resources needed**

None



#### **Group size**

Minimum of 12 people

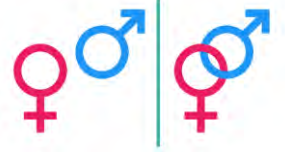
### Step-by-step description

1. Ask someone to volunteer to leave the room. The remainder of the group should divide themselves into groups according to some agreed criterion – for example, hairstyle, eye colour, type of clothing, height or accent. (three minutes)
2. The outsider is called in and guesses which group they belong to. They must state why they believe that group is their group. If the reason is wrong they may not join, even when they have picked the correct group. (four minutes)
3. Continue with a new volunteer, giving as many participants as possible an opportunity to go outside, subject to time.

### Reflection and evaluation

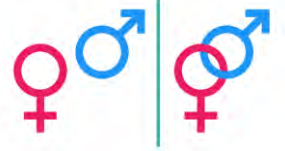
How do we behave when we belong to a group? Is it easy to reject outsiders? Is it enjoyable? Do we empathise with the outsider or do we enjoy our power? (three minutes)

# Equal Employment Opportunity



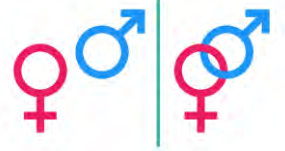
- Equal employment opportunity (EEO) means freedom from discrimination on the basis of characteristics such as race, colour, sex, national origin, religion, age, disability, sexual orientation, gender identity, relationship status, family or carer responsibilities, or political opinion.
- It includes all policies which aims to eliminate discrimination in the world of work.
  - Note, it is not discrimination if someone is refused a job or promotion because they do not have the required skill or qualification for the job.
- Examples of direct discrimination:
  - the refusal to interview someone to fill in a job opening only because of their gender or sexual orientation
  - deciding that someone is not a “candidate for senior manager” because he/she belongs to a certain ethnic group.

# Trends in Anti-discrimination Legislation and Policies



- There have been positive advances in anti-discrimination legislation and policies (e.g. ILO Convention No. 111 – *Convention concerning Discrimination in Respect of Employment and Occupation*, 1958).
- However, in many jurisdictions, inequality remains enshrined in law, particularly in relation to women, homosexuals, disabled people and ethnic minorities. This is true for a range of rights, including rights to property, social security and contract (Fredman, 2013).
- Having laws and institutions to prevent discrimination at work and offer remedies is not enough, keeping them functioning effectively is a challenge. Many institutions are faced with a shortage of human and financial resources, inadequate policy coherence at the national and local levels, and insufficient synergy and cooperation with other relevant institutions.
- Labour inspectors, judges, public officials and other competent authorities encounter a lack of knowledge and inadequate institutional capacity when they attempt to identify and address discrimination cases. This prevents victims of discrimination from submitting their claims successfully (ILO, 2011).

# Vulnerable Groups and Employment



## Women

- Although progress has been made in advancing gender equality in the world of work (e.g. through national policies and legislative frameworks), women continue to suffer discrimination in almost all aspects of employment, including the jobs available to them, their remuneration, benefits and working conditions, and access to decision-making positions.
- Research has shown that gender pay gaps, occupational and vertical segregation, difficulties in balancing work and family life, the disproportionate concentration of women in part-time, informal and precarious work, sexual harassment, and discrimination based on maternity or marital status, all persist despite legislative and policy initiatives.

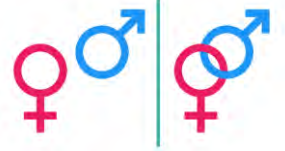
## Migrant workers

- Research shows migrants face widespread pervasive discrimination in access to employment, and many encounter discrimination when employed. They may encounter xenophobia, and even violence.
- Unfair working conditions are faced by migrants in both developed and developing countries. Some countries exclude migrant workers from social insurance programmes. Others only allow access for migrants to short-term programmes, such as health care, but deny them long-term portable benefits such as old-age pensions. Countries may allow access to long-term benefits but not permit portability between countries, which in turn discourages return migration.

(ILO, 2011)



# Vulnerable Groups and Employment



## Persons with disabilities

- About 10% per cent of the world's population, or some 650 million people, suffer from physical, sensory, intellectual or mental impairments of one form or another, and over 470 million of these are of working age.
- Work-related discrimination against persons with disabilities ranges from limited access to education, vocational training and rehabilitation, to marked differences in wages between workers with disabilities and the rest of the workforce as well as exclusion from certain jobs.
- An important advancement in terms of disability legislation was the entry into force in 2008 of the United Nations Convention on the Rights of Persons with Disabilities.

## Age discrimination

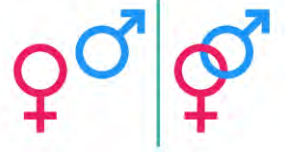
- Legislation and policies at the national and enterprise levels can play a role in overcoming stereotypes concerning older workers.
- Young people also face difficulties in the labour market, however, these cannot all be attributed to discrimination.
- In both industrialised and developing economies, young people are more likely to find themselves working longer hours in informal employment, intermittent work and insecure arrangements, which tend to be characterised by low productivity, low wages and limited labour protection. Also, economies often struggle to absorb the growing number of highly educated, highly skilled graduates. The situation is generally worse for those who enter the labour market with no or low qualifications.

(ILO, 2011)



# Vulnerable Groups and Employment

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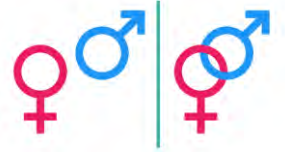
## Sexual orientation

- Violence, harassment, discrimination at work, exclusion, stigmatisation and prejudice are sometimes faced by lesbian, gay, bisexual and transgender persons in or seeking employment.
- Homosexuality remains criminalised in a number of countries.
- Some studies put the salary gap between gay and non-gay employees at 3% to 30%. Same-sex partners do not always acquire the same benefits as married couples, and the right to include partners in health insurance plans and other work-related benefits may not be guaranteed.

(ILO, 2011)

# What is Social Inclusion

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## Various Similar Definitions:

- **United Nations:** Social inclusion is defined as the process of improving the terms of participation in society, particularly for people who are disadvantaged, through enhancing opportunities, access to resources, voice and respect for rights
- **World Bank:** Social inclusion is the process of improving the terms on which individuals and groups take part in society—improving the ability, opportunity, and dignity of those disadvantaged in the basis of their identity

***Social Inclusion is not just about Gender or other specific groups***

# What is Social Inclusion

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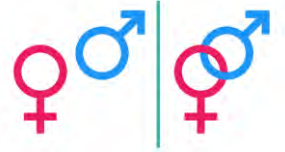


- Social inclusion is described as a feeling of belonging, acceptance and recognition and is intertwined with issues of diversity, equality, opportunity and democratic participation
- Social inclusion is linked to social health and quality of life and this in turn is closely linked with economic prosperity

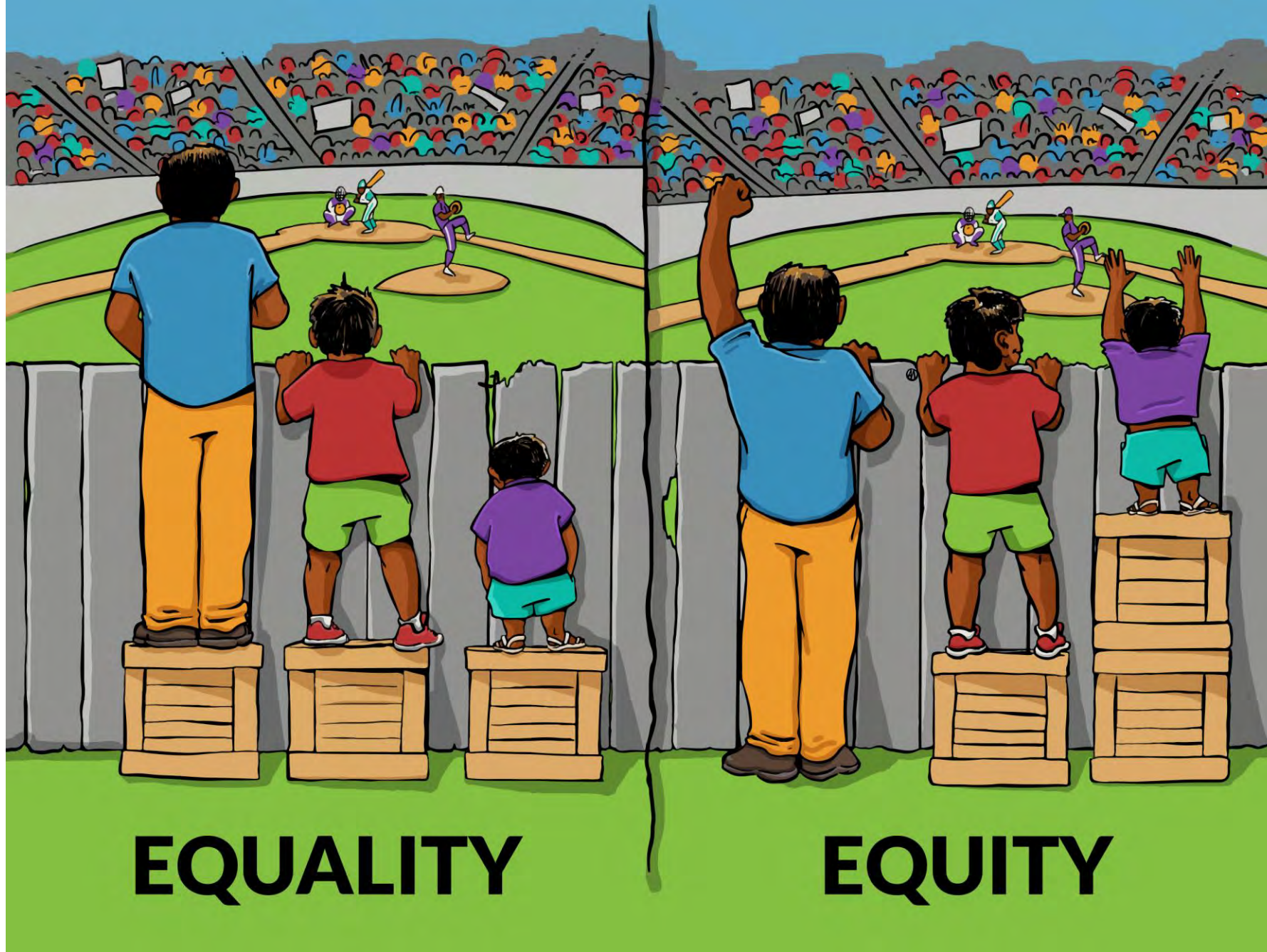
Edmonton Social Planning Council

# Other Key Definitions

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- **Equality:** the imperative of moving towards substantive equality of opportunity and outcomes for all groups;
- **Non- discrimination:** the prohibition of discrimination against individuals and groups on the grounds identified in international human rights treaties; and
- **Equity:** The broader concept of fairness in the distribution of costs, benefits and opportunities

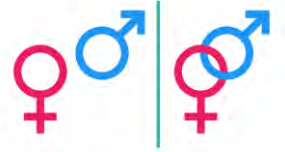


**EQUALITY**

**EQUITY**

# Benefits of social inclusion

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- To organisations and programmes
  - Effective service delivery
  - Meeting fundamental human rights
- Benefits to community and society
  - Healthy social and human development and growth
  - Healthy populations
  - Crime prevention



# Promoting social inclusion

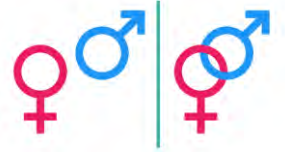
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- Address attitudes and beliefs
- Promote employment opportunities
- Support families and community participations
- Address housing, finance, transport and access issues.

# Promoting social inclusion

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At the institutional or programme level:

- Analyse the situation
  - Why don't some people have access to your resources?
  - How much resources do you need to effectively deliver resources?
- Network with other programmes and increase your collective ability to assist vulnerable groups
- Monitor, evaluate and improve your programmes to achieve impacts



# Promoting social inclusion

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At the individual level

- Confront your attitudes and belief
- Get to know people who are “different”

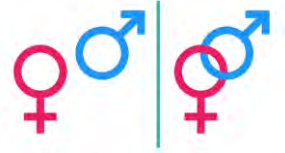
# Promoting Social Inclusion for Persons with Disabilities

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- Realise that persons with disabilities are people too
- Make all public spaces fully accessible
- View persons with disabilities as valuable customers
- Employ persons with disabilities

# Promoting Social Inclusion in Infrastructure Projects

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- The collection and use of inclusive and disaggregated data
- Effective stakeholder identification and meaningful participatory process
- The use of inclusive design principles and standards
- Sensitisation and training of organisations and individuals involved in project implementation
- Inclusion of complementary measures to enhance the enabling environment



# UNIT 3: Equal Employment Opportunities in Male-Dominated Occupations

# Gender and Equal Employment Opportunities

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## Unit 3: Equal Employment Opportunities in Male-Dominated Occupations



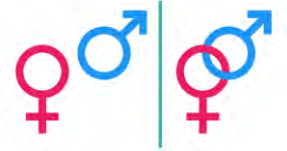
# Learning Objectives

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- Explain key terms and concepts
- Identify barriers to equal employment opportunities for women
- Recommend strategies to promote equal employment and equal pay

# Gender-based Division of Labour



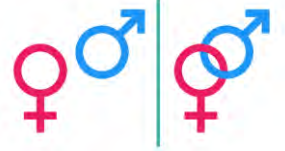
- The division of labour refers to the way each society divides work among men and women, boys and girls, according to socially-established gender roles or what is considered suitable and valuable for each sex.

Productive roles	Reproductive roles	Community managing role	Community politics role	Triple role
Activities carried out by <b>men</b> and <b>women</b> in order to produce goods and services either for sale, exchange, or to meet the subsistence needs of the family.	Activities needed to ensure the reproduction of society's labour force. This includes housework like cleaning, cooking, childbearing, rearing, and caring for family members. These tasks are done mostly by <b>women</b> .	Activities undertaken primarily by <b>women</b> at the community level, as an extension of their reproductive role, to ensure the provision and maintenance of scarce resources of collective consumption such as water, health care and education. This is voluntary unpaid work performed during "free" time.	Activities undertaken primarily by <b>men</b> at the community level, often within the framework of national politics. This officially-recognised leadership role may be paid directly or result in increased power or status.	This refers to the fact that <b>women</b> tend to work longer and more fragmented days than men as they are usually involved in three different roles: reproductive, productive and community work.

(UN Women, 2019)

# Gender Gap

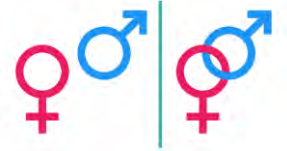
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- Gender gap refers to any disparity between women and men's condition or position in society. It is often used to refer to a difference in average earnings "gender pay gap." However, it can be applied to other areas such as *Economic Participation and Opportunity*, *Educational Attainment*, *Health and Survival*, and *Political Empowerment*.
- According to the Global Gender Gap Index (2018) across the four thematic dimensions above, on average, the largest gender disparity is on Political Empowerment, a gap of 77.1%. The Economic Participation and Opportunity gap is the second-largest at 41.9%, while the Educational Attainment and Health and Survival gaps are significantly lower at 4.4% and 4.6%, respectively.



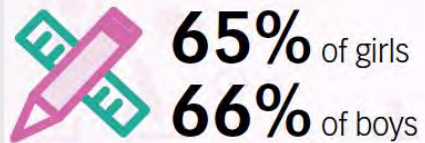
# Gender Gap Statistics



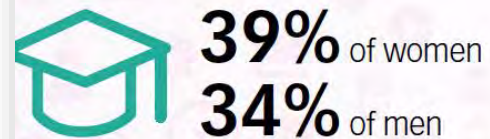
Progress has been made...

Gender parity in education is almost complete

There is high enrollment in secondary education globally...



...but low attendance in college/university,



and **20%** of women are illiterate in 44 countries.

...but challenges remain

Across 149 countries assessed, there are large disparities in political empowerment...



Women represent:  
**17** heads of state  
**18%** of ministers  
**24%** of parliamentarians  
**34%** of managers

...as well as economic empowerment.



in just **60%** of countries studied, women have as much access to financial services as men.



in **42%** of countries, women have as much access to land ownership as men.



women spend **double** the time men do on housework and other unpaid activities in the 29 countries for which data are available.

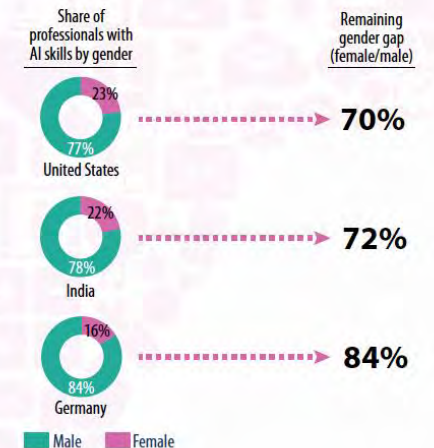
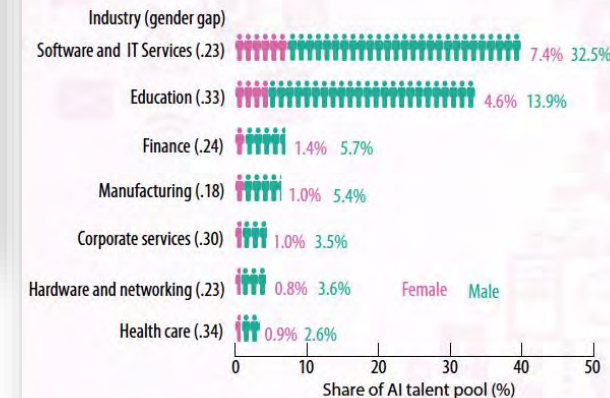
## And new gender gaps are emerging in the jobs of the future

Women are sorely underrepresented in AI and other careers that require science, technology, engineering, and math skills.

Even in the countries with the largest AI talent pools, there is a significant gender gap among AI professionals.

### AI workforce distribution

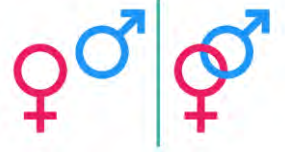
Women make up 22 percent of AI workers, but the gender gap varies by industry.



(World Economic Forum, 2018)

# Gender-based Division & Valuation of Labour

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- A gendered division of labour is found within households as well as in paid employment.
- Despite social and cultural differences, women tend to dominate the category of unpaid domestic work.
  - They tend to work more hours at home and fewer outside of the home, compared to men, and they usually take primary responsibility for family well-being.
- Discrimination in the home is carried through to the public sphere, where work requiring skills stereotyped as “female characteristics” have been less valued.
- Gender stereotyping in the labour force and the education system has resulted in a number of women remaining in menial, low-skilled, low status and poorly paid jobs while men tend to concentrate on higher status and better paid jobs.

(GIZ, 2011; WHO, 2006)



# Activity

1. Form working groups consisting of both female and male participants. Each group is tasked with identifying the typical daily tasks undertaken by a man and a woman during a 15-hour period (5 AM to 8 PM) in a traditional low to medium income household with two children (ages 2 and 13).
2. List each of the discussed tasks in the Table below, categorising them as F (female)/M (male). In column 3, specify the gender role performed by the male and female using the symbols R (reproductive), P (productive), CP (community politics) and CM (community managing).
3. Also fill in the following columns for each task:

Column 4: Is the task rewarded or not? (Y/N)

Column 5: Is the task routine or special? (R/S)

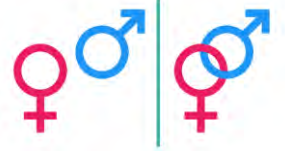
Column 6: Is the task biologically or culturally determined? (B/C)

Column 7: Is the task high or low status? (H/L)

Task	Gender	Role R/P/CP/CM	Rewarded Y/N	Routine/Special R/S	Biological/ Cultural B/C	Status H/L

5. Groups discuss and present findings to the class.

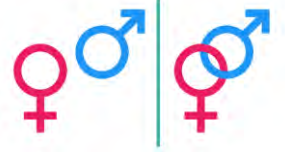
# Gender and Employment



- Work – formal and informal, paid and unpaid – plays an important role in determining women's and men's relative wealth, power and prestige.
- Work affects women's and men's bodies and minds in many and sometimes different ways. Workers can gain great satisfaction from their jobs, but they can also be exposed to hazards that can affect their health. For example, because of their different jobs and schedules, women and men may be exposed to toxins in different amounts and levels.
- In paid work in the developing countries, women and men work at different tasks in agriculture, mining, manufacturing and services. Women are more likely to work in the informal economy sector (e.g. domestic work, street vending and sex work). They may work from their homes; in which case their work is invisible and may not be considered as work even by the women themselves.
- In industrialised countries, women and men also commonly perform different tasks and work in different sectors, although some job titles in white collar work are occupied by both women and men.

(WHO, 2006)

# Drivers of the Gender Pay Gap



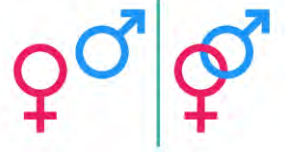
- The gender pay gap can be defined as the difference in gross hourly earnings between men and women across the economy.
- Drivers include:
  - Horizontal segregation (women are clustered in low paying occupations or sectors)
  - Vertical segregation or glass ceiling (the under-representation of women in senior and leadership positions)
  - Inequalities in hours spent on home duties, which are reflected in a higher proportion of women working part-time and/or a higher proportion of women making career interruptions
  - Insufficient or lack of affordable and quality care services for dependent people (children, elderly and people with disabilities), as well as of flexible working arrangements and adequate family-leave schemes for both women and men.
- Other factors:
  - Pay discrimination (a woman may be paid less than a man for the same job or for a job of equal value; and work typically done by women is paid less than work typically done by men, even when it is of equal value);
  - Differences in professional experience or accountable years of service, also related to career interruptions;
  - Differences in availability to travel, to relocate, to stay long and unpredictable hours or to compete.

(European Commission, 2018)



# Barriers to Increasing Women's Representation in Male-dominated Occupations

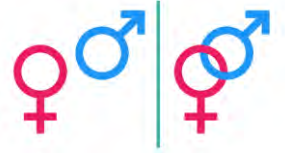
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- The mining, construction and utilities industries have historically been perceived to be a 'man's domain' and the representation of women has remained low across all levels (Australian Human Rights Commission, 2013).
- For women, the difficulty of penetrating historically male-dominated occupations, coupled with the unwillingness to accommodate them in those occupations, makes the environments unattractive for enticing substantial numbers of women into these fields and retaining them there.
- A lack of understanding of the challenges that women face and how they cope in these environments may add to the poor integration and advancement of women in historically male-dominated occupations (Martin & Barnard, 2013).

# Barriers to Increasing Women's Representation in Male-dominated Occupations

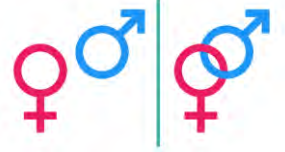
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- Main Barriers:
  - Lack of family role models
  - Stereotypes and bias starting at school
  - Negative perception and lack of awareness
  - Stereotypes and myths about women in the workplace
  - Workplace culture
  - Perception of (and actual) gender specific bias
  - Structural issues (Australian Human Rights Commission, 2013).

# Equal Opportunity and Treatment in Employment and Occupation

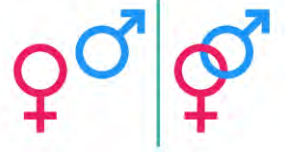
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- **Equal opportunity** means having an equal chance to apply for a particular job, to attend educational or training courses, to be eligible to attain certain qualifications and to be considered as a worker or for a promotion in all occupations or positions, including those dominated by one sex or the other.
  - **Equal treatment** refers to equal entitlements in pay, working conditions, security of employment, reconciliation between work and family life, and social protection.
    - The reference to both employment and occupation means that protection from discrimination is provided not only to employees but also to other segments of the labour force, such as self-employed workers, owners of enterprises and unpaid family workers.
- (ILO, 2007)
- **Equal pay**, sometimes referred to as, “equal remuneration” means that men and women in the same employment performing work of equal value must receive equal pay.

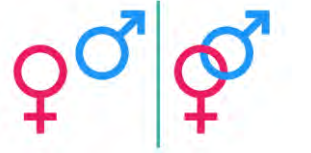


# Integrated Gender Diversity Strategy for Organisations



- ✓ Lead from the top with senior management supporting a clearly articulated vision for gender diversity across the organisation, with a specific focus on increasing the representation of women in non-traditional roles.
- ✓ Establish a Diversity Council tasked to endorse the gender diversity strategy and to monitor delivery against action plans.
- ✓ Establish accountability, targets and Key Performance Indicators (KPIs) and link to gender diversity.
- ✓ Implement a transparent monitoring and reporting system which tracks female-specific data and is reported against regularly.
- ✓ Conduct employee surveys to find out what is working and what is not working with existing workplace culture and policies.
- ✓ Invite men to co-develop the strategy.
- ✓ Ensure pay equity.
- ✓ Monitor turnover by gender and undertake exit interviews.
- ✓ Implement policies to change workplace culture to be more inclusive.
- ✓ Embed the gender diversity strategy within all key Human Resources processes.
- ✓ Develop a communication plan to share the vision, strategy and action plan to achieve gender diversity.
- ✓ Publicly promote the benefits of gender diversity and aim to be a recognised leader in having a sustainable and inclusive culture!

(Australian Human Rights Commission, 2013).



# UNIT 4: Gender-Based Violence

# Gender and Equal Employment Opportunities

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## Unit 4: Gender-Based Violence



# Learning Objectives

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- Define gender-based violence
- Explore the link between gender and GBV
- Identify the causes of GBV
- Discuss the consequences of GBV on victims and society
- Explore response strategies

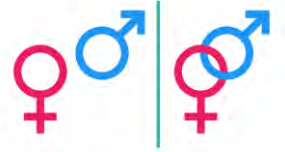


# Activity:

- Divide participants into 2 groups – one for males and one for females.
- Each group discusses the different kinds of violence that men and women experience:
  - At home; in the workplace; in public spaces such as streets
- In the plenary participants will share different types of violence experienced by men and women and the facilitator will group them:
  - Physical; verbal; psychological; sexual; economic

# What is Gender Based Violence?

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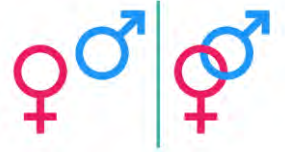


- Gender-Based violence refers to harmful acts directed at an individual based on their gender. It is rooted in gender inequality, the abuse of power and harmful norms.
- Gender-based violence (GBV) is a serious violation of human rights and a life-threatening health and protection issue. It is estimated that one in three women will experience sexual or physical violence in their lifetime. During displacement and times of crisis, the threat of GBV significantly increases for women and girls.

***(United Nations High Commissioner for Refugees)***

# What is Gender Based Violence?

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- Gender-based violence can include sexual, physical, mental and economic harm inflicted in public or in private. It also includes threats of violence, coercion and manipulation. This can take many forms such as intimate partner violence, sexual violence, child marriage, female genital mutilation and so-called 'honour crimes'.
- The consequences of gender-based violence are devastating and can have life-long repercussions for survivors. It can even lead to death.

***(United Nations High Commissioner for Refugees)***

# Types of GBV:

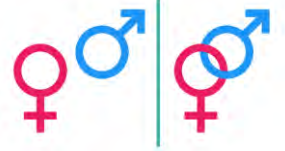
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- We look at 5 types of Gender-based Violence
  - physical violence
  - verbal violence (including hate speech)
  - psychological violence
  - sexual violence
  - socio-economic violence.



# Physical violence:

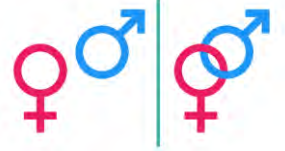


- Physical violence includes beating, burning, kicking, punching, biting, maiming or killing, or the use of objects or weapons.
  - It is not only about pain and physical injury; it is also a means of control.
  - It is intended to demonstrate the difference in power
  - When this takes place in a intimate relationship it is referred to as domestic abuse – a reality that is sadly widespread in every country in the world
  - It can affect youth who witness abuse of one parent by another – they can be psychologically harmed or even physically harmed when by accident they try to intervene.
  - Young men sometimes commit criminal offences against the abusive parent (mostly fathers), in order to protect their mother and siblings, and children regularly become victims of an act of revenge by the abuser against the mother.
  - A prime motivation for many mothers to stay in an abusive relationship is that the abuser threatens to harm or kill the children if she tries to leave.

*(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/physical-violence>)*

# Physical violence:

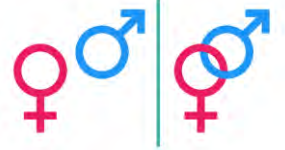
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- Gender-based violence in public is often related to assumptions and expectations concerning gender roles.
  - For example verbal abuse, name-calling, threats and attacks may take place, and it is common that LGBT+ people or those perceived to be gay, lesbian or different may become victims of public violence.
  - For LGBT+ people public affection is a safety issue. Research shows that many LGBTs refrain from showing affection in public. This kind of street violence usually remains under-reported.

*(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/physical-violence>)*

# Verbal violence – hate speech

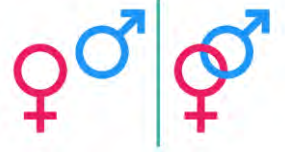


Sticks and stones  
can break my bones  
but names will scar  
me forever.  
Could you please just  
throw rocks?

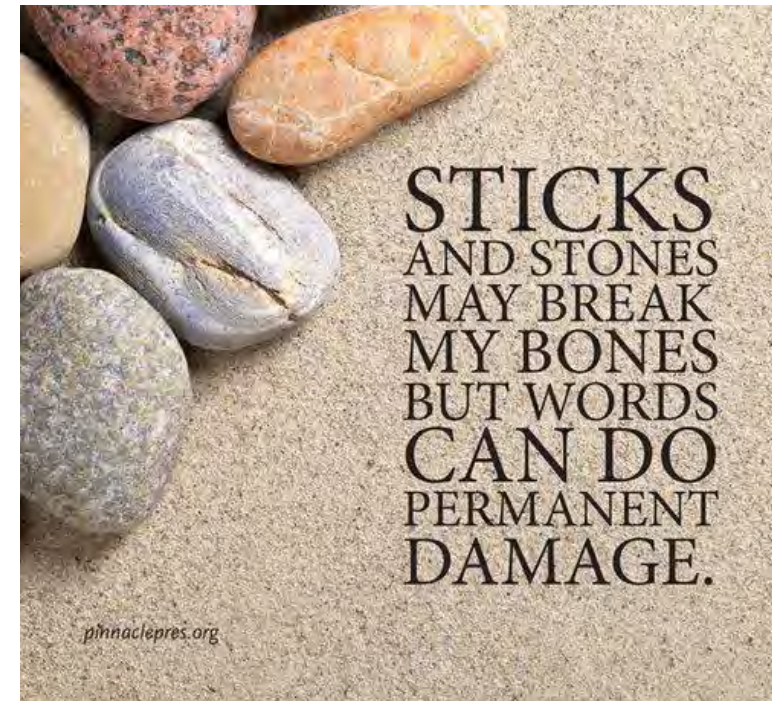
mcmamindy.wordpress.com

- Verbal violence can take many forms: words, videos, memes, or pictures that are posted on social networks, or it may carry a violent message threatening a person or a group of people because of certain characteristics - religion, culture, language, (perceived) sexual orientation or traditions
- *(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/verbal-violence-and-hate-speech>)*

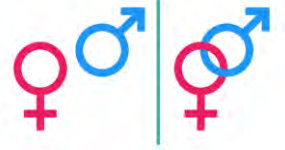
# Verbal violence – hate speech



- Gender-based hate speech can take many different forms – jokes, spreading rumours, threats, slander, incitement of violence or hate. It aims at humiliating, dehumanising and making a person or group of people scared.
- *(For more information: Council of Europe  
<https://www.coe.int/en/web/gender-matters/verbal-violence-and-hate-speech>)*



# Verbal violence – hate speech



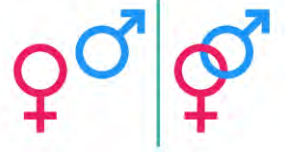
Be sure to  
taste your  
words  
before you  
spit them  
out.

QuotesEverlasting.com

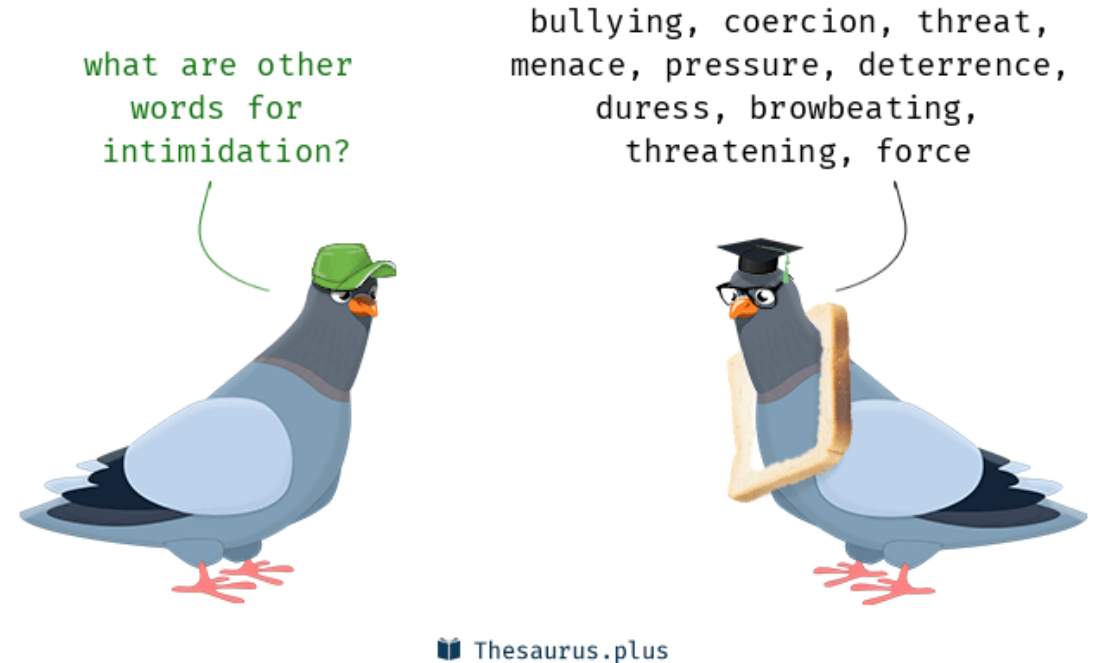
- Gender-based hate speech is usually very destructive for the person targeted. People who experience hate speech often feel helpless, and do not know what to do. They feel uneasy, frightened, and they lose self-confidence and sometimes even attempt suicide.
- Hate speech can sometimes lead to hate crimes - crimes that are motivated by prejudices targeting a person whose identity is different from the perpetrator's.
- Hate crimes can take various forms: physical violence, destroying property, arson or killing. The victims are deliberately chosen because of certain characteristics that they are perceived to possess.
- *(For more information: Council of Europe  
<https://www.coe.int/en/web/gender-matters/verbal-violence-and-hate-speech>)*



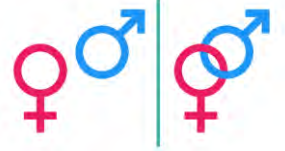
# Psychological violence:



- Examples of psychological violence include isolation or confinement, withholding information, disinformation, and threatening behaviour.
- In the home this can be done by threatening to beat someone – who has been a victim of physical violence in the past; or neglecting someone – this often happens to the elderly or persons with disabilities.
- *(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/psychological-violence>)*

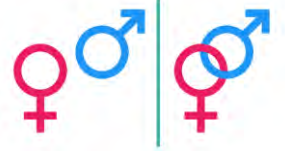


# Psychological violence:



- Isolation in the public sphere is most often used by peer groups, but responsible adults – such as teachers and sports coaches – can also be perpetrators. Most typically, isolation means exclusion from certain group activities. It can also include intimidation, in a similar fashion to psychological abuse in the private sphere.
- *(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/psychological-violence>)*

# Sexual violence:

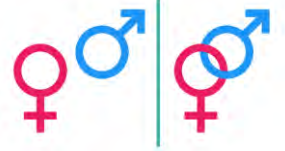


- Sexual violence includes: engaging in non-consensual vaginal, anal or oral penetration with another person, by the use of any body part or object; engaging in other non-consensual acts of a sexual nature with a person; or causing someone else to engage in non-consensual acts of a sexual nature with a third person.
- Marital rape and attempted rape are sexual violence.
- *(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/sexual-violence>)*





# Sexual violence:

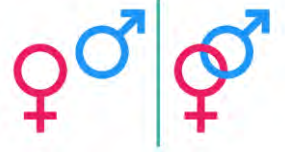


- Three particular forms of sexual violence in the public sphere which are worth noting: sexual harassment at the workplace, sexual violence as a weapon of war and torture, and sexual violence against (perceived) LGBT+ people as a means of 'punishment' for abandoning prescribed gender roles.
- *(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/sexual-violence>)*



# Socio-economic Violence:

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- Typical forms of socio-economic violence include taking away the earnings of the victim, not allowing them to have a separate income (giving them housewife status, or making them work in a family business without a salary), or making the victim unfit for work through targeted physical abuse.
- Even when a woman has a higher economic status in a relationship, this does not necessarily eliminate the threat of violence: conflicts about status and emasculation may arise, particularly in already abusive relationships.
- The “feminisation of poverty” - women generally more economically vulnerable than men

*For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/socio-economic-violence>*



# Activity:

Cultural stereotypes - Gender & GBV - We are a product of our culture – how do you feel about these statements?

A man has the right to beat his wife if she is out with another man.

A young girl dressed in a provocative manner is looking to be raped.

Men are unable to control their sexual behavior.

Domestic violence affects only poor families.

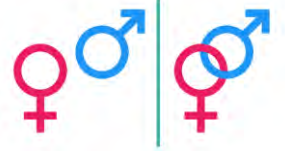
Forcing someone to have sex in a married couple does not amount to rape.

The mothers whose daughters were sexually abused are responsible for abuse because they do not supervise their children adequately.

Alcoholism and excessive use of drugs are the cause of violent behavior.

# Some of the causes of GBV:

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- Gender Inequality
- Male attitudes of disrespect towards women
- Lack of respect for the human rights of women and girls
- Unquestioned assumptions about appropriate male and female behavior
- Alcohol/drug abuse
- Loss of male power/role in family and community; seeking to regain and/or assert power
- Cultural and traditional practices, religious beliefs
- Limited laws to deal with violence against women and girls.
- Insufficient knowledge of laws against GBV
- Impunity for perpetrators.

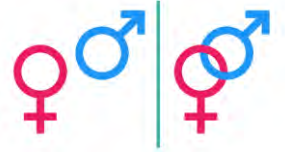
Source: Gender Based Violence Training Module Developed by Ministry Of Gender And Family Promotion, Republic Of Rwanda, Office of the Prime Minister April, 2011



# Consequence of GBV: - the victims

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- Injury
- Disability or death
- STDs and AIDS
- Depression
- Shame
- Insecurity
- Mental illness



# Consequence of GBV: - the society

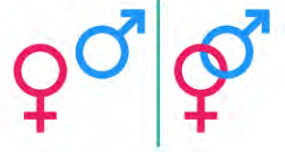
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- Strain on medical system
- Strain on police/court resources
- If perpetrators are not apprehended or arrested, this reinforces that the behavior is acceptable and can lead to further incidents
- Lack of access to legal system due to lack of knowledge of existing laws or victim reluctant to report due to heavy stigma attached to sexual abuse
- Women feel insecure, threatened, afraid, climate of fear and insecurity impacting their freedom and perception of personal safety

Source: Gender Based Violence Training Module Developed by Ministry Of Gender And Family Promotion, Republic Of Rwanda, Office of the Prime Minister April, 2011

# Response strategies:

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## **Families and communities:**

- Compassion
- Emotional support - Listen and believe!
- Support victim in reporting and accessing care and rehabilitation
- Confidentiality

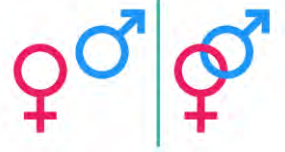
## **Health care**

- Compassion
- Conduct sensitive assessment of current and past violence and secure forensic evidence for the prosecution
- Gentle physical examination (if possible DNA test for victims of sexual violence)
- Treatment of physical as well as psychological injuries
- Educate victim and family
- Follow up on the situation of the victim

Source: Gender Based Violence Training Module Developed by Ministry Of Gender And Family Promotion, Republic Of Rwanda, Office of the Prime Minister April, 2011

# Response strategies:

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## **Security/police:**

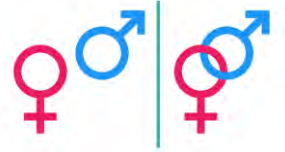
- Compassion
- Investigate case and gather evidence
- Arrest perpetrators
- Provide information and telephone numbers for local resources such as shelters, support groups and legal services
- Assist with finding safe shelter and protection
- Confirm security of others in family – children, elderly, persons with disabilities
- Follow up on the situation of the victim

## **Legal system**

- Compassion
- Establish effective laws
- Apply appropriate laws and hold perpetrators accountable;
- Provide legal aid

Source: Gender Based Violence Training Module Developed by Ministry Of Gender And Family Promotion, Republic Of Rwanda, Office of the Prime Minister April, 2011





# Response strategies:

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## **Government services/NGOs:**

- Compassion
- Create enabling system of support:
  - Awareness raising about GBV - reassure victims that the abuse is not their fault
  - Counseling services
  - Legal aid
  - Income generation programs
  - Skills training programs

Source: Gender Based Violence Training Module Developed by Ministry Of Gender And Family Promotion, Republic Of Rwanda, Office of the Prime Minister April, 2011



# UNIT 5: Sexual Harassment in the Workplace

# Gender and Equal Employment Opportunities

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Unit 5: Sexual Harassment in the  
Workplace



# Learning Objectives

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- Define sexual harassment
- Identify the legal framework addressing sexual harassment
- Discuss the correct procedures for dealing with sexual harassment in the workplace



# Activity:

## Discussion: What is sexual harassment:

*“Sexual Harassment is behavior characterized by the making of unwelcome and inappropriate sexual remarks or physical advances in a workplace or other professional or social situation.”*

Share examples of what you would consider to be sexual harassment.

Why do you consider these practices to be sexual harassment?



# Activity:

Play video: <https://youtu.be/Ue3BTGW3uRQ>

## Discussion:

- Did the examples from the video match what you identified as sexual harassment?
- Share something you learnt from the video.

# Examples of verbal sexual harassment:

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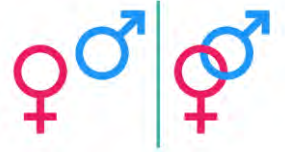


- Making sexual comments about a person's body
- Making sexual comments or innuendos
- Asking about sexual fantasies, preferences or history
- Asking personal questions about someone's social or sex life
- Making sexual comments about a person's clothing, anatomy, or looks
- Repeatedly trying to date a person who is not interested
- Telling lies or spreading rumours about a person's sex life or sexual preferences.

*(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/harassment-and-sexual-harassment>)*

# Examples of non-verbal sexual harassment:

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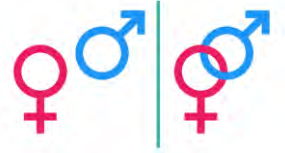
- Looking a person up and down ('elevator eyes')
- Following or stalking someone
- Using sexually suggestive visuals
- Making sexual gestures with the hands or through body movements
- Using facial expressions such as winking, throwing kisses, or licking lips.

*(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/harassment-and-sexual-harassment>)*



# Examples of physical sexual harassment:

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- Giving someone a massage around the neck or shoulders
- Touching another person's clothing, hair, or body
- Hugging, kissing, patting, touching or rubbing oneself sexually against another person.

*(For more information: Council of Europe <https://www.coe.int/en/web/gender-matters/harassment-and-sexual-harassment>)*

# Key points:

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- Harassment is that any overtures are unwelcome.
- Even if someone accepts – or welcomes – the behaviour, it may still be degrading and humiliating. In addition, such acceptance may not be fully voluntary: it may be a result of often invisible pressure from the outside world.



## IN YOUR COUNTRY...

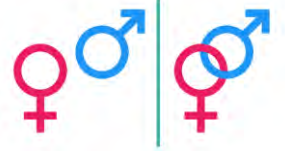
- ☐ Can a woman get a job in the same way as a man?
- ☐ Does the law prohibit discrimination in employment based on gender?
- ☐ Is there legislation on sexual harassment in employment?
- ☐ Are there criminal penalties or civil remedies for sexual harassment in employment?

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# What Local Law Says:

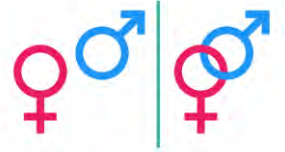
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- **The Montserrat Labour Code 2012**
  - Makes provisions for dealing with sexual harassment
  - States that **“Any act of sexual harassment against an employee committed by his or her employer, or an employee of that employer, shall constitute unlawful discrimination based on sex within the meaning of section 80”.**
  - Sexual harassment means: **“unwanted conduct of a sexual nature in the workplace or in connection with the performance of work which is threatened or imposed as a condition of employment on the employee or which creates a hostile working environment for the employee.”**

# Good practices to deal with sexual harassment:

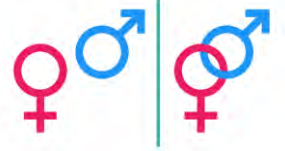
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- Work places should develop written policies against sexual harassment:
  - Employers should create a clear written policy statement against sexual harassment within the workplace.
  - A statement of that policy should be presented to each employee on the commencement of employment with the employer.
  - Procedures should be put in place to assist every employee in understanding the policy statement.
  - Employers should conduct harassment training with all supervisors.
  - The legislation should lay out the procedures to be followed if sexual harassment is alleged.

# Practical steps for dealing with sexual harassment:

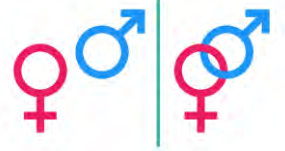
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- Speak up!
  - Clearly state that the behavior is unacceptable and demand it to stop!
- Write it down!
  - Keep a written record of the details of the harassment, including the date and location where it occurred, and the names of any witnesses. If possible, ask witnesses to make a written account of the incident as well.
- Maintain your work records:
  - Some harassers may try to defend themselves against your claim by attacking your job performance. Keep copies of your personnel file, performance reviews and/or other letters documenting the quality of your work in order to keep evidence of your job performance.

(Taken from: <https://www.strongadvocates.com/how-to-deal-with-sexual-harassment-at-work/>)

# Practical steps for dealing with sexual harassment:



- Report the behavior to your supervisor and human resources
  - As soon as you feel that you are being harassed, report it to your immediate supervisor. This is important because your employer is required to know about the conduct in order to be legally responsible for addressing a coworker, client or customer's behavior
- Report it to Senior Management
  - If your supervisor and HR fail to respond to your complaint, you should report your claim to senior management.
- How Employers Should Handle a Sexual Harassment Claim:
  - Your employer is obligated to address harassment claims professionally and effectively.
  - Employers should take action to investigate the claim within 24 to 48 hours of the complaint. The investigation should be unbiased and professional in order to properly determine whether the claim is credible. The best way to prevent bias is for a neutral third party to conduct the investigation, which should include interviews with the person filing the claim, the accused harasser and any witnesses of the harassment.
  - The employer must also take action to deter the harassment from happening again.

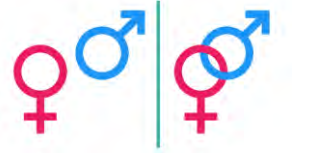
(Taken from: <https://www.strongadvocates.com/how-to-deal-with-sexual-harassment-at-work/>)

# Final thoughts:

- Both men and women can be victims of sexual harassment
- Sexual harassment is not a matter for joking
- Sexual harassment should not be “swept under the carpet”; it MUST be confronted and dealt with







## UNIT 6: Human Trafficking

# Gender and Equal Employment Opportunities

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Unit 6: Human Trafficking



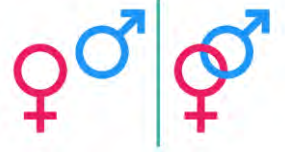
# Learning Objectives

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- Explain key terms and concepts
- Identify the forms of human trafficking
- Discuss the economic, political, and social factors that contribute to human trafficking
- Recommend a human rights approach to preventing human trafficking

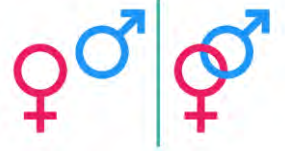
# Human Trafficking



- Human trafficking is considered a form of modern day slavery.
- Approximately 1 M people are trafficked each year globally (Steverson & Wooditch 2019).
- There is no standard definition, but it can be simply defined as:
  - *“a process through which individuals are placed or maintained in an exploitative situation for economic gain.”* (United Nations 2014)
  - *“a process, with people being abducted or recruited in the country of origin, transferred through transit regions and then exploited in the country of destination.”* (Touzenis 2010)
- In 2000, the United Nations adopted the **Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children** (Trafficking Protocol).

# Human Trafficking

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- Trafficking can occur within a country or may involve movement across borders.
- Women, men and children are trafficked for a range of purposes, e.g. forced and exploitative labour, sexual exploitation, forced marriage, military services, illegal adoptions, debt bondage and servitude, forced criminality, and organ harvesting.
- Trafficking is not the same as migrant smuggling. Migrant smuggling involves the illegal, facilitated movement across an international border for profit. While this may involve deception and/or abusive treatment, the purpose of migrant smuggling is to profit from the movement, not the eventual exploitation as in the case of trafficking. (United Nations 2014)

# Circumstances that contribute to Human Trafficking

- The factors that contribute to trafficking typically stems from socio-economic and adverse circumstances in origin countries. These include:
  - Gender (e.g. women are more vulnerable because they are frequently excluded from economic and social systems such as employment, higher education, and legal and political parity)
  - Age (e.g. children are often unable to protect themselves, are unaware of their legal rights, and are unable to negotiate fair treatment for themselves)
  - Poverty and lack of employment opportunities
  - Political instability, wars, conflicts and religious persecution
  - Displacement due to natural disasters
  - Globalisation (shaped the world's market, created a demand for cheap labour, facilitates connectivity (digital technology), and transnational routes for the movement of people)

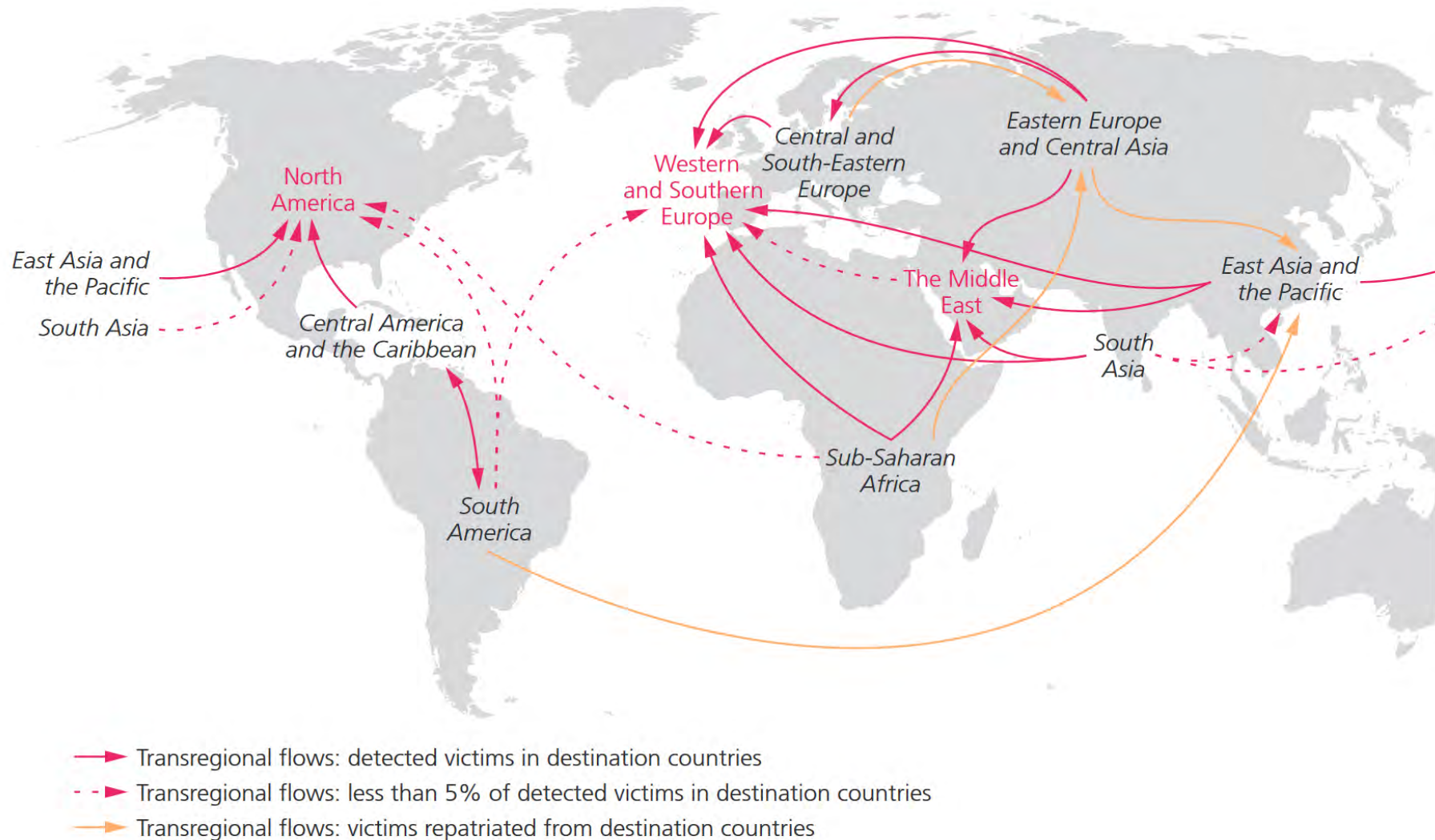
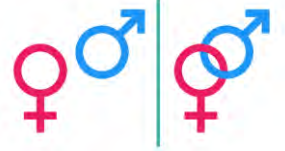
(Steverson & Wooditch 2019; UNODC 2008)

# The Human Trafficking Scheme (transnational)

- Human traffickers often create transnational routes for transporting victims. It usually starts in origin countries where recruiters seek victims through various mediums such as the Internet, employment agencies, the media, and local contacts. Although some victims may leave their origin country voluntarily, the majority are unaware that they are being recruited for a trafficking scheme. Some may be kidnapped or coerced, but many are bribed by false job opportunities, passports, or visas.
- Middlemen who recruit/abduct victims are usually from the origin country. Smugglers may supply victims with fraudulent passports or visas and advise them to avoid detection by border-control agents. Transporters, in turn, sustain the migration process through various modes of transportation: land, air, and sea. Transporters involved in trafficking victims from the origin country are compensated only after they have taken victims to the responsible party in the destination country. Immigration documents, whether legitimate or fraudulent, are seized by the traffickers. After this, victims are often subjected to physical and sexual abuse, and many are forced into labour or the sex trade (e.g. in order to pay off their migratory debts).

(Steverson & Wooditch 2019)

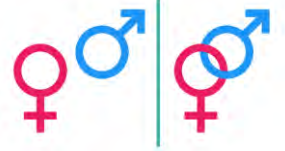
# Main detected transregional trafficking flows, 2014-2017



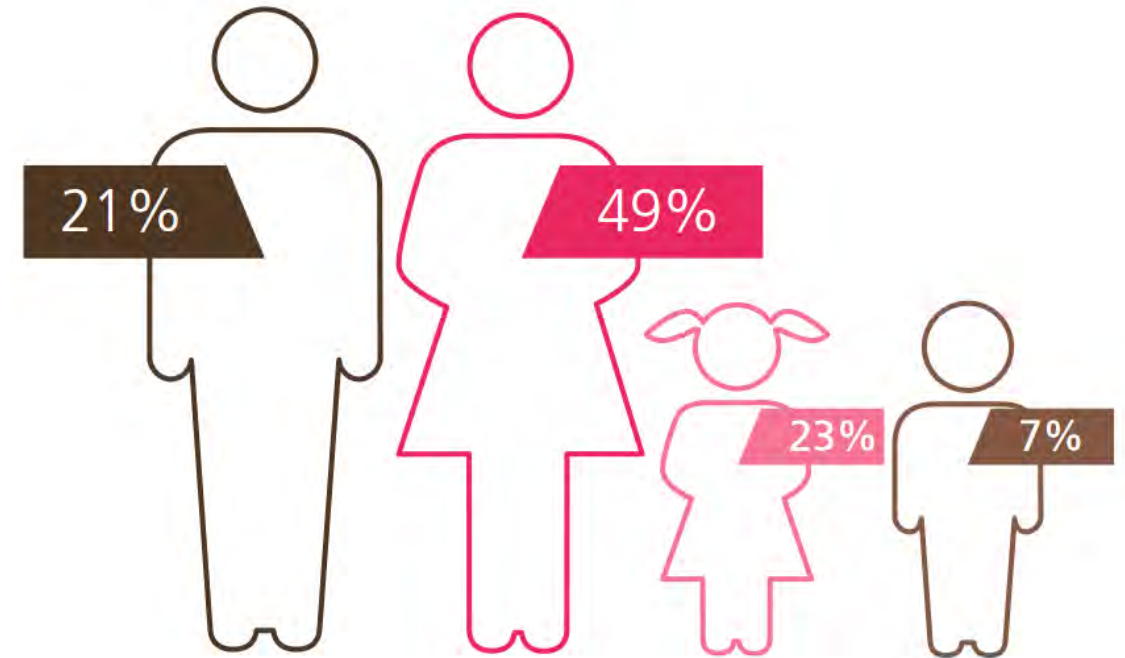
(UNODC 2018)



# Profile of the victims

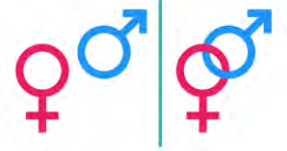


- Globally, traffickers mainly target women and girls. Almost three-quarters of the detected victims of trafficking for sexual exploitation are females, and 35% of the victims trafficked for forced labour are females, both women and girls.
- More than half of the victims of trafficking for forced labour are men.



***Shares of detected victims of trafficking in persons globally, by age group and sex, 2016 (or most recent)***  
(UNODC 2018)

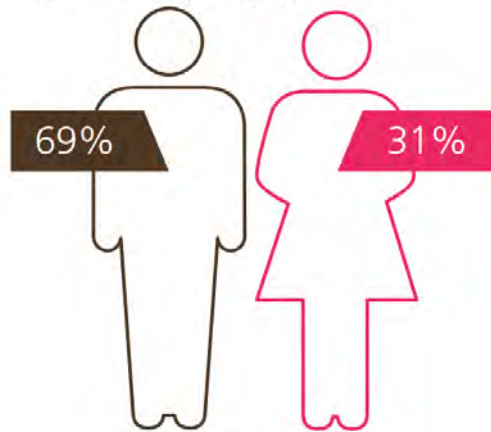
# Profile of the offenders



- Majority of traffickers continue to be males.
- However, there are regional differences. The subregion of Eastern Europe and Central Asia convict more females of trafficking in persons than males, and similar patterns are recorded in Central America and the Caribbean.

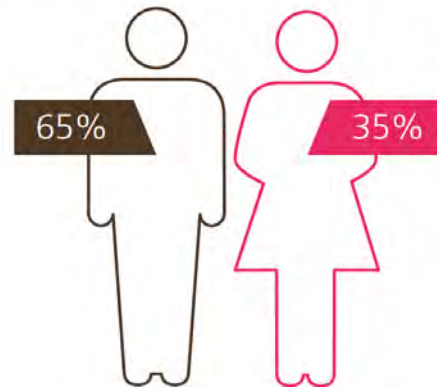
Shares of persons investigated or arrested for trafficking in persons, by sex, 2016 (or most recent)

70 countries (n=9,813)



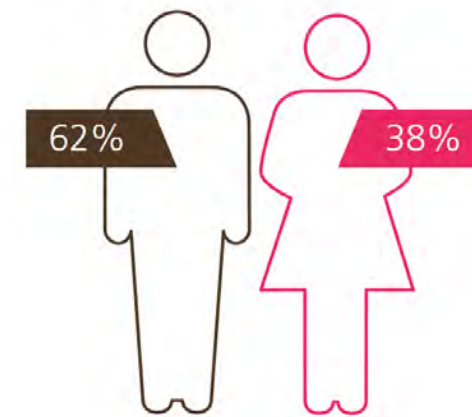
Shares of persons prosecuted for trafficking in persons, by sex, 2016 (or most recent)

68 countries (n=6,370)



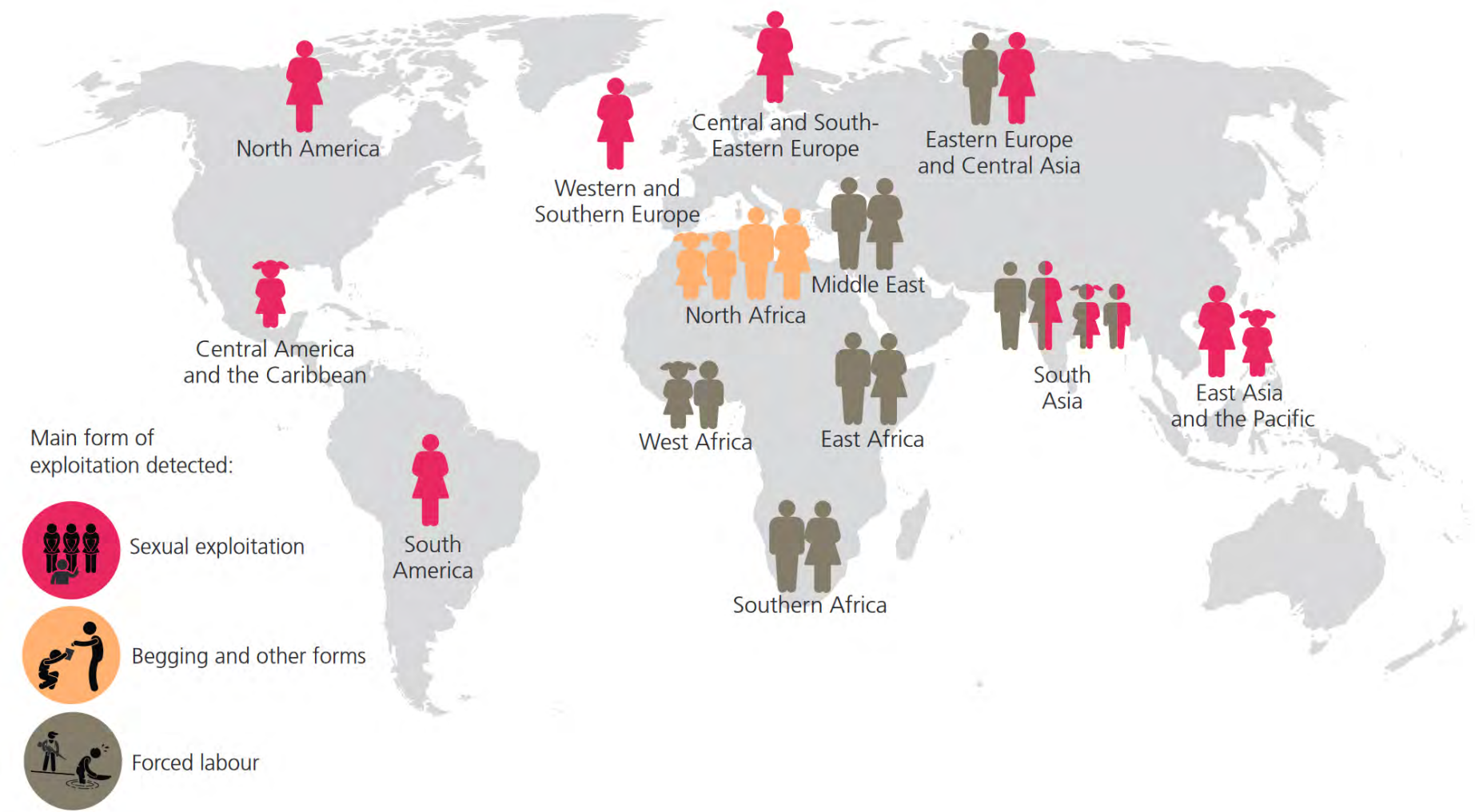
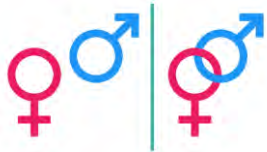
Shares of persons convicted of trafficking in persons, by sex, 2016 (or most recent)

58 countries (n=1,565)



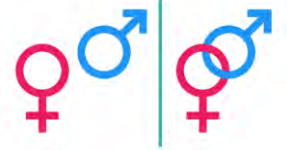
(UNODC 2018)

# Main forms of exploitation and profiles of detected victims, by subregions, 2016 (or most recent)



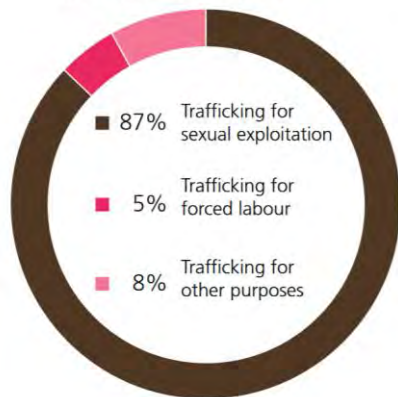
(UNODC 2018)

# CENTRAL AMERICA AND THE CARIBBEAN\*

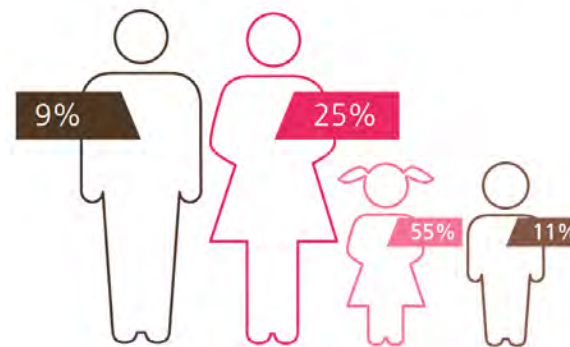


- In Central America and the Caribbean, most of the detected victims in 2016 were girls. Together with women, they bring the share of females among detected trafficking victims to 80% in this subregion.
- The share of children – girls and boys – was 66% in 2016, which is among the largest shares of child victims of trafficking recorded worldwide.
- Sexual exploitation was the most commonly reported form of trafficking. Children were also trafficked for the purpose of forced begging, for forced criminal activities, and for some forms of illegal adoption.

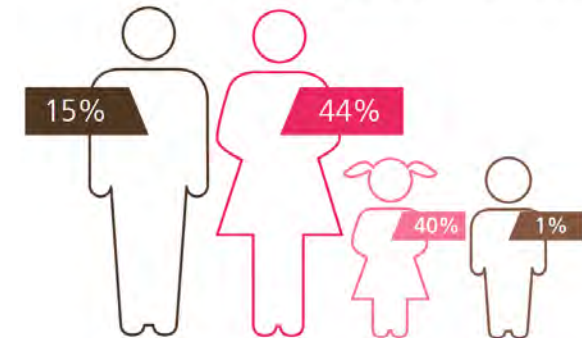
Share of detected victims of trafficking in Central America and the Caribbean, by form of exploitation, 2016 (or most recent)



Share of detected victims of trafficking in Central America and the Caribbean\*, by age group and sex, 2016 (or most recent)



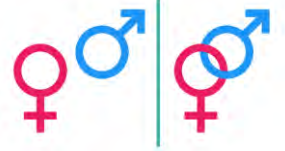
Share of detected victims of trafficking for sexual exploitation in Central America and the Caribbean, by age group and sex, 2016 (or most recent)



\* This includes two subregions; North America, encompassing Canada, Mexico and the United States of America; and Central America and the Caribbean (Antigua and Barbuda, Bahamas, Costa Rica, Cuba, Dominican Republic, El Salvador, Grenada, Guatemala, Honduras, Jamaica, Panama, Trinidad and Tobago)



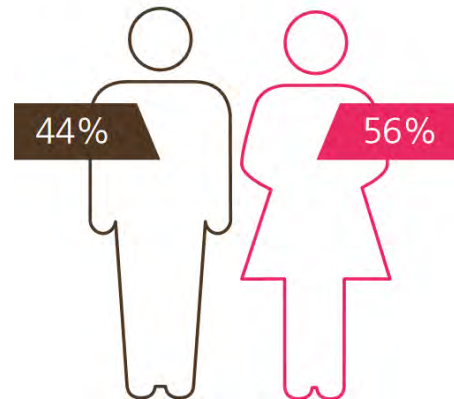
# CENTRAL AMERICA AND THE CARIBBEAN



- Countries in Central America and the Caribbean continue to report large shares of female offenders, particularly in Central America.

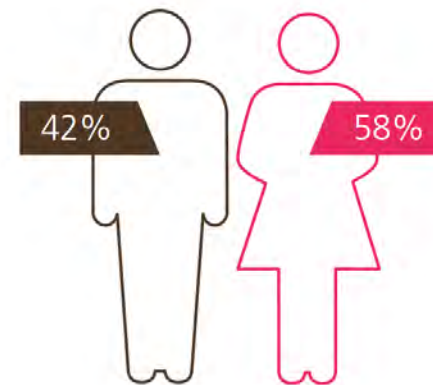
Share of persons investigated or arrested for trafficking in persons in Central America and the Caribbean, by sex, 2016 (or most recent)

8 countries (n=324)

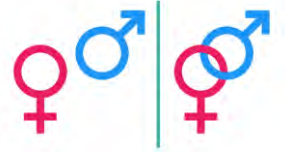


Share of persons convicted of trafficking in persons in Central America and the Caribbean, by sex, 2016 (or most recent)

5 countries (n=33)



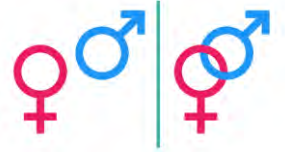
(UNODC 2018)



# Identifying Victims of Human Trafficking

- IATA (2018) has outlined indicators to help identify suspected victims of human trafficking:
  - Is the person disoriented or confused, or showing signs of mental or physical abuse?
  - Is the person fearful, timid, or submissive?
  - Does the person show signs of having been denied food, water, sleep, or medical care?
  - Does the person appear to have suffered injuries as result of an assault or aggression?
  - Does the person defer to another person to speak for him or her or someone who seems to be in control of the situation, e.g., where they go or who they talk to?
  - Is the persons (especially children) accompanied by someone claiming to be a parent or guardian who is in fact not related to the child?
  - Is the person in control of their own travel documents?
  - Does the person appear to be coached on what to say?
  - Does the person have freedom of movement?
  - Does the person avoid eye contact? Or on the contrary, does she/he try to establish eyes contact?
  - Does the person have few or no personal possessions?
  - Is the person branded with tattoos indicating adherence to somebody else?
  - Does the person provide inconsistent responses from the person(s) travelling with him/her when asked questions?
  - Is the person wearing appropriate clothing? Does his/her appearance fit the route of travel or weather?
  - Is the person speaking of modelling, dancing, singing, hospitality job or something similar in a location (without knowing who will be meeting him/her upon arrival, and with few details about the job);
  - Are there any unusual circumstances that just do not feel right to you?

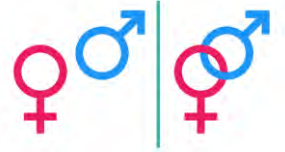
# Consequences of Human Trafficking



- Consequences and costs emerge at the individual, community, national, regional and global levels:
  - Significant health impacts for victims, both during transportation and when they arrive at their destination: injury and even death; overcrowded and unsanitary conditions; food insecurity and limited access to clean water; increase risk of environmental hazards and infectious disease; physical, sexual, and emotional violence; and increase risk of contracting HIV and other sexually transmitted diseases.
  - Depressed salaries; poor working conditions; economic development based on trafficking (e.g. sex tourism); increased income inequality; an expansion of the illicit economy; a drain on the resources used for prevention, prosecution and punishment of offenders and treatment and support of victims; loss of remittances to the source country; and reduced foreign investment.
  - Undermines states' control over their borders and over who lives in their country.

(Kangaspunta & Guth 2016; M'Cormack 2011 )

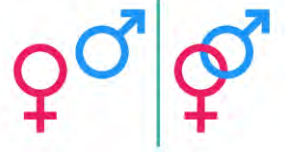
# Prevention of Human Trafficking



- Adopting a human rights approach to trafficking recognises that empowering individuals by guaranteeing their human rights will reduce their susceptibility to being trafficked and exploited; as well as allows the root causes and consequences of trafficking to be addressed (United Nations 2014; Touzenis 2010).
- The human rights most relevant to trafficking:
  - The prohibition of discrimination on the basis of race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status
  - The right to life
  - The right to liberty and security
  - The right not to be submitted to slavery, servitude, forced labour or bonded labour
  - The right not to be subjected to torture and/or cruel, inhuman, degrading treatment or punishment
  - The right to be free from gendered violence
  - The right to freedom of association
  - The right to freedom of movement
  - The right to the highest attainable standard of physical and mental health
  - The right to just and favourable conditions of work
  - The right to an adequate standard of living
  - The right to social security
  - The right of children to special protection



# Treaties and Other Instruments



- Treaties are the primary source of obligations for States with respect to trafficking. By becoming a party to a treaty, States undertake binding obligations in international law and undertake to ensure that their own national legislation, policies or practices meet the requirements of the treaty and are consistent with its standards. These obligations are enforceable in international courts and tribunals with appropriate jurisdiction (e.g. the International Court of Justice and domestic courts, depending on domestic law)

## **Treaties and other instruments particularly relevant to trafficking**

Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, 2000 (Trafficking Protocol)

Convention on the Elimination of All Forms of Discrimination against Women, 1979

Convention on the Rights of the Child, 1989

Optional Protocol to the Convention on the Rights of the Child on the sale of children, child prostitution and child pornography, 2000

United Nations Convention against Transnational Organized Crime, 2000

International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, 1990

International Covenant on Civil and Political Rights, 1966

International Covenant on Economic, Social and Cultural Rights, 1966

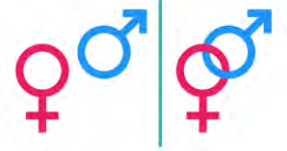
Council of Europe, Convention on Action against Trafficking in Human Beings, 2005 (European Trafficking Convention)

Charter of Fundamental Rights in the European Union, 2000, article 5, and Directive 2011/36/EU of the European Parliament and Council on preventing and combating trafficking in human beings and protecting its victims, 2011

South Asian Association for Regional Cooperation, Convention on Preventing and Combating Trafficking in Women and Children for Prostitution, 2002

(United Nations 2014)

# Trafficking Protocol



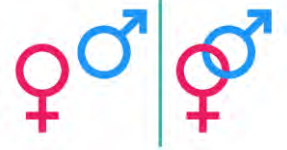
- Article 9 of the Trafficking Protocol recommends actions for State parties:

Recommended action for States parties	Factors requiring prevention activities and creating conditions of vulnerability
1. States parties shall establish comprehensive policies, programmes and other measures: (a) To prevent and combat trafficking in persons; and (b) To protect victims of trafficking, especially women and children, from revictimization.	(a) Absence of prevention policies, programmes and other measures; (b) Absence of policies, programmes and other measures to protect against revictimization.
2. States parties shall endeavour to undertake measures such as research, information and mass media campaigns and social and economic initiatives to prevent and combat trafficking in persons.	(a) Lack of data and information; (b) Lack of information regarding trafficking (for the public and possible individuals at risk of being trafficked); (c) Social conditions that might contribute to trafficking; (d) Economic conditions that might contribute to trafficking.

(UNODC 2008)



# Trafficking Protocol (cont'd)



Recommended action for States parties	Factors requiring prevention activities and creating conditions of vulnerability
3. Policies, programmes and other measures established in accordance with this article shall, as appropriate, include cooperation with non-governmental organizations and other elements of civil society.	Insufficient cooperation with non-governmental organizations and civil society.
4. States parties shall take or strengthen measures, including through bilateral or multilateral cooperation, to alleviate the factors that make persons, especially women and children, vulnerable to trafficking, such as poverty, underdevelopment and lack of equal opportunity.	Insufficient bilateral and/or multilateral cooperation aimed at alleviating factors of vulnerability to trafficking, including underdevelopment and lack of opportunity.
5. States parties shall adopt or strengthen legislative or other measures, such as educational, social or cultural measures, including through bilateral or multilateral cooperation, to discourage the demand that fosters all forms of exploitation of persons, especially women and children, that leads to trafficking.	Insufficient educational, social or cultural measures to discourage demand.

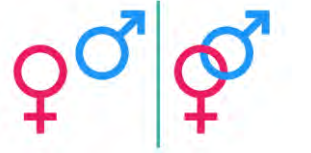
(UNODC 2008)



# Activity

Discussion Question:

**To what extent does your country seek to prevent human trafficking?**



# UNIT 7: Legal and Policy Frameworks

# Gender and Equal Employment Opportunities

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Unit 7: Legal and Policy Frameworks  
Protecting Women's Rights and Promoting  
Gender Equality



# Learning Objectives:

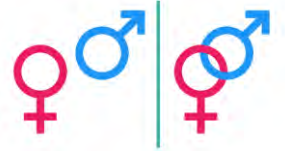
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- Review soft law, policies, and international goals related to women's rights and gender equality
- Evaluate national labour legislation and policies against internationally recognised standards

# Key International Declarations and Treaties

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- The **Universal Declaration of Human Rights** (1948) acknowledges a set of fundamental human rights, including a belief in the equal rights of men and women.
- ILO Convention No. 100 – **Equal Remuneration Convention** (1951) concerns equal remuneration for men and women workers for work of equal value.
- ILO Convention No. 111 – **Convention concerning Discrimination in Respect of Employment and Occupation** (1958) seeks to promote equality of opportunity and treatment by declaring and pursuing a national policy aimed at eliminating all forms of discrimination in respect of employment and occupation.
- The **Convention on the Elimination of All Forms of Discrimination against Women** (CEDAW) (1979) is an international human rights treaty (entered into force in 1981) that focuses specifically on equality between women and men in all areas of life.



# Sustainable Development Goal (SDG) 5



## *Achieve gender equality and empower all women and girls*

- 5.1** End all forms of discrimination against all women and girls everywhere
- 5.2** Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
- 5.3** Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation
- 5.4** Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate
- 5.5** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life
- 5.6** Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences
- 5.A** Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
- 5.B** Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women
- 5.C** Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

# Sustainable Development Goal (SDG) 8



*Promote inclusive and sustainable economic growth, employment and decent work for all*

... out of 12 targets:

**8.3** Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services

**8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

**8.6** By 2020, substantially reduce the proportion of youth not in employment, education or training

**8.7** Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms

**8.8** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment

**8.B** By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization



# Activity

In Groups:

1. Research national legislation, policies, and/or strategies that address (i) gender equality and (ii) gender equality in employment and occupations.
2. Based on the material covered in the course thus far, discuss whether the national legislation, policies, and/or strategies identified, if any, adequately address gender concerns.



# Activity

## Debate

Debate teams are formed to argue for or against one of the following statements:

*“In general terms, laws and their administration are gender neutral”.*

**or**

*“Once a matter is before the courts or another law enforcement agency, the sex of the parties involved is irrelevant”.*



# UNIT 8: Women's Empowerment & Gender Analysis

# Gender and Equal Employment Opportunities

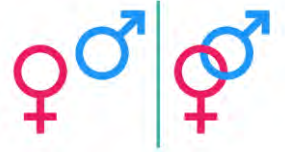
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Unit 8: Women's Empowerment  
& Gender Analysis



# Learning Objectives:

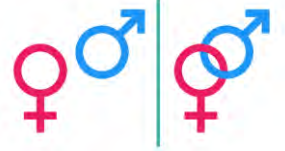
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- Explain key terms and concepts
- Explain structural factors that hinder women's empowerment
- Identify pathways to women's empowerment
- Use Gender Analysis as a tool to assess and understand the differences in the lives of women and men
- Apply Longwe's Women's Empowerment Framework

# Women's Empowerment

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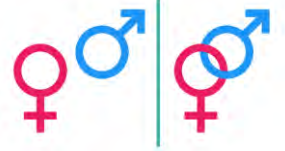


- **Women's Empowerment** refers to the process by which women gain power and control over their own lives and acquire the ability to make strategic choices. Women's empowerment has five main components:
  1. Women's sense of self-worth
  2. Their right to have and to determine choices
  3. Their right to have access to opportunities and resources
  4. Their right to have power to control their own lives, both within and outside the home
  5. Their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally (EIGE, 2019).



# Women's Empowerment

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- **Women's Economic Empowerment** refers to the full and equal enjoyment by women of their economic rights and entitlements facilitated by enabling policy and institutional environments and economic empowerment.
  - Economic empowerment is a cornerstone of gender equality that refers both to the ability to succeed and advance economically and to the power to make and act on economic decisions.
  - Empowering women economically is a right that is essential for both realizing gender equality and achieving broader development goals such as economic growth, poverty reduction, and improvements in health, education and social well-being (UN Women, 2019).
- Empowerment is not something that can be done to or for women. Women are the agents of their empowerment (O'Neil, Domingo, & Valters, 2014).

# Structural Factors that Hinder Women's Empowerment

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- Marginalisation
- Discrimination
- Objectification
- Infantilisation
- Dispossession
- Value assignment
- Violence
- Sub-ordination

# Pathways to Women's Empowerment

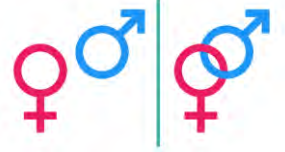
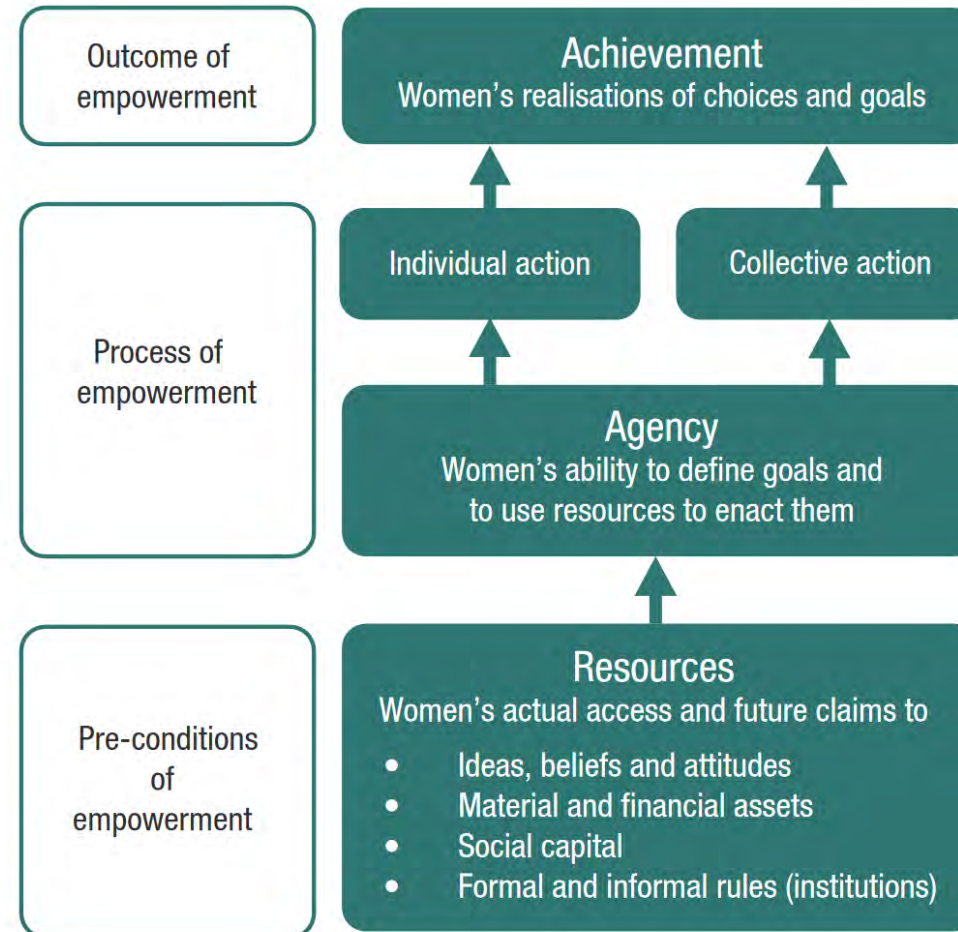


Figure 1: Women's empowerment as process: a schematic



(O'Neil, Domingo, & Valters, 2014: 6)

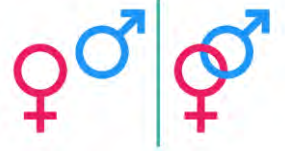
# Pathways to Women's Empowerment

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- ✓ Regime change and post-conflict state-building
- ✓ Legal reform and institutional change
- ✓ Social and economic policy and the reallocation of resources
- ✓ Women's organisations and movements
- ✓ International politics and new social norms (O'Neil, Domingo, & Valters, 2014).

# Gender Analysis

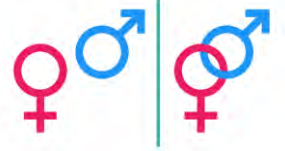


- **Gender Analysis** is a tool to examine and diagnose the differences between women and men regarding their specific activities, conditions, needs, opportunities and rights/entitlements, access to and control over resources, and their access to development benefits and decision-making. It studies the links between these and other factors in the larger social, economic, political and environmental context.
- A gender analysis should be the first step in strategic and development planning to ensure gender-based injustices and inequalities are not exacerbated by interventions, and that where possible, greater equality and justice in gender relations are promoted.
- It entails:
  - Collecting sex-disaggregated data and gender-sensitive information about the population being addressed
  - Identifying the gender-based division of labour, and access to and control over resources and benefits by men and women
  - Understanding girls', boys', women's and men's needs, constraints and opportunities
  - Identifying constraints and opportunities in the larger context
  - Reviewing the capacities of the relevant organisations to promote gender equality.

(ILO, 2007; UN Women, 2019)

# Gender Analysis Frameworks

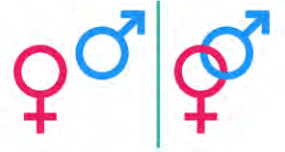
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- There are several gender-analysis frameworks available. Use of a particular framework will depend on the type of programme and/or project an organisation is implementing. Examples include:
  - Harvard Analytical Framework
  - Moser Framework
  - Gender Analysis Matrix (GAM)
  - Capacities and Vulnerabilities Analysis Framework
  - **Longwe's Women's Empowerment Framework**
  - Social Relations Approach

# Women's Empowerment Framework

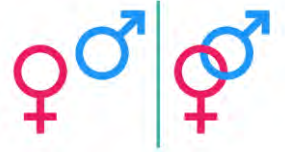
(Tool 1: Levels of Equality)



- The Framework was developed by Sara Longwe, a gender expert from Lusaka, Zambia in 1995.
- It is a tool to conceptualise the process of empowerment through a sequence of measurable actions: the ability of women to access resources, exercise self-awareness with respect to their rights, mobilise around their rights and control their environment with a facility equal to that of men.
- The five levels of equality are arranged in hierarchical order, with each higher level denoting a higher level of empowerment. These are the basis to assess the extent of women's empowerment in any area of social or economic life.

# Women's Empowerment Framework

## (Tool 1: Levels of Equality)



	<b>Control</b>	<ul style="list-style-type: none"> <li>○ <u>Highest level</u> reached where there is balance of power between women and men, so that neither is in a position of dominance (e.g. access to resources).</li> </ul>
	<b>Mobilisation / Participation</b>	<ul style="list-style-type: none"> <li>○ Action level that complements conscientisation.</li> <li>○ Involves women's coming together for the recognition and analysis of problems, the identification of strategies to overcome discriminatory practices, and collective action to remove these practices.</li> </ul>
	<b>Conscientisation</b>	<ul style="list-style-type: none"> <li>○ Women realise that their lack of status and welfare, relative to men, is not due to their own lack of ability, organisation or effort.</li> <li>○ Conscientisation is concerned with a collective urge to action to remove one or more of the discriminatory practices that impede women's access to resources.</li> </ul>
	<b>Access</b>	<ul style="list-style-type: none"> <li>○ Women's equal access to factors of production, land, credit, labour, training, marketing facilities, and all publicly available services and benefits.</li> <li>○ <u>First level</u> of empowerment, since women improve their own status, relative to men, through their own work and organisation.</li> <li>○ Equality of access usually stems from legal reform to remove discriminatory provisions.</li> </ul>
	<b>Welfare</b>	<ul style="list-style-type: none"> <li>○ Improvement in material needs or socio-economic status (e.g. income, nutrition, shelter) of women.</li> <li>○ If interventions are confined to the welfare level, then we are talking about women being given benefits, rather than producing or acquiring benefits for themselves.</li> <li>○ There is <u>zero level</u> of empowerment since women are the passive recipients.</li> </ul>





# Activity

Participants review and follow instructions in a case study.



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# UNIT 9: Promoting Gender Equality through Gender Mainstreaming

# Gender and Equal Employment Opportunities

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Unit 9: Promoting Gender Equality through Gender Mainstreaming



# Learning Objectives:

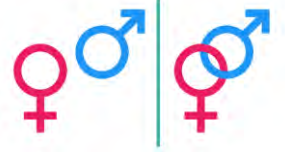
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- Explain key terms and concepts
- Make practical recommendations for gender mainstreaming
- Develop gender-sensitive indicators for projects

# Gender Mainstreaming

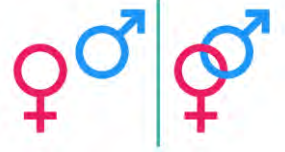
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- Gender Mainstreaming is the systematic consideration of the differences between the conditions, situations and needs of women and men in all policies and actions (EIGE, 2019).
- It is a way to make women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies, programmes and projects in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality (UN Women, 2019).

# Gender Mainstreaming

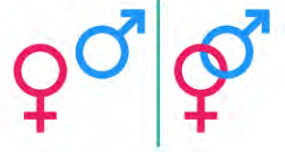
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- Using a mainstreaming strategy based on gender analysis implies, in particular:
  - Awareness-raising and capacity-building activities;
  - From the outset, taking into account implementation, monitoring and evaluation stages, and the effects of policies and programmes on women and men;
  - Adequate allocation of human and financial resources;
  - Active participation of both women and men in decision-making in all areas and at all levels;
  - Adequate monitoring tools and mechanisms to enable ongoing assessment of how and to what extent gender is being effectively mainstreamed (ILO, 2007).

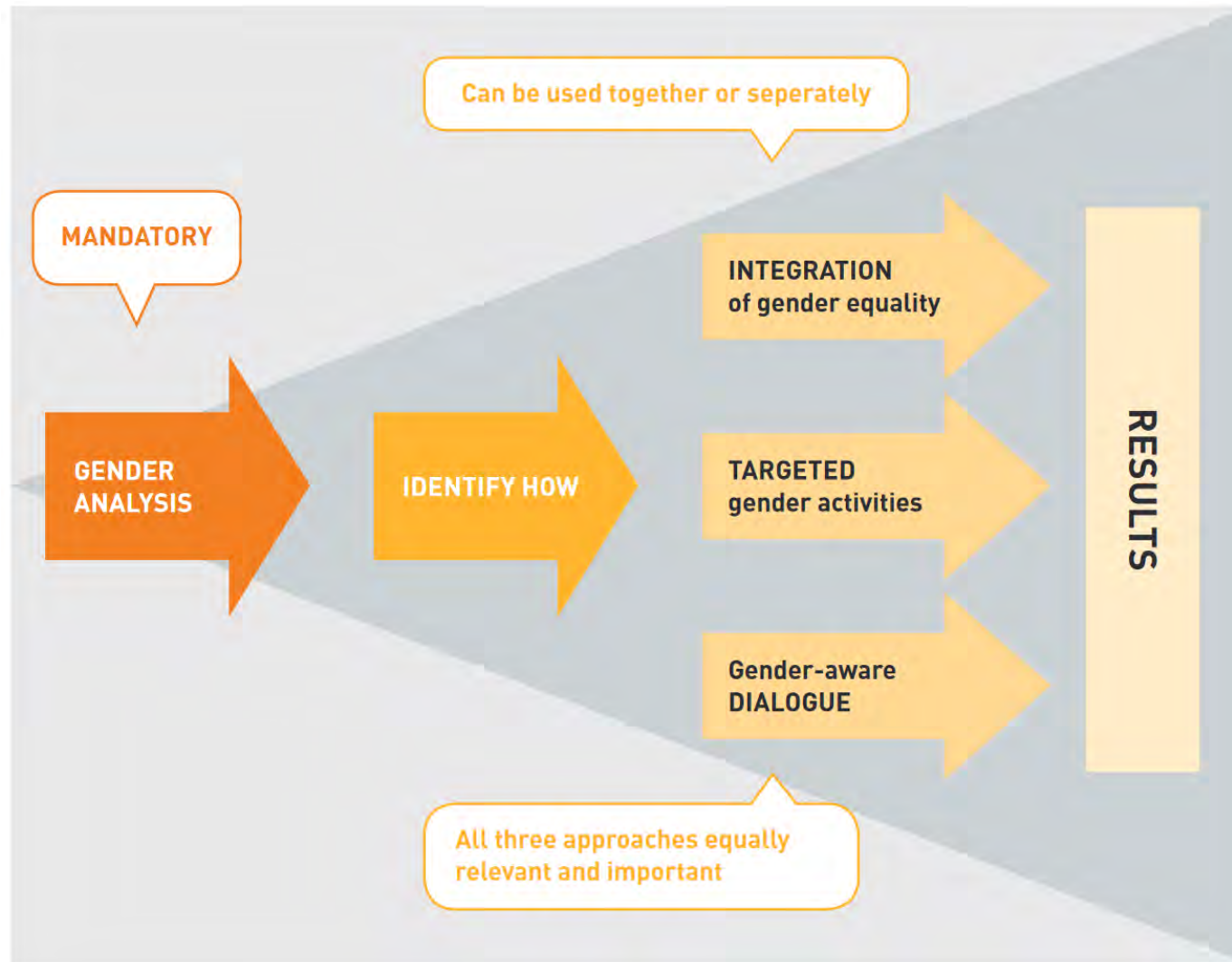
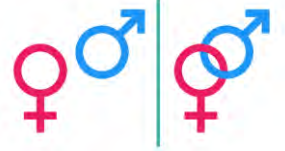
# Gender Mainstreaming in Planned Actions, Programmes and Policies

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- The Swedish International Development Cooperation Agency (SIDA) provides a simple model for gender mainstreaming that includes three steps:
  1. **Gender analysis:** Any intervention must begin by analysing the gender equality situation in the given context and identify the expected results in terms of strengthened gender equality.
  2. **Identify how:** Based on the gender analysis, identify relevant areas for collaboration, the approach to use, and how to reach the expected results.
  3. **Implement Approach:** There are three main approaches which may be implemented separately or in combination:
    - Integration* of gender equality in interventions in general
    - Targeting* specific groups or issues through special interventions
    - Dialogue* with partners on gender sensitive issues and aspects

# SIDA's Gender Mainstreaming Model

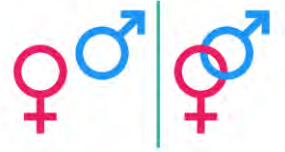


(SIDA, 2015)



# Examples of Targeted Strategies to Improve Gender Diversity in Male-Dominated Occupations

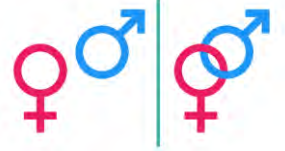
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- **Attraction Strategies** (job advertisements that attract women to apply):
  - Display diverse images and use inclusive language
  - Distribute advertisements broadly and where women will notice
  - Use women's voices for radio, television, video and internet advertising
  - Offer a female contact for questions to give potential female applicants the opportunity to ask questions to women employed in non-traditional roles
- **Recruitment Strategies:**
  - Establish recruitment targets for women
  - Monitor the composition of recruiting teams and ensure they are gender diverse and include women from non-traditional roles
  - Train recruiters to recognise stereotypes and unconscious bias about the sort of work women can do and the myths about women in non-traditional roles
  - Offer women the opportunity to display their skills during the recruitment process instead of relying solely on interview questions

(Australian Human Rights Commission, 2013)

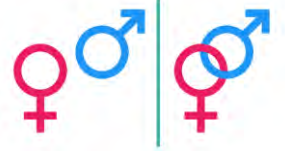
# Gender Mainstreaming in the Employment Sector



- To better integrate gender concerns into all the substantive work of the Employment Sector and create an enabling environment for promoting gender equality, the International Labour Organisation (ILO) identified six Priority Action Areas:
  - I. Design and implementation of gender responsive employment policies, strategies and programmes;
  - II. Strengthen gender mainstreaming capacity of staff;
  - III. Share knowledge on gender and employment across the world;
  - IV. Improve gender management, monitoring and evaluation;
  - V. Improve gender balance in the personnel and create conducive work environment; strengthen institutional mechanisms for gender equality in the Employment Sector.

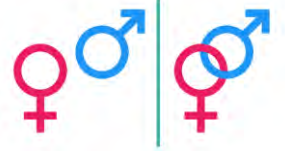
# Gender Indicators

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- An indicator provides evidence that a certain condition exists or certain results have or have not been achieved.
- Gender related indicators are used to identify the differences between the diverse situations men and women find themselves in, especially for purposes of detecting and identifying inequalities. These differences and inequalities have a relation to differences in class, ethnicity, age, generation, religion and culture (GIZ, 2011).

# Examples of Gender-sensitive Indicators



- **Quantitative:**

- Participation of all stakeholders in project identification and design meetings (attendance and level of participation/contribution by sex, age, and socio-economic background).
- Degree of rural women and men's inputs into project activities, in terms of labour, tools, money, etc.
- Benefits (e.g. increased employment) going to women and men, by socio-economic background and age.

- **Qualitative:**

- Level of participation as perceived by stakeholders through the different stages of the project cycle (by sex, age, and socio-economic background).
- Degree of participation of an adequate number of women in important decision making (adequacy to be mutually agreed by all stakeholders) – to be measured through stakeholder responses and by qualitative analysis of the impact of different decisions.

(Arenas & Lentisco, 2011: 43)



# Activity

Form groups and utilising the case study from Unit 5:

- Develop quantitative and qualitative gender-sensitive indicators that can be applied at the different project phases – (a) initiation, (b) planning, (c) implementation/execution, (d) monitoring, control and evaluation – to improve gender equality.
- Aim for a mix of at least three (3) quantitative and qualitative indicators for each of the four project phases.



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# **ATTACHMENT E**

Guidelines for Implementing Gender-Sensitive and  
Socially-Inclusive Infrastructure Projects in Montserrat





**Montserrat Port Development Project, Montserrat**

**Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat**

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# GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT

Social Inclusion and Gender Sensitivity in Infrastructure Projects  
April 14, 2021

## 1.0 SOCIAL INCLUSION AND GENDER SENSITIVITY IN INFRASTRUCTURE PROJECTS

	<p><b>“Leaving no one behind (LNOB)</b> is the central, transformative promise of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). It represents the unequivocal commitment of all UN Member States to eradicate poverty in all its forms, end discrimination and exclusion, and reduce the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of humanity as a whole” (UNSDG, 2019).</p>
	<p><b>CDB Gender Equality Policy-</b> To be a leading catalyst promoting GE in the Region by working with borrowing members and other development partners in a responsive and collaborative manner to analyze the economic and social causes of gender inequality in order to reduce poverty and vulnerability and to assist all women and men to achieve their full potential.</p>
	<p>In general, high quality infrastructure is critical for sustainable development; it provides the basic framework for economic growth, provision of connectivity and social services, and generally improving quality of life (World Bank, 2010; Rajé, 2018; OECD, 2019). The importance of infrastructure for sustainable development is embodied in SDG 9 - Industry, Innovation and Infrastructure.</p>

In the development of infrastructure, it is often assumed that economic and social benefits will be equitably distributed and will automatically flow to vulnerable groups (OECD, 2019; Rajé, 2018; ADB, 2009). However, people of different genders and/or social groups often have different needs; different groups may use a given infrastructure service to varying extents, in different ways, for different purposes or at different times. Therefore, if the needs of all users are not considered in the design and delivery of the infrastructure, there is a risk that some segments of the society may be excluded, or that while some groups benefit, others are negatively impacted (Rajé, 2018; World Bank, 2010).

While the foregoing is held to be generally true, it is important to recognise that each Infrastructure Project is different. For the effective application of social inclusion principles in infrastructure design, it is critical to identify the social issues that are relevant to the specific infrastructure development, rather than misguidedly applying generalities.



# **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Project Context  
April 14, 2021

## **2.0 PROJECT CONTEXT**

In Montserrat, inadequate air and sea port infrastructure remains a significant constraint to economic growth as well as a significant contributor to social vulnerability. The Montserrat Port Authority (Port Authority) is proposing to undertake a Project to expand the current port facilities at Little Bay, Montserrat in order to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and fishing vessels.

In support of this proposed Project, an Environmental and Social Impact Assessment (ESIA) as well as an ESIA Addendum and a Social and Gender Risk Assessment and Action Plan have been developed, and are presented separately. Following from these Assessments, this document presents Guidelines for Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat. In association with these Guidelines, a Training Package Implementing Gender-Sensitive and Socially-Inclusive Infrastructure Projects in Montserrat has also been developed.

The broad social and gender context for Montserrat is outlined in the Social and Gender Risk Assessment, which also identifies and assesses the external social and gender risks associated with the proposed Project. In addition, the terms of reference (TOR) for the study identifies three specific beneficiary groups and several specific social 'issue areas' to be addressed in the Training Package and Implementation Guidelines. These are listed below. According to the TOR, these issue areas were identified through key informant interviews with the Department of Social Services and the Port Authority in Montserrat.

**Table 2.1 Beneficiary Groups and Specific social 'Issue Areas'**

<b>Beneficiary Groups</b>	<b>Social 'Issue Areas' Identified</b>
1. Government Implementing Entities (MCWL/PWD and the Port Authority) 2. Contractors 3. Workers	<ul style="list-style-type: none"><li>• Workplace health and safety,</li><li>• Disaster management and emergency response,</li><li>• Customer service,</li><li>• Sexual and Gender based violence;</li><li>• Sexual harassment,</li><li>• Sexual and reproductive health and rights including sexually-transmitted infections and transactional sex work</li><li>• Human trafficking and smuggling</li></ul>

In 2020-21 the preparation of the Addendum to the ESIA for the Current Layout of the pier indicated potential impacts on fishers and tour operators who use Little Bay and the reef. These groups therefore have been included in the list of potential beneficiaries. In addition, the opportunity to provide on the job training and capacity building for vulnerable groups such as youth, women and people with disabilities is also included in these guidelines.



# **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Montserrat Social and Gender Context  
April 14, 2021

## **3.0 MONTSERRAT SOCIAL AND GENDER CONTEXT**

The Social and Gender Context in Montserrat is described in the ESIA and the Social and Gender Risk Assessment and is not repeated here.

## **4.0 LITERATURE REVIEW ON GENDER AND SOCIAL INCLUSION IN INFRASTRUCTURE PROJECTS**

A review of available literature and publications on social inclusion in infrastructure projects was carried out. Key publications consulted included publications by or for the United Nations Sustainable Development Group (UNSDG), the World Bank, the UK Government's Department for International Development (DFID), the African Development Bank (AFD), the Organisation for Economic Co-operation and Development (OECD) and the Caribbean Development Bank.

Where these sources offered sectoral perspectives or case studies/examples, the most common sectors used were transportation, water and energy. Few examples were found on Port developments; however, many of the recommendations are in principle transferable. The recommendations presented in this section Report represent a synthesis of the common or widely accepted recommendations of the sources consulted that are considered to be transferrable to the Montserrat context.

## **5.0 FRAMEWORK FOR GENDER AND SOCIAL INCLUSION IN INFRASTRUCTURE PROJECTS**

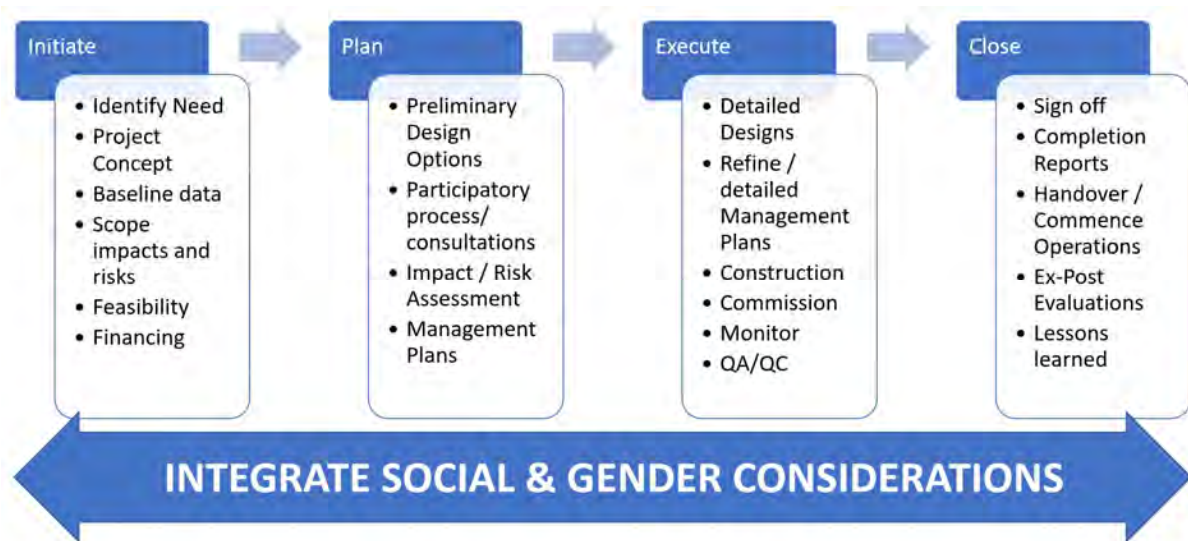
Fundamentally, the implementation of socially and gender inclusive infrastructure projects requires the integration of social/gender considerations throughout the project life cycle. As such, the project life cycle provides the overall framework for social inclusion in infrastructure projects. Figure 1 presents an overview of the project life cycle, identifying four (4) stages.

This is similar in principle to recognising that implementation of projects that are 'environmentally responsible' requires integration of environmental (biophysical) considerations throughout the project life cycle. Indeed, both social and environmental considerations are inherently encapsulated by fundamentally incorporating sustainable development principles throughout the project life cycle.



## **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Measures for ensuring Gender and Social Inclusion in Infrastructure Projects  
April 14, 2021



**Figure 1 Overview of the Project Life Cycle**

Another fundamental consideration for gender and social inclusion in infrastructure projects is what may be termed the ‘enabling environment,’ i.e., factors beyond or external to the project that nonetheless impact the (facilitating or constraining) the project outcomes and benefits. If there are existing inequalities inherent in the enabling environment, these may hinder social inclusion despite efforts to include measures in the project itself. For example, it may be the intention that the new Port development in Montserrat creates economic opportunities and benefits through facilitation of increased tourism visitation to the island. However, without adequate tourism planning and infrastructure, or social and gender equality considerations, these economic benefits may not be realised and/or such economic benefits and opportunities as may result may not be equitably distributed or accessible. For the proposed Project in Montserrat, such external risks are identified in the Social and Gender Risk Assessment.

### **6.0 MEASURES FOR ENSURING GENDER AND SOCIAL INCLUSION IN INFRASTRUCTURE PROJECTS**

Within the project life cycle framework (Section 5.0), there are specific measures that may be employed to promote social inclusion in infrastructure projects. These include:

- The collection and use of inclusive and disaggregated data
- Effective stakeholder identification and meaningful participatory process
- The use of inclusive design principles and standards
- Sensitisation and training of organisations and individuals involved in project implementation
- Inclusion of complementary measures to enhance the enabling environment



# **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Measures for ensuring Gender and Social Inclusion in Infrastructure Projects  
April 14, 2021

This section describes each of these tools and provides a rationale for their use. Section 7.0 provides specific guidelines on integration of social and gender considerations in each phase of the project life cycle, including the utilisation of these tools.

## **6.1 DISAGGREGATED DATA**

Most of the sources consulted identified the collection and analysis of disaggregated data as key to understanding social heterogeneity and identifying and characterising vulnerable groups. Gathering disaggregated data during the early phases of project development also establishes a clear baseline for assessment of social impacts/risks as well as monitoring and evaluation of the project outcomes.

However, data that are disaggregated to the extent necessary to facilitate in depth analysis of vulnerable groups are often not readily available. In the CDB *Gender Equality Policy and Operational Strategy* the scarcity of standardized, sex-disaggregated data in some key economic and social sectors and limited capacity in some BMCs to collect and/or analyze this data was recognized as a gap (CDB, 2008). The UNSDG *'Leave No One Behind' Operational Guide (Interim Draft)* also identifies the lack of disaggregated data at the country and subnational levels as a common challenge (UNSDG, 2019). The report advises that disaggregating data by two dimensions at a time, such as gender and location or gender and income, is often possible, but more refined analysis of vulnerable groups using multilevel disaggregation, such as women from ethnic minorities living in poor households and rural areas, is usually not possible (UNSDG, 2019).

It is recognised that expanding national data collection to facilitate such analysis may not be feasible. Therefore, it is important that project social impact/risk assessments include systematic project specific data collection such as surveys and consultations to facilitate the appropriate analyses

## **6.2 EFFECTIVE STAKEHOLDER IDENTIFICATION AND MEANINGFUL PARTICIPATORY PROCESS**

The UNSDG *'Leave No One Behind' Operational Guide (Interim Draft)* emphasises that, '**Meaningful participation** of people must be ensured in the data collection and analysis processes.' Methods for ensuring meaningful participating include: effective and inclusive stakeholder identification and mapping, engaging with community groups and associations that include and represent people at risk of being left behind, using community data, conducting participatory consultations, providing safe and trusted spaces, and the use of feedback mechanisms such as 'grievance redress mechanisms' (UNSDG, 2019).

Effective identification of all stakeholders in the early stages of the project is critical. Missing stakeholder groups may lead to a variety of negative impacts such as failure to meet the specific needs of a group, realising negative impacts on a group, or discrimination against a group.



# **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Measures for ensuring Gender and Social Inclusion in Infrastructure Projects  
April 14, 2021

## **6.3 INCLUSIVE DESIGN PRINCIPLES AND STANDARDS**

There are multiple terminologies for design philosophies that promote social inclusion in the design of infrastructure. These include: '*inclusive design*,' '*universal design*' and '*design for all*.' Sometimes these terminologies are used interchangeably, other times they are distinguished from each other. Nonetheless, the underlying principles are similar. A recent report produced for the UK Government's Department for International Development (DFID) recommends the use of such design principles as a key measure for implementing socially inclusive infrastructure development (Rajé, 2018).

Examples of design provisions to address varying needs of different user groups include the following:

**Table 6.1 Design Provisions**

<b>User group characteristic</b>	<b>Examples of Specific Needs or Provisions in Inclusive Design</b>
Gender (men/ women)	Separate customised bathrooms, e.g., urinals, sanitary napkin disposal Male and female security/customs officers in case of need to search male/female passengers
Families with children	Baby changing stations and/or breast-feeding stations Provision of at least (1) family bathroom to allow mothers or fathers to accompany children of any gender
Vulnerable individuals such as women or children alone	Security and/ or lighting provisions
Those with reduced mobility	Accessible bathroom stalls, access ramps, wide doors and functional clearances
Blind and/or Deaf	Auditory output redundant with information on visual displays Visual output redundant with information in auditory output
Those with communication difficulties such as speaking other languages or illiteracy	Multi-lingual signage Use of meaningful icons with text labels

Beyond general design philosophies, many jurisdictions employ established standards in building design and construction, especially for accessibility considerations. If there are no applicable local standards, international standards may be used, such as the International Organization for Standardization (ISO) Standard for *Accessibility and usability of the built environment* (ISO 21542:2011)<sup>1</sup>.

## **6.4 BUILDING PROJECT TEAM CAPACITY IN SOCIAL/GENDER ISSUES**

In general, it is not a given that organisations and individual personnel involved in project implementation will have adequate capacity in social inclusion and gender equity. In the specific case of Montserrat, the social and gender context developed for this Study (Section 3.0) indicates that this is not likely to be the case. Some issues that may arise during project implementation, such as sexual harassment on construction sites, may be attributed to such lack of capacity.

<sup>1</sup> <https://www.iso.org/standard/50498.html>



## **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Measures for ensuring Gender and Social Inclusion in Infrastructure Projects  
April 14, 2021

These issues may be mitigated by providing targeted sensitisation and training to organisations and individual personnel involved in project implementation.

In the context of this Project, the beneficiary groups identified in the TOR, namely, the Government Implementing Entities (MCWL/PWD and the Port Authority), the Contractors and the Workers, represent target audience groups for sensitisation and training. In addition, since the project commenced in 2018, several design changes have been made to the pier and the Current Layout being proposed in 2021 is likely to lead to potential impacts on the fishers and tour operators who use the Little Bay area and the reef. Therefore, there is an opportunity to include these groups in the capacity building activities, to strengthen their knowledge and skills in areas that could benefit their business operations. There is also the potential for on the job training to build capacity for vulnerable groups in aspects of the construction associated with the landside of the project, e.g., traffic management and labour as well as office work.

Table 6.2 shows the potential sensitisation, training and/or capacity building needs of beneficiary groups relative to issue areas identified in the TOR.

**Table 6.2 Matrix showing potential training capacity building needs of beneficiary groups relative to issue areas identified in the TOR**

<b>Beneficiary/target audience group► ▼Issue Area</b>	<b>Government executing entities</b>	<b>Contractors (Project Construction &amp; Operations)</b>	<b>Workers (Project Construction &amp; Operations)</b>	<b>Fishers and tour operators affected by the Current Layout</b>
Workplace and public health and safety	N/A	Development of workplace health and safety plans	Training in personal health and safety on the job	Training in personal health and safety on the job
Disaster management and emergency response	Development of response plans; liaise with relevant government partners	Development of response plans for construction and operations	Training in emergency response protocols, e.g., drills	
Customer service	N/A	Development of Customer Service Plans and delivery of staff training specific to services provided	Training in customer service specific to services provided	Training in customer service specific to services provided
Sexual and Gender-based violence Sexual harassment	Development of sexual harassment policy and delivery of anti-sexual harassment training	Development of sexual harassment policy and delivery of anti-sexual harassment training	Anti-sexual harassment training	Anti-sexual harassment training
Sexual and reproductive health and rights including sexually-transmitted infections and transactional sex work	Liaise with relevant government partners	Development of Corporate Social Responsibility (CSR) Plans with specific initiatives that address these issues	Engagement in CSR initiatives that address these issues	Sensitization sessions on preventing human trafficking
Human trafficking				



## **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Guidelines for Gender and Social Inclusion throughout the Project Life Cycle  
April 14, 2021

### **6.5 COMPLEMENTARY MEASURES TO ENHANCE THE ENABLING ENVIRONMENT**

It has been noted earlier that deficiencies in the ‘enabling environment’ may constrain project outcomes and benefits. One possible means of addressing this may be to incorporate into the project itself complementary measures to enhance the enabling environment.

This concept may be illustrated through an example taken from the World Bank 2010 Report, *Making Infrastructure Work for Men and Women*. The *Costa Rica Port City of Limon Integrated Infrastructure Project* included complementary measures to support income generation for women and youth through small and micro-enterprises. Incentives to stimulate entrepreneurship included technical assistance grants, funds for promotion of new cultural businesses as well as training for prospective entrepreneurs (World Bank, 2010).

Note that one possible complementary measure for enhancing the enabling environment may be providing capacity building and/or training for women, youth, persons with disabilities or vulnerable groups to improve their capacity to participate in a project or access benefits, which is a separate issue from providing capacity building for the project team personnel. The engagement of Social and Gender Specialists on the project could also provide complementary measures to enhance the enabling environment.

### **7.0 GUIDELINES FOR GENDER AND SOCIAL INCLUSION THROUGHOUT THE PROJECT LIFE CYCLE**

With reference to Sections 5.0 and 6.0, this section provides specific guidelines for incorporating measures to promote social inclusion throughout the project life cycle. Table 7.1 lists, for each phase of the project life cycle, recommended specific project activities to promote social inclusion. Engagement of the Community Liaison Officer and Social and Gender Specialist is recommended for project-specific activities in the planning and execution phases in Table 7.1.

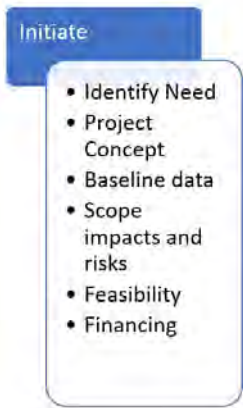





# GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT

Guidelines for Gender and Social Inclusion throughout the Project Life Cycle  
April 14, 2021

**Table 7.1 Specific Project Activities for Gender and Social Inclusion by Project Life Cycle Phase**

Project Life Cycle Phase	Specific Project Activities for Social Inclusion
 <p><b>Initiate</b></p> <ul style="list-style-type: none"> <li>• Identify Need</li> <li>• Project Concept</li> <li>• Baseline data</li> <li>• Scope impacts and risks</li> <li>• Feasibility</li> <li>• Financing</li> </ul>	<ul style="list-style-type: none"> <li>• Preliminary identification of stakeholder groups including groups expected to use and benefit from the infrastructure facilities/services and groups that will be impacted by the implementation of the project.</li> <li>• Begin to establish baseline using disaggregated data; compile existing national data and defining gaps to scope collection of project specific data</li> <li>• Conduct preliminary scoping of gender and social impacts and risks</li> <li>• Make provisions for gender mainstreaming and social inclusion, including having a specialist in social and gender issues on the Project Team</li> <li>• Conduct training needs assessment of government executing agencies and partners</li> </ul>
 <p><b>Plan</b></p> <ul style="list-style-type: none"> <li>• Preliminary Design Options</li> <li>• Participatory process/ consultations</li> <li>• Impact / Risk Assessment</li> <li>• Management Plans</li> </ul>	<ul style="list-style-type: none"> <li>• Refine list of stakeholder groups</li> <li>• Conduct inclusive stakeholder consultations based on this list</li> <li>• Collect project specific disaggregated data through stakeholder consultations and surveys</li> <li>• Characterise the stakeholder and user groups, identify vulnerable groups, assess specific needs and usage patterns as well as barriers and constraints to participation and access to benefits</li> <li>• Carry out a social and gender impact/ risk assessment that builds on the scoping carried out in the Initiation Phase and includes an assessment of the impacts/risks of the project itself as well as risks associated with externalities/ the 'enabling environment';</li> <li>• Use the impact/risk assessment to develop a management plan that addresses both construction and operation</li> <li>• With reference to the baseline data collected, develop a project monitoring and evaluation (M&amp;E) programme that includes appropriately disaggregated gender and social inclusion indicators</li> <li>• Conduct sensitisation/ training of government implementing agencies and partners</li> <li>• Consider complementary measures to enhance the enabling environment</li> </ul>



# **GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT**

Guidelines for Gender and Social Inclusion throughout the Project Life Cycle  
April 14, 2021

**Table 7.1 Specific Project Activities for Gender and Social Inclusion by Project Life Cycle Phase**

<b>Project Life Cycle Phase</b>	<b>Specific Project Activities for Social Inclusion</b>
<div>Execute</div> <ul style="list-style-type: none"> <li>Detailed Designs</li> <li>Refine / detailed Management Plans</li> <li>Construction</li> <li>Commission</li> <li>Monitor</li> <li>QA/QC</li> </ul>	<ul style="list-style-type: none"> <li>Apply inclusive design principles and standards, using baseline information on the needs of user groups and the recommendations of the social impact assessment</li> <li>During procurement, apply gender equality and social inclusion best practices</li> <li>Conduct sensitisation/ training of Contractors &amp; Workers as needed</li> <li>During Construction, implement the social and gender management plan developed in the planning phase</li> <li>Design and Implement complementary measures to enhance the enabling environment</li> <li>Collect disaggregated data following Project M&amp;E Programme developed in the Planning Phase</li> </ul>
<div>Close</div> <ul style="list-style-type: none"> <li>Sign off</li> <li>Completion Reports</li> <li>Handover / Commence Operations</li> <li>Ex-Post Evaluations</li> <li>Lessons learned</li> </ul>	<ul style="list-style-type: none"> <li>For the duration of operations, implement the social and gender management plan developed in the planning phase</li> <li>Conduct sensitisation/ training of Contractors &amp; Workers as needed</li> <li>Continue to collect and analyse M&amp;E data to understand realised project outcomes relative to social and gender impacts and benefits</li> <li>Record or publish lessons learned for reference in implementation of future projects</li> </ul>



# GUIDELINES FOR IMPLEMENTING GENDER-SENSITIVE AND SOCIALLY-INCLUSIVE INFRASTRUCTURE PROJECTS IN MONTSERRAT

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April 14, 2021

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# ATTACHMENT F

## Resettlement Action Plan



**Montserrat Port Development Project, Montserrat**  
**Resettlement Action Plan**

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## RESETTLEMENT ACTION PLAN

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# RESETTLEMENT ACTION PLAN

## Introduction

### 1.0 INTRODUCTION

This Resettlement Action Plan (RAP) details the procedures to be followed and the actions to be taken in order to adequately compensate those persons directly displaced, either economically or physically, as a result of the construction and operations of the proposed Montserrat Port Development Project in Little Bay. The IFC Handbook for Preparing a Resettlement Action Plan<sup>1</sup> describes Physical Displacement as “the actual physical relocation of people resulting in a loss of shelter, productive assets or access to productive assets (such as land, water, and forests)”, and Economic Displacement as “resulting from an action that interrupts or eliminates people’s access to productive assets without physically relocating the people themselves.”

Based on the social and economic assessments undertaken for the Environmental and Social Impact Assessment (ESIA), the Project (i.e. construction of Alternative Design K port layout) will lead to partial, permanent and temporary physical and economic displacement of five stakeholder groups: (i) fishers who moor in Little Bay, (ii) fishers who fish on Little Bay Reef, (iii) spear-fishers who fish on Little Bay Reef (iv) tour operators who offer watersports tours out of Little Bay and who use Little Bay Reef and the Bat Cave at Rendezvous Bluff, and (v) tour operators who offer bird watching tours at Rendezvous Bluff. As defined by the Caribbean Development Bank’s (CDB) Environmental and Social Review Procedures (2014)<sup>2</sup>, this displacement falls under the category of Involuntary Resettlement, whereby “*affected individuals or communities do not have the right to refuse physical or economic displacement that results when land [and also in this case marine spaces], which they occupy, is to be acquired for a project*”.

Importantly, the RAP will be guided by the IFC’s basic principles for addressing the adverse effects of involuntary resettlement:

- Involuntary resettlement should be avoided.
- Where involuntary resettlement is unavoidable, all people affected by it should be compensated fully and fairly for lost assets.
- Involuntary resettlement should be conceived as an opportunity for improving the livelihoods of the affected people and undertaken accordingly.
- All people affected by involuntary resettlement should be consulted and involved in resettlement planning to ensure that the mitigation of adverse effects as well as the benefits of resettlement are appropriate and sustainable.

As well as the CDB’s principles for land acquisition and involuntary resettlement, which include, *inter alia*:

- Involuntary resettlement should be avoided or minimised where feasible.

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<sup>1</sup> IFC. 2002. *Handbook for Preparing a Resettlement Action Plan*. International Finance Corporation: World Bank Group.

<sup>2</sup>CDB. 2014. *Environmental and Social Review Procedures*. Caribbean Development Bank. Retrieved from <https://www.caribank.org/about-us/policies-and-strategies/environmental-and-social-review-procedures>





## RESETTLEMENT ACTION PLAN

### Project Summary

- Re-settlement should be based on a Resettlement Plan Survey developed in consultation with the affected people.
- In addition to compensation, resettlement assistance should be provided, if necessary, to facilitate income restoration.
- Directly affected groups should benefit from the project, and be consulted on decisions that affect them, including selection of benefit options, development packages, and mitigation measures. Particular attention should be paid to ensuring the interests of both women and men, the elderly and handicapped have been fully taken into account.
- Income restoration should build on the experiences and preferences of displaced people, and benefits should be socially and culturally appropriate.
- The project is required to guarantee that affected people receive the promised compensation packages ahead of project implementation, including the clearing of rights-of-way.

### 1.1 OBJECTIVE

The objective of the RAP is to ensure stakeholders affected by the proposed Project are not left significantly worse off than they were before the commencement of the works. This RAP describes the mechanisms through which suggested compensation and other assistance should be delivered to project-affected persons, and provides a preliminary time-bound action plan that sets out a strategy, entitlement criteria, indicative schedule, responsibilities, procedures for stakeholder consultations and grievance redress, as well as a monitoring and evaluation framework.

The RAP is a working document which should be periodically reviewed and updated throughout the project life cycle. As the IFC and CDB's principles dictate, it will be necessary for the relevant Government institutions to engage in stakeholder consultations to validate and finalise the RAP to ensure the mitigation and/or compensation measures are appropriate and sustainable. It will be necessary for the Government of Montserrat to confirm those project-affected persons that qualify for resettlement assistance or compensation, the valuation of entitlements and compensation, and the monitoring and evaluation plan.

## 2.0 PROJECT SUMMARY

The Government of Montserrat (GoM) is proposing to expand current facilities at the Port of Little Bay to provide safe facilities capable of receiving cruise ships, ferries, yachts, cargo, and commercial fishing vessels, as well as improve ancillary facilities. The Montserrat Port Authority is the Proponent for the Project, with the Ministry of Communications, Works, Energy and Labour serving as the Executing Agency and Project Coordinator through its Public Works Department (PWD). Funding to support the Project was secured from the Caribbean Development Bank (CDB) – United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF).



## RESETTLEMENT ACTION PLAN

### Affected Populations

A determination was made in February 2020 to proceed with the project based on a modified Port layout (Alternative K). As such, the Project will include the construction of the following main components:

- a double berth pier structure, with a 130-metre (m) long berth face and an apron width of 20 m, that consists of: concrete caissons, concrete blocks, and/or a steel sheet pile bulkhead or cells; an approximately 20 m long ramp for ro-ro cargo operations at the inshore end of the pier; and a mooring dolphin located approximately 40 m beyond the offshore end of the pier
- access from the pier to the shore and existing Port via a 10 m wide, two-lane road on a rock-filled causeway along the south side of Rendezvous Hill
- slope stabilisation works
- coastal protection consisting of concrete armour units and/or rip rap at the seaward and leeward sides of the filled causeway at the north (inshore) end of the pier
- a vessel approach channel and manoeuvring basin dredged to a water depth of at least -8.0 m chart datum (CD) for vessels berthing at the leeward side of the pier. Maintenance dredging to a depth of -5.0 m CD will also be completed at the existing Port (jetty).

## 3.0 AFFECTED POPULATIONS

Project-affected persons (PAPs) can be defined as:

*Any person who, as a result of the implementation of a project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, or pasture), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily (IFC 2002, x).*

The port construction of Alternative Design K port layout will result in the physical and economic displacement of five main categories of PAPs: (i) fishers who moor in Little Bay, (ii) fishers who fish on Little Bay Reef, (iii) spear-fishers who fish on Little Bay (iv) tour operators who offer watersports tours out of Little Bay and who use Little Bay Reef and the Bat Cave at Rendezvous Bluff, and (v) tour operators who offer bird watching tours at Rendezvous Bluff. An overview of the impacts associated with key project characteristics is provided in **Table 3.1** below.

**Table 3.1 Overview of the Impacts of the Key Project Characteristics on PAPs**

Project-affected person (PAP)	Key Project Characteristics (Alternative K) and Impacts
Fishers who moor in Little Bay	Total project footprint is 46,350 m <sup>2</sup> . There will be physical displacement of fishers who moor in Little Bay during the construction and operation of the pier. Fishers will lose mooring buoys and will have to trailer their boats.
Fishers who fish on the Little Bay Reef	Project overlaps 3,340 m <sup>2</sup> of the Little Bay Reef, which translates to a loss of approximately 32% of the reef habitat. This may impact reef-based fish catches and result in a decrease in income.
Spear-fishers who fish on the Little Bay Reef	Project overlaps 3,340 m <sup>2</sup> of the Little Bay Reef, which translates to a loss of approximately 32% of the reef habitat. This may impact reef-based fish catches and result in a decrease in income.



## RESETTLEMENT ACTION PLAN

### Affected Populations

**Table 3.1 Overview of the Impacts of the Key Project Characteristics on PAPs**

Project-affected person (PAP)	Key Project Characteristics (Alternative K) and Impacts
Tour operators who offer watersports tours out of Little Bay and who use Little Bay Reef and the Bat Cave on Rendezvous Bluff	Project overlaps 3,340 m <sup>2</sup> of the Little Bay Reef, which translates to a loss of approximately 32% of the reef habitat. The loss of area will impact marine based activities and tours (e.g., spear-fishing, diving, snorkelling, etc.). Additionally, the approximate distance to the Bat Cave on Rendezvous Bluff measured from the seaward coastal protection works during port construction is 69 m and the distance from the pier is 97 m. The proximity to the Bat Cave on Rendezvous Bluff could potentially have significant impacts on the colony of Antillean fruit-eating bats ( <i>Brachyphylla cavernarum</i> ) that roost in caves (see ESIA Addendum), which by extension could impact tours. The proposed works could result in a loss of income.
Bird-watching operators who utilise Rendezvous Bluff	The coastal protection works on the seaward side of the proposed pier are located approximately 97 m from the sensitive bird habitats on Rendezvous Bluff. The proximity to the cliff-nesting marine birds could impact bird watching tours and result in a loss of income.

A census of these five PAPs was undertaken in November 2020; and a summary of the key results follows. More detailed census results are found in the ESIA Addendum Appendix B.

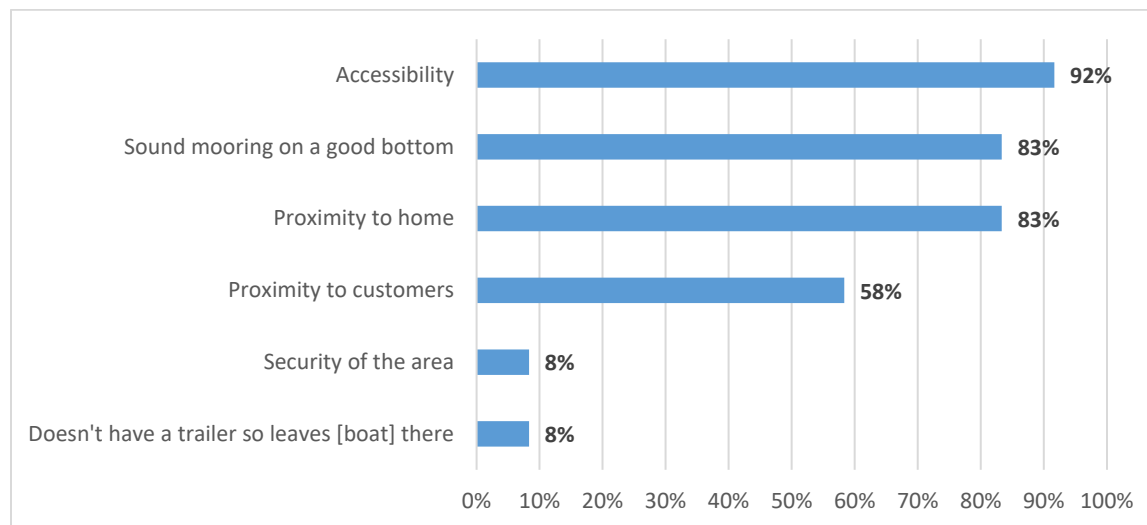
### 3.1 FISHERS (BOAT OWNERS) WHO MOOR IN LITTLE BAY

At present there are twelve (12) male fishers who moor their boats in Little Bay (see **Figure 3.1** for the advantages of this). The most prevalent boat types are pirogues (75%) and open moses (17%). The majority of these fishers (75%) have moored in Little Bay for over 20 years, and 58% have never moored their fishing boat in any other location. For the 42% who have moored in other locations, these included Plymouth, Bunkum Bay, Carrs Bay, Isles Bay and Old Roads Bay. It can be noted that all boat owners indicated that they have a crew; and 42% also fish in Little Bay: 60% of which use nets, 40% pots and 20% fishing poles and lines.



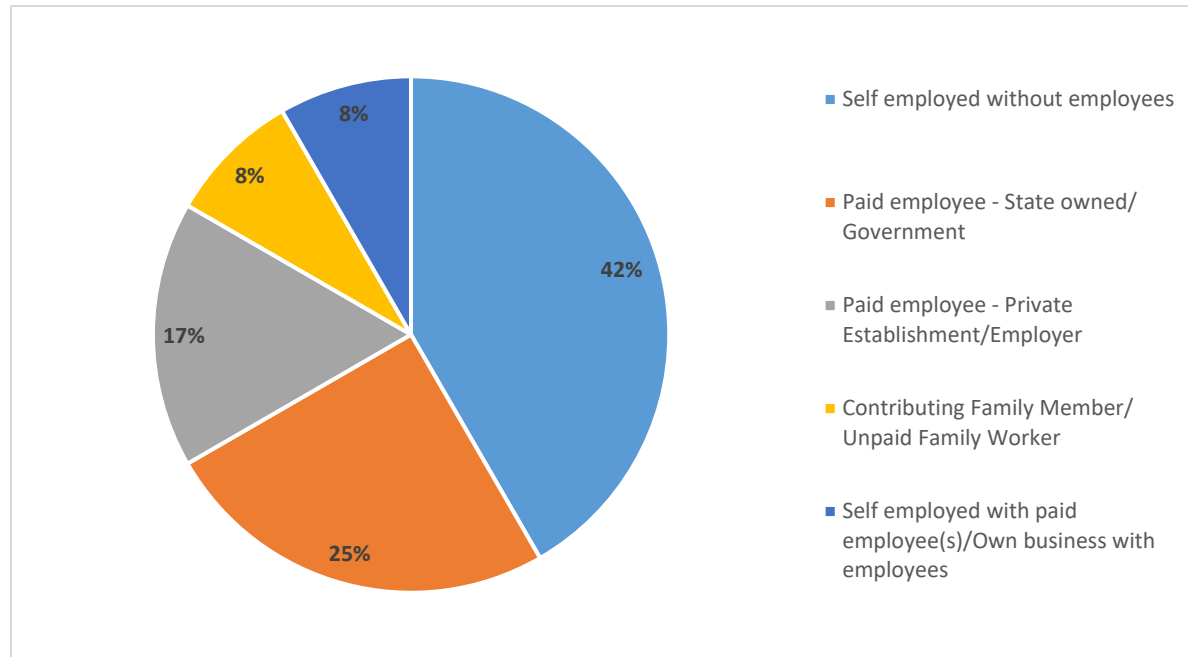
## RESETTLEMENT ACTION PLAN

### Affected Populations



**Figure 3.1 Advantages of Mooring in Little Bay**

For most of this category (92%), fishing is not their sole source of income. Approximately, 42% are self-employed and 25% are employed by the Government (see **Figure 3.2**). These boat owners mainly work in other areas of agriculture (37%), as technicians and associate professionals (27%), and as craft and other trade workers (18%).



**Figure 3.2 Employment Status of Fishers who Moor in Little Bay**



## RESETTLEMENT ACTION PLAN

### Affected Populations

When asked what would change if they could no longer moor their fishing boats in Little Bay, all said they would have to get trailers to launch/pull up their boats. Sixty-seven percent also stated that they would require access to a tractor/truck to haul the trailer to and from the launch area, that they would now have to spend extra time hauling and launching their boats, and that the use of an alternate location would increase their travel time and result in greater fuel expense. Only one boat owner (i.e., 8%) indicated that no longer mooring in Little Bay would result in a loss of income/livelihood, while 25% were unsure of the result of such a change. In addition, 83% indicated that there were no alternate mooring locations they could consider relocating to.

As **Table 3.2** shows, majority of the boat owners are in favour of being provided a trailer; however, 58% do not own a vehicle that could pull and/or transport the trailer. With that said, 86% of those who did not own a vehicle were willing to pay someone/a company to transport the trailer for them (when given a price range of XCD \$50 - \$150, responses were varied as to how much they would be willing to pay per trip).

**Table 3.2 Attitudes Towards being Provided with Trailers**

Attitudes	Frequency of response	Percentage
Being provided a trailer would be great (e.g., more convenient to haul vessel and preferable to anchoring at sea)	6	50%
Would utilise trailer if provided	3	25%
No issue with the idea of being provided a trailer	3	25%
It is not just being provided a trailer, also have to take into consideration the conditions of the water and launching the boat	1	8%
Would need to find a truck	1	8%

While none of the boat owners had insured their vessels or gear within the past 12 months, 92% stated that they could afford to repair their vessel if it was damaged during the launch or haul up and 83% said that they would be able to repair or replace the trailer if it was damaged.

### 3.2 FISHERS WHO FISH ON THE LITTLE BAY REEF

Based on the results of the census, it would appear that commercial fishing on the Little Bay Reef is not a prevalent activity. Only one of the fishing boat owners and his crew of one indicated that they fish on the Little Bay Reef, using pots and fishing poles and lines. Boat owners and crew typically set off from Little Bay and fish in various locations around the island:

**Table 3.3 Main Fishing Locations (other than Little Bay)**

Locations	Frequency of response	Percentage
Isles Bay	5	50%
Carrs Bay	4	40%
Bunkum Bay	3	30%
Rendezvous Bay	2	20%
Woodlands	2	20%



## RESETTLEMENT ACTION PLAN

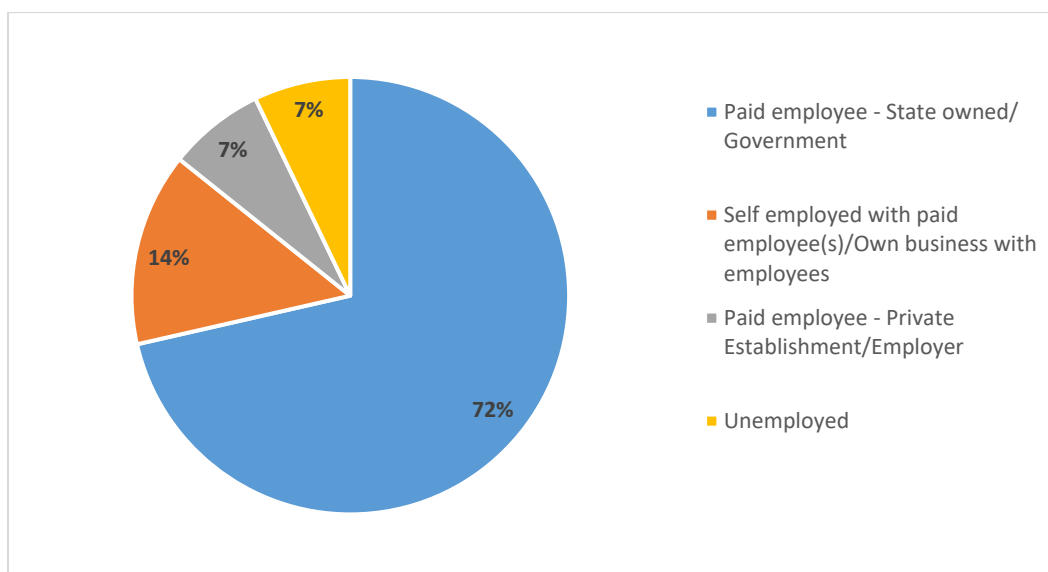
### Affected Populations

**Table 3.3 Main Fishing Locations (other than Little Bay)**

Locations	Frequency of response	Percentage
Bransby Point	1	10%
North western side of the island	1	10%
All around the island	1	10%
Bottomless Ghaut (on shore)	1	10%
Not applicable	1	10%
Foxes Bay	1	10%
Eastern part of island	1	10%
Plymouth	1	10%

### 3.3 SPEAR-FISHERS WHO FISH ON LITTLE BAY REEF

Of the sixteen (16) reef users identified, 14 of them (or 88%, all males) indicated that they spearfish on Little Bay Reef (for recreational/subsistence or commercial purposes). Fifty-seven percent have been using this location for over 11 years, while 43% have been spearfishing at Little Bay Reef for 10 years or less. However, the majority, 86%, currently utilise other reefs around Montserrat including at Rendezvous Bay, Carrs Bay, Yellow Hole, Lime Kiln, Bunkum Bay, and Woodlands; and 93% stated that the use of the reef at Little Bay was not their only source of income (the one unemployed person did not respond). Seventy-two percent of spear-fishers are currently employed by the Government (see **Figure 3.3**); and for 93%, spearfishing makes up the less than half their income. The one unemployed spear-fisher was unsure how he would cope if he could no longer use Little Bay Reef; but he does currently utilise other reefs around the island.



**Figure 3.3 Employment Status of Spear-Fishers who Fish on Little Bay Reef**



## RESETTLEMENT ACTION PLAN

### Affected Populations

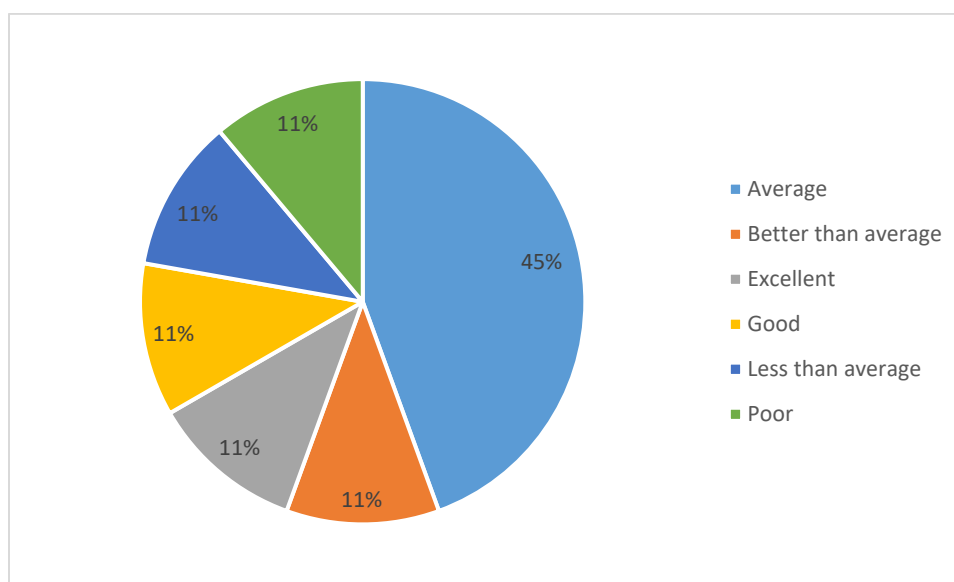
### 3.4 WATERSPORTS AND BAT CAVE TOUR OPERATORS AT LITTLE BAY REEF AND RENDEZVOUS BLUFF

The census identified around nine (9) persons (8 males and 1 female) who utilise the Little Bay Reef for commercial activities such as watersports, diving and snorkelling tours, sports fishing and other reef-related activities. Many of these tour operators often (but not always) include a visit to the Bat Cave on Rendezvous Bluff as part of the package. This is discussed further in **Section 3.4.1**.

As **Table 3.4** shows, 56% have been operating out of this location for over 11 years. For 89%, accessibility is the main advantage of using Little Bay Reef, while 22% each stated that the proximity to customers and proximity to their home were advantageous. With that said, only 11% of tour operators rated the quality of the Little Bay Reef as good compared to other reefs – most said it was average (see **Figure 3.4**). Not surprising then that all tour operators indicated they currently utilise other reefs around Montserrat such as those at Rendezvous Bay, Carrs Bay, Yellow Hole, Bunkum Bay, and Woodlands.

**Table 3.4 Length of Time Tour Operators have been Using the Little Bay Reef**

Years	Number of respondents		Percentage		TOTAL %
	Female	Male	Female	Male	
1-5 years	0	2	0%	22%	22%
6-10 years	1	1	11%	11%	22%
11-20 years	0	2	0%	22%	22%
Over 20 years	0	3	0%	33%	33%
TOTAL	1	8	11%	89%	100%



**Figure 3.4 Quality of the Little Bay Reef, Ratings by Tour Operators**



## RESETTLEMENT ACTION PLAN

### Affected Populations

With the exception of the lone female tour operator, all others had an alternative source of income (tour operating made up less than half their income). For her, a loss of the reef habitat could lead to a loss of income/livelihood and she did not know how she would cope with such an eventuality. Again, this is in contrast to the males, who for a number of them (about 44%), the change would result in no significant impact, and if it did, they could identify coping strategies such as using alternative sites and working multiple jobs.

With respect to tour operators' crew members, two crew members, one male and one female were interviewed (see ESIA Addendum Appendix B for the selection of respondents for this category). Between the two of them they conduct dive, snorkel and kayaking tours and one of them spear-fished. Both have alternate sources of income. For the female, losing the option of conducting tours on the Little Bay reef would mean having to work multiple jobs as a coping strategy; for the male, it would have no significant impact.

#### 3.4.1 Tour Operators who Utilise the Bat Cave on Rendezvous Bluff

Currently, six (6) operators (5 males and 1 female) conduct tours that include a stop at the Bat Cave, and they have been doing so for between 5 to 15 years. For 83% of these operators, there is no specified day of the week or amount of tours per week or month that includes the Bat Cave; and while 67% considered the Bat Cave to be a very important stop during their tours, half indicated that this attraction was only included based on client requests.

In terms of the perceived impact the port construction would have on their business, 50% of operators identified several potential challenges including the inability to conduct tours to the Bat Cave, inability to swim from Rendezvous beach to Little Bay during the construction phase, a reduction in dive tours, a loss in access to dive sites and the Little Bay Reef, reduction in the enjoyment of kayaking tours, and increased risk due to the need to utilise open waters and greater interaction with marine traffic. With that said, 67% felt that they would be able to adapt to any of the resulting changes. One respondent noted that he conducts tours in other locations such as Plymouth and Rendezvous, and another stated that while he initially imagined there could be a decrease in the number of tours, he did not expect it to be significant. Moreover, 33% of respondents identified potential benefits that could be derived from the Project: enhanced water sports activities, smoother transition getting people on and off the boats; and a safer and calmer space for vessels.

### 3.5 BIRD-WATCHING OPERATORS WHO UTILISE RENDEZVOUS BLUFF

Only one of the tour operators conducts bird watching tours at Rendezvous Bluff, and he has been doing so for the past 13 years. There are no specified days of the week or hours per week for these tours, but of all his tours, bird watching on the Rendezvous Bluff contributes most to his income, and if the quality of the bird watching tours were adversely affected, it would significantly impact his business.

One of his concerns is that he mostly engages bird tours in the evening. While the birds may not always be spotted, it is the actual sounds they make that fascinate the clients, as the bluff is the nesting ground for a variety of species, including the Audubon Shearwater and the Red-billed Tropic bird. He fears that the construction and associated lights will negatively affect the tours and make them less interesting. This





## RESETTLEMENT ACTION PLAN

### Legal and Institutional Framework

respondent explained that he understands the need for development but in the best interest of Montserrat suggests that the biodiversity of the island be considered and therefore every effort be taken to minimise impacts on the Bat Cave and bird nesting habitats.

He employs three persons to assist with the bird watching when he is unavailable. In the event that there are adverse impacts to the habitat of the cliff-nesting marine birds at Rendezvous Bluff, he might still be able to employ them to conduct tours in the forest which notably will not be the same.

## 4.0 LEGAL AND INSTITUTIONAL FRAMEWORK

Although there are strategies (e.g., the 2006 National Emergency Response: Resettlement Strategy) and financial assistance schemes related to the resettlement of persons displaced by the eruption of the Soufriere Hills Volcano in 1995, no specific legislation or policy speaks to the physical or economic displacement of persons due to development projects in Montserrat. Nonetheless, **Table 4.1** outlines the two main Acts that could have some relevance to the RAP.

It should be noted that the Port Project marks the first time on Montserrat that the IFC and CDB Principles for the resettlement of PAPs will be used. The GoM has expressed a keen interest to learn from this experience and, where appropriate, considerations will be made to adopt this approach for future projects. Moreover, the GoM may take under consideration the enactment of a resettlement legislation or policy.

**Table 4.1 Legislation Relevant to the RAP<sup>3</sup>**

Legislation	Provisions Relevant to Resettlement
Fisheries Act and Subsidiary Legislation (Revised Edition January 2013)	Section 59 speaks to the establishment of a fisheries fund, to be known as the Fisheries Deposit Account. Section 62 details that the use of fund monies may include the payment of any reward or compensation for actions which, in the view of the Committee, amount to actions which resulted in the preservation of the fisheries.  However, to date, no fund has ever been set up and it has been recommended that this article be removed from the revised fisheries act (per Pers. Comm. Dion Weekes, GOM, March 2, 2021).
Port Authority Act and Subsidiary Legislation (Revised Edition January 2013)	As laid out in section 20(1), any wharf, dock or other public work constructed by the Government along, across or extending out from the foreshore within the limits of the port and the land on which the same is constructed, any land reclaimed from the sea, and any part of the foreshore situated within the limits aforesaid, may be vested in the Authority upon such terms and conditions as the Governor may determine. While 20(2) further states that nothing in this section shall be taken to derogate from or interfere with the use of private rights and the payment of adequate compensation under any enactment providing for compensation.

<sup>3</sup> <http://www.commonlii.org/ms/legis/laws/>



## RESETTLEMENT ACTION PLAN

### Legal and Institutional Framework

#### 4.1 INSTITUTIONAL FRAMEWORK

The Government of Montserrat (GoM) / Montserrat Port Authority (MPA) have the ultimate responsibility for approving and implementing the RAP. The Project Coordinating Unit (PCU), with oversight of the entire Port Project, particularly during project implementation and construction, will lend support to the GoM/MPA with regards to mobilising a RAP Working Team, overseeing the finalisation and approval of the RAP, and contributing to the monitoring and evaluation of the RAP. The mobilised RAP Working Team (RWT) will include representatives from the GoM ministries that provide governance for the two main project-related sectors – tourism and fisheries (e.g., the Department of Fisheries and Montserrat Tourism Division). The team will also include members from the private sector.

The Project Coordinating Unit (PCU), under the Ministry of Communications, Works, Energy, and Labour, will engage a Community Liaison Officer (CLO) to provide support on issues relating to liaising with the PAPs. The CLO, under the direction of the MPA and PCU, is anticipated to participate in the implementation and monitoring of the RAP. Specifically, the CLO will interact and communicate continuously with PAPs throughout the Project lifetime. The CLO will lodge incoming concerns and complaints and enquiries in a confidential manner, as per the Grievance Redress Mechanism.

The PCU will develop and implement a consultation and disclosure plan. However, a Social Manager will be contracted to oversee and coordinate all activities associated with stakeholder engagement, including the RAP and Grievance Redress Mechanism. Note, since this is a small-scale project, the Social Manager and CLO may be the same person.

Below is an outline of the institutional roles and responsibilities:

**Table 4.2 Institutional Roles and Responsibilities**

<b>Roles</b>	<b>Responsible Institution</b>	<b>Institution Abbreviation</b>
<b>Project Implementation</b>		
Project Proponent	<b>Montserrat Port Authority – Ministry of Communications, Works, Energy and Labour</b>	<b>MPA</b>
Project Execution/Support	<b>Public Works Department – Ministry of Communications, Works, Energy and Labour</b>	<b>PWD</b>
	Fisheries and Ocean Resources Unit – Ministry of Agriculture, Trade, Lands, Housing and Environment	FU
	Physical Planning Unit – Ministry of Agriculture, Trade, Lands, Housing and Environment	PPU
	Montserrat Tourism Division, Office of the Premier	TD
	Project Management Office - Ministry of Finance and Economic Management	MoFEM
	Ministry of Communications, Works, Energy, and Labour	MoC
	Ministry of Education, Health, Community Services, Sports, and Youth	MoE



## RESETTLEMENT ACTION PLAN

### Legal and Institutional Framework

**Table 4.2 Institutional Roles and Responsibilities**

<b>Roles</b>	<b>Responsible Institution</b>	<b>Institution Abbreviation</b>
<b>RAP Finalisation</b>		
Validation of entitlement values and compensation budget; and determination of final forms of assistance	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Public Works Department / Project Coordinating Unit – Ministry of Communications, Works, Energy and Labour	PWD/PCU
	Fisheries and Ocean Resources Unit	FU
	Montserrat Tourism Division	TD
	Project Management Office - Ministry of Finance and Economic Management	MoFEM
	Ministry of Communications, Works, Energy, and Labour	MoC
Stakeholder consultations	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Project Coordinating Unit	PCU
	Ministry of Communications, Works, Energy, and Labour	MoC
Finalisation and approval of draft RAP	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Project Coordinating Unit	PCU
RAP public disclosure	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Ministry of Communications, Works, Energy, and Labour	MoC
<b>RAP implementation</b>		
Identify and verify the PAPs	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Project Coordinating Unit	PCU
	Fisheries and Ocean Resources Unit	FU
	Tourism Division	TD
	Ministry of Communications, Works, Energy, and Labour	MoC
Preparation and disbursement of entitlements to the eligible PAPs	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Project Coordinating Unit	PCU
	Ministry of Communications, Works, Energy, and Labour	MoC
	Project Management Office - Ministry of Finance and Economic Management	MoFEM
Establish and implement Grievance Redress Mechanism (GRM)	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Public Works Department/Project Coordinating Unit	PWD/PCU
Monitoring and evaluation of the RAP	<b>Montserrat Port Authority</b>	<b>MPA</b>
	Public Works Department/Project Coordinating Unit	PWD/PCU



## RESETTLEMENT ACTION PLAN

### Compensation Framework

## 5.0 COMPENSATION FRAMEWORK

In cases where a project leads to physical and/or economic displacement, it is expected that affected persons would be compensated for their loss of physical assets, revenue, and/or income – whether these losses are temporary or permanent. The RAP compensation framework specifies all forms of asset ownership or use rights among the PAPs and the project's strategy for compensating them for the partial or complete loss of those assets (IFC 2002).

As discussed in **Section 3.0**, the main categories of PAPs<sup>4</sup> identified under the Montserrat Port Development Project in Little Bay include:

- Fishers who moor in Little Bay
- Fishers who fish on Little Bay Reef
- Spear-fishers who fish on Little Bay Reef
- Tour operators who offer watersports tours out of Little Bay and who use Little Bay Reef and the Bat Cave on Rendezvous Bluff
- Bird-watching operators who utilise Rendezvous Bluff

An economic assessment was undertaken to estimate the impacts of the Project construction and/or operation on the above mentioned PAPs who may potentially be physically or economically displaced (Sedley 2021<sup>5</sup>). The methodology used in the analysis was as follows:

- Identify how the project will impact each identified group of PAP both positively and negatively.
- Estimate the economic effects<sup>6</sup> of each identified impact using:
  - data previously collected during the stakeholder engagement phase of project design;
  - discussions with selected project-affected persons and with GoM personnel;
  - available data sources and reports.

### 5.1 SUMMARY OF THE ECONOMIC ASSESSMENT BY PAP CATEGORY

Below is the summary of the positive and negative economic impacts that could be experienced by the five categories of PAPs, along with recommendations for compensation.

#### 5.1.1 Fishers who moor in Little Bay

Impacts on the fishers who moor in Little Bay (other than any impact on fish catches on the Reef) can be described as follows:

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<sup>4</sup> Note that the Montserrat Port Authority should initiate a process of stakeholder consultations to facilitate the finalisation of the RAP. It is during this process that the listing of PAPs would be validated.

<sup>5</sup> Sedley, J. 2021. Economic Impacts of Proposed Montserrat Little Bay Port on Project-Affected Persons.

<sup>6</sup> The values presented here are for budget estimation purposes. Many of the values reported and calculations (e.g., estimated number of annual fishing trips) were based on consultation with the Chief Fisheries and Oceans Governance Officer. However, as part of the finalisation of the RAP, these economic assumptions will be verified and amended as necessary by GoM.



## RESETTLEMENT ACTION PLAN

### Compensation Framework

**Table 5.1 Positive and Negative Economic Impacts for Fishers who Moor in Little Bay, and Recommendations for Compensation**

Description		Recommended Actions
<b>Positive Impacts</b>		
<b>1</b>	<b>Provision of a boat trailer</b> During project construction, the mooring buoys used by these fishers will be removed. Following construction, five mooring buoys will be installed for use on a first come / first served basis. To offset this loss of mooring, the GoM made a determination that they would provide each fisher with a boat trailer; the trailered boats will be stored at no charge in the Government boatyard. Provision at no cost to the fisher of a boat trailer is valued at \$13,000 <sup>7</sup> . GoM has offered to provide trailer tows to and from the boatyard to the launch ramp for at least the first year (see Negative Impact 3).	GoM to provide trailers to eligible PAPs, at no charge
<b>2</b>	<b>No longer require a tender to get to and from moored boat</b> A tender is no longer needed and so could be sold. The current price of a new tender is approximately \$3,000; final selling price would depend upon condition of the tender. Proceeds from the sale would accrue to the boat owner.	Where desirable and feasible, PAPs should sell their unneeded tenders
<b>3</b>	<b>On-shore storage allows for easier maintenance of boat and motor, less wear and tear on the boat and equipment, less chance of damage to boat (e.g., losing moorings) in unexpected storms</b> Difficult to establish, but it is assumed that this will offset Negative Impact 4 (trailer maintenance).	Nil
<b>4</b>	<b>Saves cost of boat removal during bad weather</b> Currently, there are about 10 weather events a year where it is deemed necessary to remove boats from the sea. GoM removes the boat by crane at its own cost of \$200; the boat owner must pay for the crane to put the boat back in the sea. GoM pays for the removal (not return) up to twice annually. Thus, for an average of 10 events annually, the boat owner would pay for two return crane lifts (after the free GoM removal) and eight 2-way crane lifts. This totals 18 crane lifts per boat annually costing \$3,600 that the boat owner could expect to pay. With trailering, such crane lifts would not be required saving the boat owner \$3,600. GoM would also save the cost of the two removals at \$200 per boat or \$4,800 annually for 12 boats.	Nil

<sup>7</sup> Unless otherwise noted, all monetary figures are in EC\$ (XCD) at an exchange rate of EC\$2.70 = US\$1.00.



## RESETTLEMENT ACTION PLAN

### Compensation Framework

**Table 5.1 Positive and Negative Economic Impacts for Fishers who Moor in Little Bay, and Recommendations for Compensation**

Description		Recommended Actions
<b>Negative Impacts</b>		
<b>1</b>	<p><b>It will take longer to start and finish a fishing trip compared to rowing out to a moored boat: movement of boat from boatyard, launch, trailering, back to boatyard.</b></p> <p>The boat owner and crew (an average of two) might require extra time for a trip because rather than simply rowing out to the moored vessel, they would have to wait for the trailered boat to be towed to the launch ramp and then launched; on the return, trailering the boat would be required (the owner would then accompany the boat to the boatyard). This extra time is estimated at \$1,260 per boat per year. However, some time-saving will be made by avoiding the time required to row out and back to the mooring buoy.</p>	<p>GoM to compensate eligible PAPs for extra time and fuel on a per fishing trip basis. A simple form of compensation would be a fuel coupon valued at the total of extra time and extra fuel (e.g., for a fisher with and a crew of two, a fuel coupon valued at \$20.70 could serve as compensation). GoM could arrange with fuel distributors to redeem these coupons for cash on a timely (say weekly or monthly) basis. Although a one-time payment in advance might reduce GoM administrative requirements, this would require signed declarations and potential repayments if the assumed number of trips and crews were not undertaken.</p> <p>GoM to provide tows for trailered boats from the boatyard to launch ramp and back to the boatyard, for at least the first year. Note, this cost could be prohibitive to fishers; therefore, consultations between GoM and eligible PAPs would be required to reach an agreed long-term solution.</p>
<b>2</b>	<p><b>Extra fuel will be required to launch and trailer boats, compared to starting out from the mooring buoys.</b></p> <p>An assumed extra 10 minutes running the engine compared to starting at the mooring buoy is estimated to cost an additional \$475 per boat per year.</p>	
<b>3</b>	<p><b>Cost of trailer tows</b></p> <p>GoM indicates that its' cost to tow a trailered boat from the boatyard to launch ramp and back to the boatyard is \$150. If it is assumed that there are 84 fishing trips per year per boat, the cost to provide tows to and from the boatyard would be \$12,600 per boat per year, although the installation of 5 new mooring buoys would reduce this number of tows somewhat.</p>	
<b>4</b>	<p><b>Cost of trailer maintenance</b></p> <p>Difficult to establish but assume these costs are offset by easier and reduced maintenance of boat and motor made possible through out-of-water storage (Positive Impact 3).</p>	



## RESETTLEMENT ACTION PLAN

### Compensation Framework

#### 5.1.2 Fishers who Fish on the Little Bay Reef

As indicated in **Section 3.2**, fishing on the Little Bay Reef is not a prevalent activity: only one fisher (and his crew of one) fishes at this location. The Project is estimated to impact 32% of the reef which could lead to a decrease in fish catch. However, the decrease may be less than proportional since hard surfaces such as a pier, coastal protection armour, scour protection, etc., creates marine habitat of the submerged surfaces and provides a 'reef effect', which attracts fish. This reef effect is likely to occur within 2 to 5 years.

This fisher could be compensated by assuming he would fish in another location as do the other fishers who moor in Little Bay. The other fishers typically set off from Little Bay and fish in various locations around the island including Isles Bay, Carrs Bay, Bunkum Bay, Rendezvous Bay and Woodlands. Doing so would cost this fisher more time and fuel to get to an alternative reef. If it is assumed that an equally good reef can be reached in an hour, leading to a 2-hour increase per fishing trip, extra fuel use would cost \$135 per trip. The extra time for the fisher and a crew member would total \$40 per trip. This estimated extra cost comes to \$175 per trip or \$14,700 for a year of 84 trips (number of trips for fishers is based on an average of 2 trips per week and 42 weeks per year, taking into consideration weather events and based on consultation with the Montserrat Chief Fisheries and Oceans Governance Officer). If this method is used, it is recommended that the GoM compensate this fisher for extra time and fuel on a per fishing trip basis utilising fuel coupons. The fisher, however, should be required to show proof of fishing at a site other than Little Bay Reef in order to redeem his coupons (e.g., self-declaration of visitation to other reefs). Through the stakeholder consultations to finalise the RAP, the GoM will determine the length of time compensation should be provided (e.g., for the first project-year only or longer).

#### 5.1.3 Spear-Fishers who Fish on the Little Bay Reef

While the Project is estimated to impact 32% of the reef, the decrease will be less than that because hard surfaces such as a pier, coastal protection armour, scour protection, etc., creates marine habitat of the submerged surfaces and provides a 'reef effect', which attracts fish. If spear-fishers were to find that Little Bay Reef yielded less catch during and/or after port construction, it is likely that they would spend more time on other reefs than they do presently. However, this would be at the cost of increased travel to and from a suitable reef. If, for example, a spear-fisher who currently fishes once a week on Little Bay Reef and once on another reef were to fish solely on another reef, this might cost the fisher an extra say 2 litres of fuel per week; for 42 weeks, this would be \$335 annually per spear-fisher. Compensation with fuel coupons could be utilised based on proof of travel to another reef. The GoM may, however, through their consultations with PAPs to finalise the RAP, seek to determine which spear-fishers engage in this activity for strictly recreational purposes or for subsistence/commercial purposes, noting that 93% stated that use of the reef at Little Bay was not their only source of income and 86% already fish at alternative sites.



## RESETTLEMENT ACTION PLAN

### Compensation Framework

#### 5.1.4 Tour Operators who Offer Watersports Tours out of Little Bay and who use Little Bay Reef and the Bat Cave on Rendezvous Bluff

Based on the census (refer to **Section 3.4**), all tour operators currently utilise other reefs around Montserrat such as those at Rendezvous Bay, Carrs Bay, Yellow Hole, Bunkum Bay, and Woodlands. While tour operators do not depend solely on Little Bay Reef for revenue, the port construction is likely to diminish the attractiveness of the port area which may put-off some potential watersports customers. It may also reduce the attractiveness of the Bat Cave if construction activities negatively impact the bats.

Without access to tour operators' business records, it is not possible to definitively assess the economic impacts of port construction on their businesses. Potential losses in the short term during port construction may in the long term be offset by increased business after the port is open for business: increases in cruise vessel arrivals and improved ferry service are likely. Also, some operators think that once construction is completed, Little Bay would offer enhanced watersports activities, smoother transition getting customers on and off the boats and safer and calmer space for vessels. Nevertheless, losses during port construction should be compensated.

As a basis for compensation, tour operators could be compensated for lost business resulting from Port construction. This would require establishing a business baseline as a comparator. Tour operator revenues are currently impacted by COVID-19. Such losses are not the responsibility of the Montserrat Port Development Project. Therefore, it is suggested that two baselines be determined: a pre-COVID and COVID baselines. The *pre-COVID baseline* should be based on monthly business (number of customers) during 2019. The *COVID baseline* should be based on monthly business April 2020 through March 2021 (COVID-19 impacted business conditions did not fully arise until about April 2020). Compensation during Port construction during continuation of COVID conditions would be based on customers by month compared to the *COVID baseline*. Compensation during Port construction after return to non-COVID conditions would be based on customers by month compared to the *pre-COVID baseline*. This can be operationalised as follows: GoM could pay for the number of reduced customers at a rate of say 50% of the average posted tour price. For example, if a tour operator had 80 paying customers in December 2020 (that operator's COVID baseline) and 70 in December 2021 (during construction and assumed continuation of COVID conditions), that operator would be compensated for 10 customers. At an average value of 50% of the average posted tour price of US\$40 (EC\$110) for a tour of the bat caves, this would amount to compensation for the month of EC\$550 for the bat cave tour operator.

Special consideration should be given to the sole female tour operator who indicated that the use of the Little Bay Reef was her only source of income and that a loss of access could result in a loss of income. A solution may be to compensate her at a rate higher than 50% of the average posted tour price, and/or ensure that appropriate non-monetary compensation or transitional assistance (e.g., career training, short-term employment, or subsistence support) is provided. This, of course, will have to be a determination of the GoM after appropriate stakeholder consultations to finalise the RAP<sup>8</sup>. These stakeholder consultations would also be an opportunity for the GoM to determine the length of time

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<sup>8</sup> It should be noted that in undertaking the economic assessment, emails were sent to the female tour operator to solicit feedback on her specific situation; however, the Consultant did not receive a response.





## RESETTLEMENT ACTION PLAN

### Compensation Framework

compensation should be provided for this entire category of PAPs (e.g., for the first project-year only or longer).

#### 5.1.5 Bird-Watching Operators who Utilise Rendezvous Bluff

Only one operator conducts land-based bird-watching tours at Rendezvous Bluff<sup>9</sup>; and this contributes most to his income. The tours are held in the evening. While the birds may not always be spotted, it is the actual bird sounds that appeal to customers. Construction and associated lights may negatively affect the tours and make them less interesting. In the event that there are adverse effects to the habitat for the marine birds at Rendezvous Bluff, the operator would conduct tours in the forest, which will not be as attractive to customers. It can be noted that the Department of the Environment has conducted a bird survey of the area and plans to conduct surveys during and after the Project. The actual impact of the Project on the birds, if any, will be known then.

Since the adverse impacts on the sensitive habitats cannot be ascertained prior to construction, the need for compensation for impacts on bird populations at Rendezvous Bluff cannot be determined at this time. However, in the event that the tour experience is impacted, similar to the watersports and bat cave tour operators, as a basis for possible compensation, the bird-watching operator could submit records of paying customers by month for the last 12 months to set a baseline. Monthly customers during Port construction would be compared to this baseline to determine the impact of port construction and the value of the compensation to be granted. Using the example of a decline by 10 customers, at an average value of 50% of the average posted tour price of about US\$70 (EC\$190) for a bird-watching tour, this would amount to compensation for the month of EC\$950 for the bird-watching tour operator. Through the stakeholder consultations to finalise the RAP, the GoM will determine the length of time compensation should be provided (e.g., for the first project-year only or longer).

## 5.2 ELIGIBILITY CRITERIA

Under this RAP, the affected persons eligible to receive compensation and any other form of entitlement/assistance are as follows:

- **Physically displaced persons:** those who have no recognisable legal claim to the land, marine area or other assets taken or impacted by the Project, but depend on this space for their livelihood (by virtue of occupation or use of those assets)
- **Economically displaced persons:** those who have no recognisable legal claim to the land, marine area or other assets taken or impacted by the Project, but depend on this space for their livelihood (by virtue of occupation or use of those assets)

The entitlement matrix (**Table 5.2**) summarises the types of possible losses and corresponding entitlements which are addressed by this RAP.

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<sup>9</sup> The Montserrat Tourism Division indicated that accessing the Rendezvous Trail (which was closed in 2020) is not necessary for the bird-watching tour.



## RESETTLEMENT ACTION PLAN

### Compensation Framework

**Table 5.2 Entitlement Matrix**

Category of PAP	Type of Loss	Entitlement	Other forms of assistance/actions
<b>Fishers who moor in Little Bay</b> <i>(Physical &amp; Economic displacement)</i>	Loss of access to existing mooring in Little Bay (partial <sup>10</sup> and/or permanent)	Boat trailers Round-trip tows for trailered boats from the boatyard to launch ramp (at least for the first project year)	Assistance identifying alternative mooring locations in or near Little Bay, if available and so desired by fishers  Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate employment, subsistence support, or salary maintenance)
	Extra time and fuel costs (partial and/or permanent)	Access to five newly installed mooring buoys (on a first come/first served basis) Redeemable fuel coupons (at least for the first project year)	
<b>Fishers who fish on the Little Bay Reef</b> <i>(Economic displacement)</i>	Extra time and fuel costs (temporary)	Redeemable fuel coupons (at least for the first project year)	Assistance identifying alternative fishing sites, if available and so desired by fishers  Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate/short-term employment, subsistence support, or salary maintenance)
<b>Spear-fishers who fish on the Little Bay Reef</b> <i>(Economic displacement)</i>	Extra time and fuel costs (temporary)	Redeemable fuel coupons (at least for the first project year)	Assistance identifying alternative fishing sites, if available and so desired by spear-fishers  Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate/short-term employment, subsistence support, or salary maintenance)
<b>Tour operators who offer watersports tours out of Little Bay and who use Little Bay Reef and the Bat Cave on Rendezvous Bluff</b> <i>(Economic displacement)</i>	Loss of revenue (temporary)	Reimbursement for the number of reduced customers at a rate of between 50% to 100% of the average posted tour price (for a period to be determined by GoM)	Assistance identifying alternative reef sites, if available and so desired by tour operators  Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate/short-term employment, subsistence support, or salary maintenance)

<sup>10</sup> Only 5 mooring buoys are expected to be reinstalled, which means at any given time about seven fishers could be without mooring access.



## RESETTLEMENT ACTION PLAN

### Compensation Framework

**Table 5.2 Entitlement Matrix**

Category of PAP	Type of Loss	Entitlement	Other forms of assistance/actions
<b>Bird-watching operators who utilise Rendezvous Bluff</b> <i>(Economic displacement)</i>	Loss of revenue (temporary)	Reimbursement for the number of reduced customers at a rate of between 50% to 100% of the average posted tour price (for a period to be determined by GoM)	Assistance identifying alternative locations (e.g., the forest) Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate/short-term employment, subsistence support, or salary maintenance)
<b>Any other project affected persons</b>	Unidentified losses	To be determined based on stakeholder consultation and an economic assessment	Non-vulnerable persons given adequate notice to remove assets Unanticipated involuntary impacts documented and mitigated based on RAP principles Transitional assistance to minimise adverse impacts on livelihoods (e.g., training, alternate/short-term employment, subsistence support, or salary maintenance)

The RAP's compensation framework and associated budget estimate will be refined further through the public consultation process. Furthermore, the economic circumstances of PAPs and the scale of impact from the project to their activities (and therefore the scope of compensation intervention) will be subject to additional verification by the Government of Montserrat. Payment of certain compensation will also be subject to the review of verifiable supporting evidence.



## RESETTLEMENT ACTION PLAN

### Proposed Implementation Schedule

## 6.0 PROPOSED IMPLEMENTATION SCHEDULE

The main chronological steps involved in the implementation of the RAP are show below.

	Tasks	Responsible Institutions	Period (Months)											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Mobilisation of RAP Working Team (RWT)	MPA/PCU/PWD												
2	Verification of PAPs and stakeholders identified in the preliminary RAP census (update as necessary)	RWT PCU/PWD FU TD MoC												
3	Finalisation and approval of the RAP by MPA/GoM	RWT/MPA PCU/PWD MoFEM MoC												
3.1	Hold stakeholder consultations to (i) present draft RAP to PAPs, (ii) disclose entitlements and valuation methods, and (iii) negotiate/agree on compensation between the RAP Working Team and the PAPs													
3.2	Finalise the valuation of entitlements and the compensation budget													
3.3	Establishment of Compensation Payment Mechanism													
3.4	Establish cut-off-date for compensation eligibility													
3.5	RAP budgetary allocation and release by GoM													
4	Implement RAP													
4.1	Establish a RAP Implementation Mechanism	MPA/RWT PCU/PWD MoFEM FU TD MoC												
4.2	Identify and verify the eligibility of PAPs													
4.3	Procurement of boat trailers													
4.4	Formal notification and agreement of entitlements													
4.5	Disbursement of compensation to PAPs (one-time compensation and/or on-going compensation for an agreed period)													
4.6	Establish and implement RAP Grievance Redress Mechanism (GRM)													
5	Start civil works													
6	Monitoring and Evaluation (M&E) of the RAP (internal and external)	RWT/PCU/PWD												
6.1	Establish and implement an internal M&E Mechanism													
6.2	Contract external M&E Consultant/Firm to perform Completion Audit													

Figure 6.1 Indicative RAP Schedule, First Project Year



## RESETTLEMENT ACTION PLAN

### Stakeholder Consultation

## 7.0 STAKEHOLDER CONSULTATION

The preparation of this RAP was based on stakeholder consultations and a census undertaken between 2018 and 2020 as part of the Social Impact Assessment for the Project. It was also informed by stakeholder consultations in 2021 which guided the preparation of the Economic Assessment Report. However, to validate, finalise and implement the RAP, the GoM will be required to engage stakeholders further. The specific institutions responsible for these tasks are identified in **Section 4.1** and **Figure 6.1**, namely the Project Coordinating Unit (PCU), under the Ministry of Communications, Works, Energy, and Labour, who will be responsible for engaging a Community Liaison Officer (CLO) and/or Social Manager.

The IFC (2002) recommends that all projects resulting in displacement should publicly disclose a RAP, and that the RAP must be prepared through a process of consultation with all interested and affected parties. Stakeholder consultations ensure that PAPs are granted an opportunity to contribute to the process, and that they are made aware of their rights and eligibility for compensation, the compensation and/or assistance options available, the process of and dates for compensation, and the process for handling complaints/grievances.

A detailed stakeholder engagement plan (SEP) outlining, *inter alia*, the roles and responsibilities of the various institutions has been prepared for the Project (see ESIA Addendum Appendix A). This SEP also guides the stakeholder consultations procedures associated with the RAP; however, engagement and disclosures strategies specific to PAPs are outlined in the table below.

**Table 7.1 Engagement and Disclosure Methods**

Category of PAPs	Engagement and Disclosure Methods
Fishers who moor in Little Bay	Formal meeting, including Project Council Group and individual meetings Focus groups Emails <sup>11</sup> Phone / WhatsApp/ Other messaging Press releases Grievance mechanism Project website and social media Information Centre
Fishers who fish on the Little Bay Reef	Formal meeting, including Project Council Group and individual meetings Focus groups Emails Phone / WhatsApp/ Other messaging Press releases Grievance mechanism Project website and social media Information Centre

<sup>11</sup> Note, most fishers did not provide an email address during the census.



## RESETTLEMENT ACTION PLAN

### Stakeholder Consultation

**Table 7.1 Engagement and Disclosure Methods**

<b>Category of PAPs</b>	<b>Engagement and Disclosure Methods</b>
Tour operators and other users of the Little Bay Reef	Formal meeting, including Project Council Group and individual meetings Focus groups Emails Phone / WhatsApp/ Other messaging Press releases Grievance mechanism Project website and social media Information Centre
Tour operators who utilise the Bat Cave on Rendezvous Bluff	Formal meeting, including Project Council Group and individual meetings Focus groups Emails Phone / WhatsApp/ Other messaging Press releases Grievance mechanism Project website and social media Information Centre
Bird-watching operators who utilise Rendezvous Bluff	Formal meeting, including Project Council Group and individual meetings Focus groups Emails Phone / WhatsApp/ Other messaging Press releases Grievance mechanism Project website and social media Information Centre



## RESETTLEMENT ACTION PLAN

### Grievance Redress Mechanism

## 8.0 GRIEVANCE REDRESS MECHANISM

A grievance redress mechanism (GRM) allows for the concerns of the PAPs (e.g., related to the eligibility criteria or compensation entitlements) to be recorded and addressed in a transparent, timely and satisfactory manner. A GRM has been developed for addressing all grievances that may arise from this Project whether they are related to compensation issues or other project-related matters (see ESIA Addendum Appendix A). As indicated in **Section 4.1** and **Figure 6.1**, the Montserrat Port Authority (MPA) will be the lead agency for administering the GRM, with support from the CLO and/or Social Manager.



## RESETTLEMENT ACTION PLAN

### Grievance Redress Mechanism

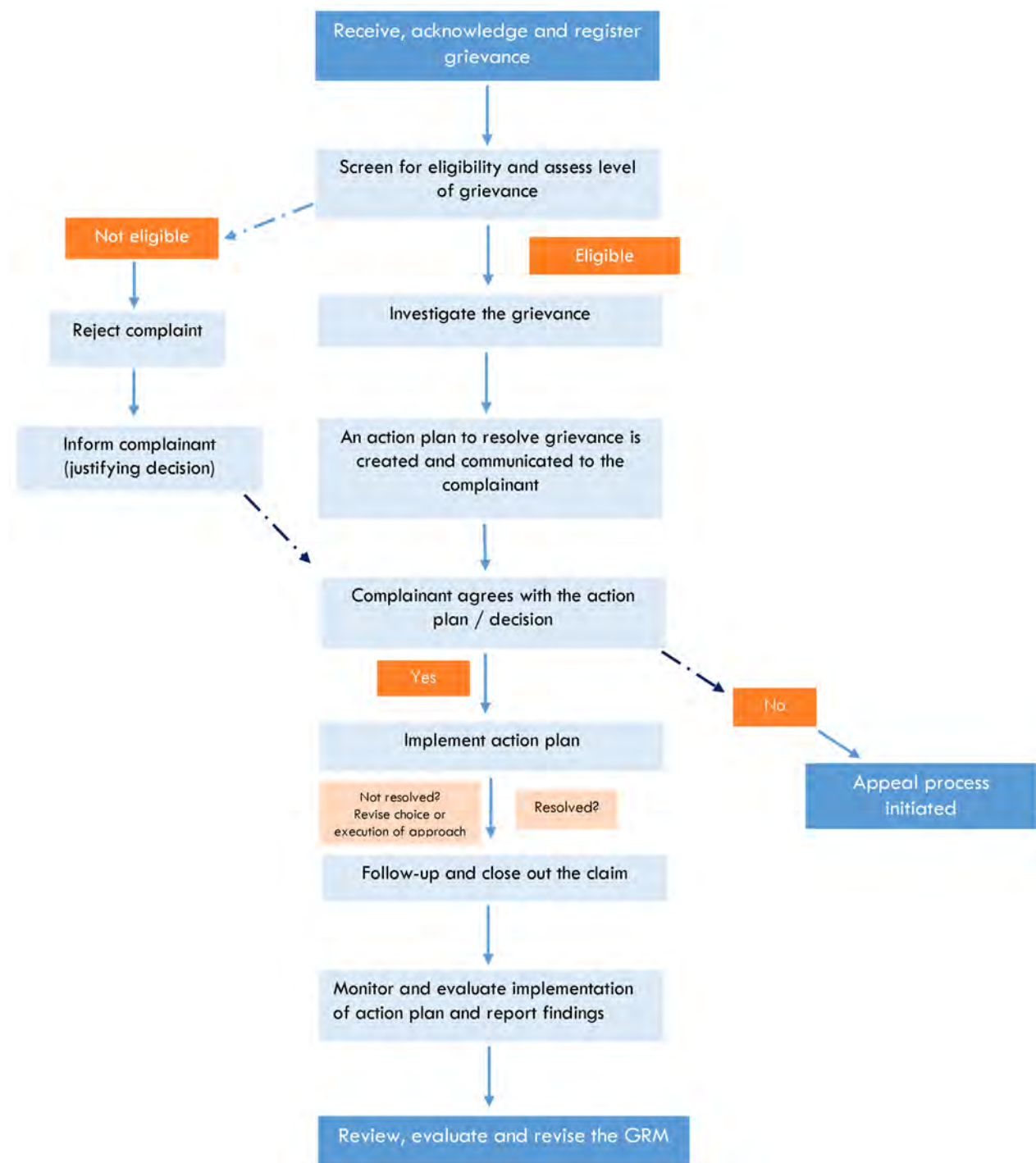


Figure 8.1 Overview of the Grievance Redress Process





## RESETTLEMENT ACTION PLAN

### Monitoring and Evaluation

## 9.0 MONITORING AND EVALUATION

Monitoring and evaluation are critical to the effective implementation of the RAP. Monitoring is a continuous process that ascertains whether the compensation effort is progressing as per the schedule and budget (to be prepared by GoM), and also helps with the early identification of problems so they can be remedied in a timely fashion. Evaluation, on the other hand, allows for an assessment of the extent to which the project has achieved the objectives of the RAP, specifically as it relates to ensuring no permanent economic displacement. The RAP Monitoring and Evaluation Plan (**Table 9.1**) outlines the elements associated with performance monitoring, impact monitoring, and the completion audit, as well as the responsible institutions. The Montserrat Port Authority (MPA) will be the lead agency for executing this plan.



## RESETTLEMENT ACTION PLAN

### Monitoring and Evaluation

**Table 9.1 RAP Monitoring and Evaluation Plan**

Component Activity	Key Performance Indicators	Sources of Information	Responsible Institution	Frequency of Reporting
<b>Performance Monitoring</b>	Compensations disbursed to PAPs in accordance with the RAP	Record keeping and project progress reports	<b>MPA/PCU/PWD/RWT</b> MoFEM FU TD MoC	Monthly or Quarterly narrative and financial reports
	Delivery of other forms of assistance			
	Amount of money expended on compensation and assistance	Meeting/consultation reports and attendance sheets		
	Public information dissemination and consultations held			
	Grievance redress procedures in place and functioning	Grievance mechanism internal monitoring progress report		
<b>Impact Monitoring</b>	Number of people receiving compensation for physical or economic displacement, within an agreed timeframe <sup>12</sup> (disaggregated by PAP category, age and sex).	Record keeping and project progress reports	<b>MPA/PCU/PWD/RWT</b> FU TD MoC	Semi-annual or annual reports Case files
	Number of consultations with general public and PAPs	Meeting/consultation reports and attendance sheets		
	Total number of people that participated in consultations (disaggregated by age and sex)			
	Total number of valid grievances lodged related to physical or economic displacement (disaggregated by PAP category)	Grievance mechanism internal monitoring progress reports		
	Number of satisfactorily resolved grievances related to physical or economic displacement	Quantitative and qualitative surveys		
	Assessment of the effects of compensation against the baseline conditions (census)			
<b>Completion Audit</b>	Firm/individual contracted to conduct an independent monitoring and evaluation of the implementation of the RAP	Internal impact monitoring reports  Independent surveys and consultations with PAPs	<b>MPA</b> RWT PCU/PWD	External assessment report <i>(at least two months after the completion of the compensation and/or assistance activities)</i>

<sup>12</sup> One-time compensations should be disbursed prior to the start of the civil works. For annual or on-going compensation, disbursement schedules should be established as part of the RAP finalisation process.



# **APPENDIX B**

## ESIA Addendum Social Stakeholder Interview Results





**Montserrat Port Development  
Project: ESIA Addendum - Social  
Stakeholder Interview Results**

March 31, 2021

Prepared for:

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# MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Fishers Who Moor in Little Bay  
March 31, 2021

## 1.0 FISHERS WHO MOOR IN LITTLE BAY

At present there are twelve male fishers who moor their boats Little Bay. Research confirms that this pattern of male dominance in the harvesting segment of the fisheries value chain is a common feature in Caribbean fisheries<sup>12</sup>. The fishers range in age from 30 to 84 (Table 1Error! Reference source not found.), and Figure 1 shows that 75% of the respondents have attained secondary level education.

**Table 1      Age of the Respondent**

Age Ranges	Number of Respondents	Percentage
30-39 years	1	8%
40-49 years	3	25%
50-64 years	4	33%
65-74 years	3	25%
75-84 years	1	8%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

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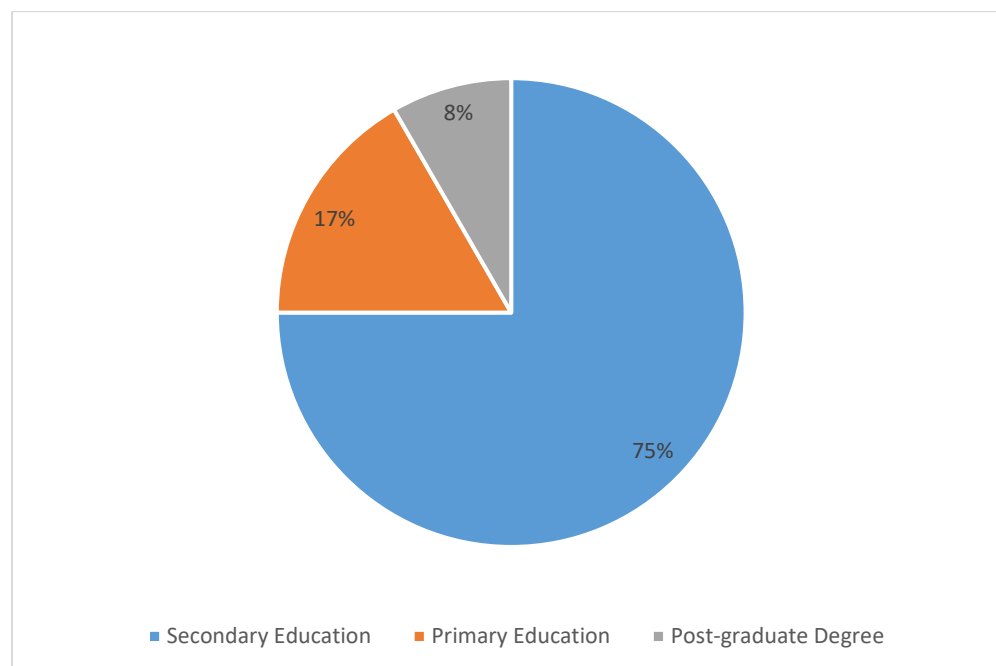
<sup>1</sup> Pena, M., J. Cumberbatch, P. McConney, N. Selliah and B. Simmons. 2020. The Central Fish Processors Association: Collective action by women in the Barbados flyingfish fishery. Pp 23-37 in J. Zelasney, A. Ford, L. Westlund, A. Ward and O. Riego Peñarubia (eds.). Securing sustainable small-scale fisheries: Showcasing applied practices in value chains, post-harvest operations and trade. FAO Fisheries and Aquaculture Technical Paper No. 652. Rome, FAO. <https://doi.org/10.4060/ca8402en>

<sup>2</sup> Perch, L., R. Biharie, C. Chin and D. Maison. 2020. Enhancing the role of women in the shrimp and groundfish fisheries in Guyana, Trinidad and Tobago, and Suriname: gender analysis along the fishery value chain sub-regional report. CERMES Project Report to FAO Ecosystem Approach to Fisheries implementation in the North Brazil Shelf Large Marine Ecosystem. Centre for Resource Management and Environmental Studies, UWI Cave Hill Campus, Barbados. 71pp



## MONTserrat PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

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**Figure 1 Highest Level of Education Attained by Fishers**

Amongst these twelve fishers, 42% are fully self-employed without any employees, 25% are paid employees in government and 17% are employed in a private establishment (Table 2).

**Table 2 Employment Status of Fishers**

Employment Status	Number of respondents	Percentage
Self employed without employees	5	42%
Paid employee - State owned/ Government	3	25%
Paid employee - Private Establishment/Employer	2	17%
Contributing Family Member/ Unpaid Family Worker	1	8%
Self employed with paid employee(s)/Own business with employees	1	8%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

Just under half of the fishers, 42% are married or single respectively, and one respondent (8%) is in a common law union (Table 3).





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**Table 3 Marital Status of the Fishers**

Marital Status	Number of Respondents	Percentage
Married	5	42%
Single	5	42%
Common Law Union	1	8%
No Response	1	8%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

## 1.1 FISHER ACTIVITY IN LITTLE BAY

The majority, 75% of the twelve fishers, reported that they have been mooring their fishing boats in Little Bay for over 20 years (Table 4).

**Table 4 Number of Years Mooring in Little Bay**

Number of Years	Number of Respondents	Percentage
1-5 years	1	8%
6-10 years	1	8%
11-20 years	1	8%
Over 20 years	9	75%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

Just under half of the fishers, 42%, had moored their boats in other locations in the past. The locations are listed in Table 5. The reasons for moving to Little Bay were primarily because of the volcanic eruption, as well as the accessibility and amenities available in Little Bay and calmer waters (Table 6).

**Table 5 Location Where Fishers Moored Previously (N=5)**

Locations	Number of Respondents	Percentage
Plymouth	2	40%
Bunkum Bay	1	20%
Carrs Bay	1	20%
Isles Bay	1	20%
Old Roads Bay	1	20%

**Table 6 Reasons for Changing Mooring to Little Bay (N=5)**

Reasons	Number of respondents	Percentage
Volcanic eruption	3	60%
Accessibility (No lighting or proper accommodations at Bunkum Bay)	1	20%
Seeking calmer water	1	20%
No response	1	20%



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The fishers listed several advantages to mooring their boats in Little Bay. Table 7 shows that top of the list was accessibility, proximity to their homes and sound mooring on a good bottom.

**Table 7 Advantages of Mooring Fishing Boats in Little Bay (N=12)**

Advantages	Frequency of Response	Percentage
Accessibility	11	92%
Proximity to home	10	83%
Sound mooring on a good bottom	10	83%
Proximity to customers	7	58%
Doesn't have a trailer so leaves [boat] there	1	8%
Security of the area (i.e., the Port is nearby and if anything [happens] the security guards will call you)	1	8%

For all twelve fishers, the main change that would occur when they can no longer moor in Little Bay would be obtaining a trailer to launch and haul up their boats (Table 8). Eight of the respondents, 67%, stated that they will have to spend more time launching and hauling up their boat; spend more on fuel and additional time to get to an alternate location, and they will need a vehicle to assist with the hauling and launching of the trailer. Ten out of the twelve fishers, 83%, state that there is no other alternate location for them to relocate to, and one respondent suggested Bunkum Bay but noted that it would not be profitable for him to do so.

**Table 8 The Changes That Will Occur when no Mooring is Allowed in Little Bay (N=12)**

Changes	Frequency of Response	Percentage
Would have to get a trailer to launch/pull up boat	12	100%
Extra time to haul and launch my boat	8	67%
Increase in my travel time to alternate location	8	67%
More expense in fuel to get to alternate location	8	67%
Would have to get access to tractor/truck to haul trailer	8	67%
Do not know	3	25%
Loss of income/livelihood	1	8%

## 1.2 BOATS & GEAR

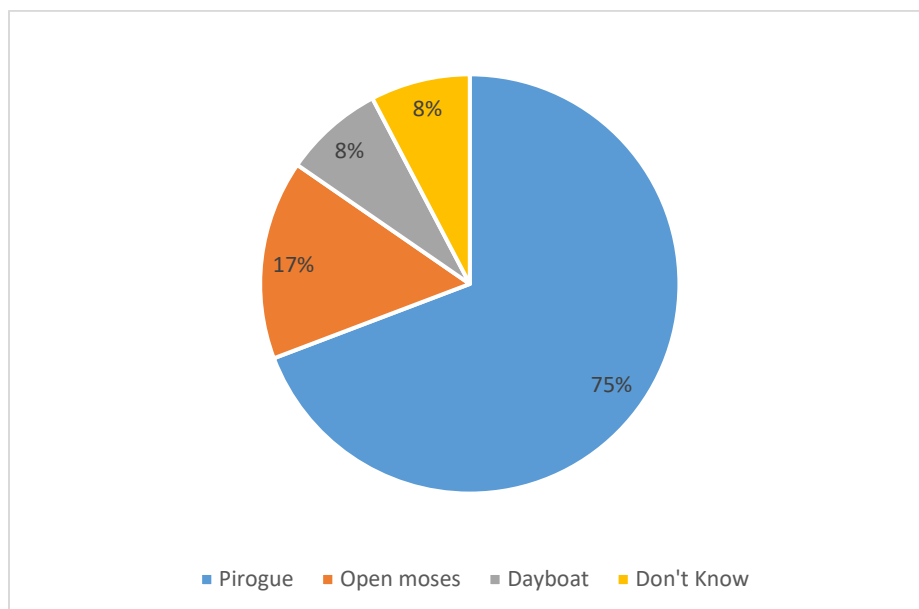
Eleven fishers reported that they owned only one boat, one respondent owned two boats. Two-thirds of the boats are constructed of fibreglass, and the remainder are a combination of fibre-glass and wood. The boat types vary from Pirogues, to Open Moses, and a Day Boat (Figure 2). None of the twelve respondents reported paying insurance on their boats in the past year. The fishers stated that the absence of insurance was because insurance companies considered them too high a risk. In a 2018 assessment of insurance needs and opportunities in the Caribbean fisheries sector, a FAO study confirmed that as many as 97% of



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the fishing vessels and fishing assets were not insured, even though in most CARICOM countries there is at least one local insurer offering marine insurance. Notably no insurance company is listed in the FAO report for Montserrat. The report also suggested that affordability of policies was a challenge for fishers<sup>3</sup>.



**Figure 2 Types of Boats used by Fishers**

There was a wide diversity of engine capacities and boat lengths, which are listed in Table 9 and Table 10

**Table 9 Engine Capacity of Fishers Boats (N=12)**

Capacity	Frequency of Response	Percentage
40 hp	3	25%
48 hp	4	33%
50 hp	1	8%
60 hp	2	17%
85 hp	1	8%
140 hp	1	8%
170 hp	1	8%

<sup>3</sup> Tietze, U. and Van Anrooy, R. 2018. Assessment of insurance needs and opportunities in the Caribbean fisheries sector, FAO Fisheries and Aquaculture Circular No. 1175. Rome, FAO. 62 pp.



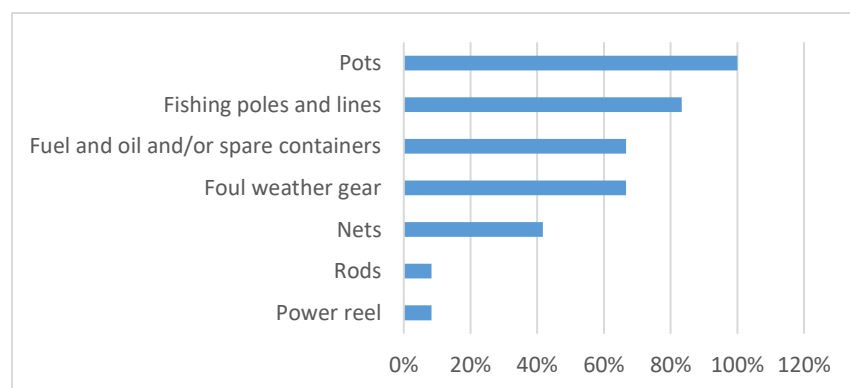
# MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Fishers Who Moor in Little Bay  
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**Table 10 Fishers Boat Lengths (N=12)**

Length	Frequency of Response	Percentage
18 ft	2	17%
20 ft	1	8%
21 ft	2	17%
23 ft	2	17%
24 ft	1	8%
25 ft	2	17%
26 ft	1	8%
28 ft	1	8%

All of the fishers owned fish pots, and the majority, 82%, also owned fishing poles and lines (Figure 3). Several respondents, 64%, also reported having foul weather gear and fuel and oil and/or spare containers. None of the respondents reported paying insurance on their gear in the past year.



**Figure 3 Gear Owned by the Fishers**

## 1.3 BOAT TRAILERS

None of the fishers own a trailer for transporting their fishing boats. Their responses to being given a trailer were positive (Table 11). One respondent said that it was an excellent idea, because he could choose to spend money to purchase the larger engine he needs as opposed to a trailer. It was also recognized by another respondent as being more convenient to haul the vessel if given a trailer because of the prevailing weather experienced when the boat is anchored out at sea. However, one fisher admitted that mooring in Little Bay was better for him, because with a trailer it would also be necessary to consider the conditions of the water when launching the boat. He cautioned that *“if you leave in the morning to fish and the sea is calm, when you return and the sea is rough how are you still going to pull your boat out the water?”* One other fisher said that he would need a truck.



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**Table 11 Attitudes Towards Being Provided with Trailers (N=12)**

Attitudes	Frequency of Response	Percentage
Being provided a trailer would be great (e.g., more convenient to haul vessel and preferable to anchoring at sea)	6	50%
Would utilise trailer if provided	3	25%
It is not just being provided a trailer, also have to take into consideration the conditions of the water and launching the boat	1	8%
No issue with the idea of being provided a trailer	3	25%
Would need to find a truck	1	8%

Five of the respondents, 42%, already own vehicles that could pull trailers; however, seven, 58% stated that they did not. Among those seven who did not already own an appropriate vehicle, six, 86% said that they would pay someone to transport it for them. One respondent said that he would not pay anyone to move his trailer because people are not always willing to have their vehicles in close proximity to salt water since it can speed up rusting, and the long-term costs and worries of having to maintain / pay for someone's vehicle caused by rust would be burdensome. Table 12 shows that the respondents indicated that payments to have a trailer transported range from between \$XCD 50 and XCD\$ 150 per trip.

**Table 12 Approximate Cost of Transporting Trailers Per Trip**

Costs	Number of Respondents	Percentages
\$50 - \$60	1	17%
\$90 - \$100	2	33%
\$100 - \$150	1	17%
No response	2	33%
<b>TOTAL</b>	<b>6</b>	<b>100%</b>

Notwithstanding the absence of insurance, eleven of the twelve fishers stated that they could afford to repair their boats if they were damaged during launch or haul up. Only one stated that he was uncertain. Ten of the twelve stated that they could also afford to repair the trailer if it was damaged; one was uncertain and one gave no response to this question.

### 1.4 STORAGE OF FISHING BOAT AND GEAR

Eleven of the twelve fishers said that they had on-shore storage for their boats and gear. The one without on-shore storage uses a storage locker which he secures on his boat. For 91% of the respondents, the storage facilities are mainly at their homes, but 36% also use the shed at the market (Table 13). None of the fishers had ever experienced any security issues at the locations where they stored their gear. They also indicated that the locations were well protected from flooding, storm surge and high winds during severe weather events.



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**Table 13 Location of Storage Facilities (N=11)**

Location	Frequency of Response	Percentage
Home	10	91%
Fisherman shed (market)	4	36%
Existing (Little Bay) boat yard	1	9%
Shop	1	9%
Shed at Bunkum Bay	1	9%

### 1.5 FISHING EFFORT AND INCOME

Amongst the twelve fishers, 42% fished in Little Bay. Of these five fishers, 60% use nets, 40% use pots, and 20% use fishing poles and lines (Table 14). Only one respondent fished on the Little Bay reef and he used both pots as well as fishing poles and lines.

**Table 14 Type of Fishing Done in Little Bay (N=5)**

Gear	Frequency of Response	Percentage
Nets	3	60%
Pots	2	40%
Fishing poles and lines	1	20%

The majority of the respondents spend between 21 - 30 hours per week fishing (Table 15). Fishing is conducted every day of the week, but Figure 4 shows that all fishers do so on Saturday and Sunday.

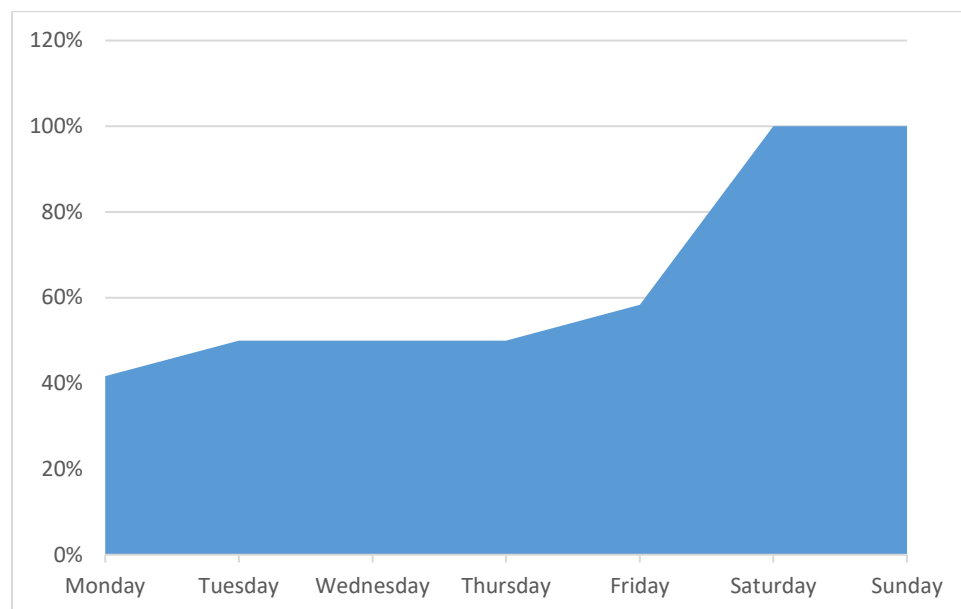
**Table 15 Approximate Hours Per Week Spent Fishing**

Hours	Number of Respondents	Percentage
21 – 30 hours	5	42%
31 – 40 hours	4	33%
11 – 20 hours	2	17%
8 – 10 hours	1	8%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>



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Fishers Who Moor in Little Bay  
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**Figure 4 Days of the Week for Fishing**

Fishing is the only source of income for one of the twelve fishers. All of the others work in a diversity of fields which are displayed in Table 16. As such therefore, fishing only provides a portion of the income for eleven of the fishers, ranging from less than half to three-quarters (Table 17).

**Table 16 Other Sources of Income for Fishers (N= 10)**

Employment Categories	Frequency of Response	Percentage
Skilled agricultural, forestry and fishery workers (Farmers etc.)	4	36%
Technicians and Associate Professionals (Engineering Technician, Police Officers, Teachers)	3	27%
Craft and related trades workers (Carpenters, Masons, Plumbers, Painter, Roofers, Handicraft Workers, Jewellers, Tailor)	2	18%
Elementary Occupations (Cleaner, labourer, garbage collector, etc.)	1	9%
Professionals (Doctors, Lawyers, Accountants, Engineers, Economist	1	9%
Service and sales workers (Cosmetologists, House Keepers, Sales Workers etc.)	1	9%

**Table 17 Proportion of Income Provided by Fishing**

Proportion of Income	Number of Respondents	Percentage
Less than half	4	36%
Half	3	27%
Three-quarters	4	36%
<b>TOTAL</b>	<b>11</b>	<b>100%</b>



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Table 18 shows that the main coping mechanism for 50% of these respondents if they lost their income from fishing would be to work multiple jobs. One of those who stated that fishing provided less than half of his income further explained that he could survive on the steady income from his main job.

**Table 18 Coping Mechanisms for Loss of Income from Fishing (N=12)**

Coping mechanisms	Frequency of response	Percentage
Work multiple jobs	6	50%
Do not know	4	33%
Rely on government for assistance	2	17%
Rely on income from main job	2	17%
Borrow or ask relatives for money	1	8%

Only two of the fishers have no dependants. The other ten have between one and six dependants (Table 19)

**Table 19 Number of Dependants Supported by Fishers**

Dependants	Number of Respondents	Percentage
No dependants	2	17%
One dependant	1	8%
Two dependants	1	8%
Three dependants	3	25%
Four dependants	3	25%
Five dependants	1	8%
Six dependants	1	8%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

Amongst this group of twelve fishers there are twenty-nine dependants ranging from babies to the elderly, with 62% being female and 38% being male.

**Table 20 Age and Sex of Fishers' Dependants**

Age	Frequency of Response		Percentage		Total Percentage
	Female	Male	Female	Male	
0-4 years	1	2	3%	7%	10%
5-17 years	3	5	10%	17%	28%
18-29 years	3	3	10%	10%	21%
30-39 years	4	1	14%	3%	17%
40-49 years	2	0	7%	0%	7%
50-64 years	4	0	14%	0%	14%
65-74 years	1	0	3%	0%	3%
<b>TOTAL</b>	<b>18</b>	<b>11</b>	<b>62%</b>	<b>38%</b>	<b>100%</b>





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Fishers Who Moor in Little Bay  
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Twelve of the dependants are students, three are unemployed and one is retired (Table 21). One male and one female dependant each has a physical disability.

**Table 21 Employment Status of the Fishers' Dependants**

Employment status	Frequency of Response		Percentage		Total Percentage
	Female	Male	Female	Male	
Full-time employed	8	0	28%	0%	28%
Not applicable	1	2	3%	7%	10%
Retired	1	0	3%	0%	3%
Student	5	7	17%	24%	41%
Unemployed	2	1	7%	3%	10%
Part-time employed	1	1	3%	3%	7%

All of the fishers have a boat crew. The crew size range from one to four members (Table 22). All crew members are male and several work on multiple boats. In some instances, boat owners will crew on other boats or young male relatives will crew as part of the process of learning the trade.

**Table 22 Size of Fishers' Boat Crew**

Number of crew	Number of Respondents	Percentage
One crew member	3	25%
Two crew members	6	50%
Three crew members	1	8%
Four crew members	2	17%
<b>TOTAL</b>	<b>12</b>	<b>100%</b>

Additional comments offered by the respondents about the proposed pier included support for the Original Layout because the Current Layout is closer and can only accommodate a certain size of vessel. There was also the recommendation that Pipers pond be dredged to provide alternate mooring.

## 1.6 FISHER CREW MEMBERS

Ten males who work as crew on the boats moored in Little Bay were interviewed. Based on the details provided by the boat owners, excluding those who crew on multiple boats and non-adult relatives, there are eleven persons who operate as crew; one was unavailable for interview at the time of this survey. These crew ranged in age from 30 to 74 years of age (Table 23). Eight of them, 90% had attained secondary level education and one respondent each had attained primary level education.



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**Table 23      Ages of the Crew Members**

Age	Number of Respondents	Percentage
30-39 years	3	30%
40-49 years	1	10%
50-64 years	4	40%
65-74 years	2	20%
<b>TOTAL</b>	<b>10</b>	<b>100%</b>

Three of the crew members were fully self employed, three worked in the public sector, two worked in the private sector and the final two were retired. The marital status of these respondents is displayed in Table 24.

**Table 24      Marital Status of the Boat Crew**

Marital Status	Number of Respondents	Percentage
Married	3	30%
Single	5	50%
Widowed	1	10%
No Response	1	10%
<b>TOTAL</b>	<b>10</b>	<b>100%</b>

Amongst the ten respondents, they have been fishing with boat owners who moored in Little Bay from as recent this year to over 40 years (Table 25).

**Table 25      Length of Time Crew have been Fishing with Boat Owners in Little Bay**

Years	Number of Respondents	Percentage
< one year	1	10%
1-5 years	1	10%
6-10 years	2	20%
11-20 years	1	10%
Over 20 years	2	20%
Over 30 years	2	20%
Over 40 years	1	10%
<b>TOTAL</b>	<b>10</b>	<b>100%</b>

The fishing activity of the crew is comparable to those of the boat owners, i.e., 90% use pots, 70% use fishing poles and lines (e.g., shore lining, bottom lining, long lining) and 20% use nets. Only one crew member reported that he spear-fished on the Little Bay reef. These ten respondents also reported fishing at several locations as displayed in Table 26. Isles Bay is popular with half of these crew members.



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Fishers Who Moor in Little Bay  
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**Table 26**      **Locations Where Crew Members Fish (N=10)**

Locations	Frequency of Response	Percentage
Isles Bay	5	50%
Carrs Bay	4	40%
Bunkum Bay	3	30%
Rendezvous Bay	2	20%
Woodlands	2	20%
Bransby Point	1	10%
North western side of the island	1	10%
All around the island	1	10%
Bottomless Ghaut (on shore)	1	10%
Not applicable	1	10%
Foxes Bay	1	10%
Eastern part of island	1	10%
Plymouth	1	10%

When asked why they choose to operate from boats moored in Little Bay the responses were consistent with those of the boat owners. Two of the respondents said that there was no viable alternative, and one indicated that it was always his preferred location. Of the remaining two responses, one crew member said that the other Bays were too rough and the other identified the volcanic eruption as the reason. Several advantages were associated with mooring in Little Bay. These included accessibility and proximity to home (Table 27).

**Table 27**      **Advantages of Mooring in Little Bay Identified by Crew Members (N=10)**

Advantages	Frequency of Response	Percentage
Accessibility	6	60%
Proximity to home	5	50%
Proximity to customers	2	20%
Sound mooring on a good bottom	2	20%
Proximity to Brades	1	10%

If the boats they crew on could no longer moor in Little Bay, these respondents indicated that the main change would be the increased travel time and use of gasoline to get to an alternate location, the additional time needed to launch and haul the boat and the need for a truck or tractor to move the trailer (Table 28).



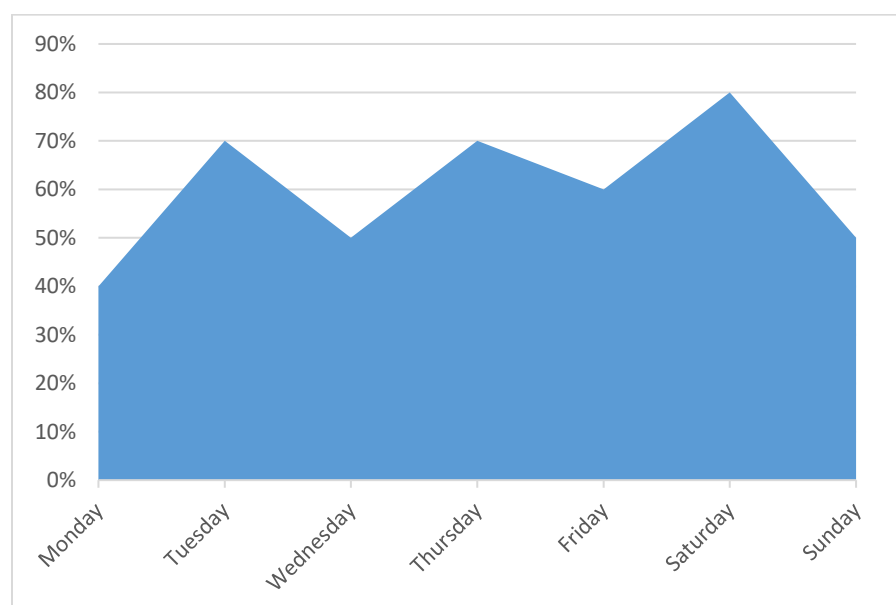
## MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Fishers Who Moor in Little Bay  
March 31, 2021

**Table 28** Changes the Crew Members Identified if they Could no Longer Moor in Little Bay (N=10)

Changes	Frequency of response	Percentages
Increase my travel time to alternate location	3	30%
Do not know	2	20%
Extra time to haul and launch the boat	2	20%
More expense in gasoline to get to alternate location	2	20%
Would have to get access to tractor/truck to haul trailer	1	10%
Would have to purchase trailer to launch/pull up boat	1	10%
Access to pull traps	1	10%
No response	1	10%

Like the boat owners, fishing takes place every day of the week. However, it peaks on Saturdays, Tuesdays and Thursdays, whereas the boat owners mostly fished on weekends. With respect to fishing hours, 40% of the crew members indicated that they fish for less than 8 hours per week, and 30% stated that the fished between 11-20 hours and 31-40 hours per week.



**Figure 5** Percentage Hours Fished

Among these crew members, 40% indicated they fished from more than one boat; two fished from two boats, another on four boats and the fourth on six different boats. Fishing was the sole source of income for only one crew member. All of the others worked in agriculture, trade or elementary occupations (Table 29). For these nine who have alternate sources of employment, fishing was still a significant contribution to their overall income. For four of them fishing represented 50% and for one 75% of their income. Four respondents stated that fishing provided less than half of their income.



## MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Fishers Who Moor in Little Bay  
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**Table 29 Crew Members other Form of Employment (N=9)**

Employment categories	Frequency of Response	Percentages
Skilled agricultural, forestry and fishery workers (Farmers etc.)	6	67%
Craft and related trades workers (Carpenters, Masons, Plumbers, Painter, Roofers, Handicraft Workers, Jewellers, Tailor)	3	33%
Elementary Occupations (Cleaner, labourer, garbage collector, etc.)	3	33%

When asked what they would do if they could no longer fish, six crew members said that they would work multiple jobs, and one of these also said that he would use his savings. One of the remaining four said that he did not know and two chose not to respond to this question (Table 30).

**Table 30 What Crew Members Would do if they Could no Longer Fish**

Coping Mechanisms	Frequency of Response	Percentage
Work multiple jobs	6	60%
No response	2	20%
Rely on income from other job(s)	2	20%
Do not know	1	10%
Use savings	1	10%

Eight of the crew members had between one and six dependants (Table 31). Table 32 displays the age and sex distribution of these dependants, indicating that 6 are female and 5 are male. There was one no response to this question. Table 33 displays the employment status of the dependants and it was reported that one male and one female dependant both had a physical disability.

**Table 31 Number of Crew Member Dependants (N=10)**

Number of Dependants	Number of Respondents	Percentage
No dependants	2	20%
One dependant	1	10%
Two dependants	3	30%
Three dependants	1	10%
Four dependants	1	10%
Five dependants	1	10%
Six dependants	1	10%



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**Table 32 Age and Sex of Crew Member Dependants**

Years	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
0-4 years	0	3	0%	14%	14%
5-17 years	4	4	19%	19%	38%
18-29 years	2	0	10%	0%	10%
30-39 years	2	1	10%	5%	14%
40-49 years	2	0	10%	0%	10%
50-64 years	2	0	10%	0%	10%
65-74 years	1	0	5%	0%	5%
<b>TOTAL</b>	<b>13</b>	<b>8</b>	<b>62%</b>	<b>38%</b>	<b>100%</b>

**Table 33 Employment Status of the Crew Member Dependants**

Employment Status	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Full-time employed	2	0	10%	0%	10%
Not applicable	1	3	5%	14%	19%
Retired	2	0	10%	0%	10%
Self employed	1	0	5%	0%	5%
Student	4	4	19%	19%	38%
Unemployed	3	0	14%	0%	14%
Other	0	1	0%	5%	5%
<b>TOTAL</b>	<b>13</b>	<b>8</b>	<b>62%</b>	<b>38%</b>	<b>100%</b>



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
March 31, 2021

### 2.0 USERS OF THE LITTLE BAY REEF

Sixteen respondents who use the Little Bay reef were interviewed. Fifteen were male and one was female. The sex and age distribution is displayed in Table 34 and the highest level of education attained is displayed in Table 35.

**Table 34 Sex and Age of the Reef Users**

Age	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
18-29 years	0	5	0%	31%	31%
30-39 years	0	3	0%	19%	19%
40-49 years	1	4	6%	25%	31%
50-64 years	0	2	0%	13%	13%
65-74 years	0	1	0%	6%	6%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>7%</b>	<b>94%</b>	<b>100%</b>

**Table 35 Highest level of Education/Training Obtained by Reef Users**

Education level	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Secondary Education	0	6	0%	38%	38%
Undergraduate Degree	1	4	6%	25%	31%
Associate Degree	0	3	0%	19%	19%
Continuing Professional Development	0	1	0%	6%	6%
Primary Education	0	1	0%	6%	6%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

The majority, 69%, of the reef users are in full time public sector employment. Three of the respondents, one of whom is female, are self employed with paid employees. Another respondent is self-employed with employees, but also works for a private sector organisation and one male reported that he is currently unemployed (Table 36).



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Users of the Little Bay Reef  
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**Table 36 Employment Status of the Reef Users**

Employee Status	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Paid employee - State owned/ Government	0	11	0%	69%	69%
Self-employed with paid employee(s)/Own business with employees	1	2	6%	13%	19%
Self-employed with paid employee(s)/Own business with employees, Paid employee - Private Establishment/Employer	0	1	0%	6%	6%
Unemployed	0	1	0%	6%	6%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

The majority of the respondents, 63%, were single and 25% indicated that they were married (Table 37).

**Table 37 Marital Status of Reef Users**

Marital Status	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Single	1	9	6%	56%	63%
Married	0	4	0%	25%	25%
Common Law Union	0	1	0%	6%	6%
Divorced	0	1	0%	6%	6%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

## 2.1 ACTIVITIES ON THE LITTLE BAY REEF

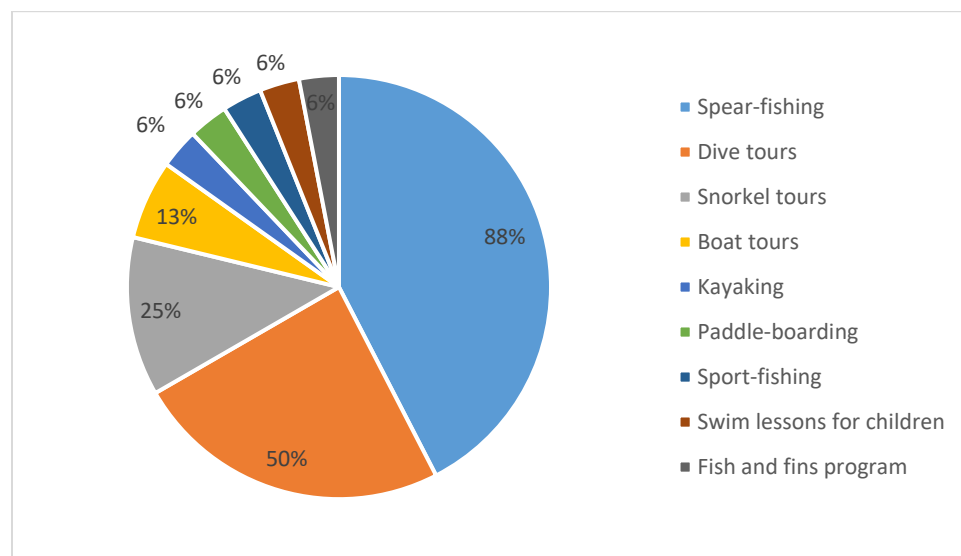
Spear-fishing is the dominant activity of the Little Bay reef. This is conducted by 88% of the respondents (Figure 6). Half of the respondents conduct dive tours and 25% operate snorkel tours.





## MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
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**Figure 6** Activities of Users on Little Bay Reef

Table 38 shows that 31% of these respondents have been using the Little Bay reef for over 20 years. Another 25% have been using it for between 11-20 years. Therefore, the activities at that location are well-established.

**Table 38** Length of Time Respondents have been Using the Little Bay Reef

Years	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
1-5 years	0	4	0%	25%	25%
6-10 years	1	2	6%	13%	19%
11-20 years	0	4	0%	25%	25%
Over 20 years	0	5	0%	31%	31%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

Half of the respondents rated the Little Bay reef as average compared to other reefs in Montserrat (Table 39). Accessibility was the main advantage of using the reef as identified by 88% of the respondents (Table 40). An additional advantage identified by 25% of the respondents was proximity to home and 19% said proximity to their customers. Another 13% of the respondents also stated that it was a safe distance to the shoreline when teaching children to swim.



## MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
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**Table 39 Users Rating of the Little Bay Reef**

Rating	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Average	0	8	0%	50%	50%
Good	0	2	0%	13%	13%
Poor	0	2	0%	13%	13%
Excellent	0	2	0%	13%	13%
Better than average	0	1	0%	6%	6%
Less than average	1	0	6%	0%	6%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

**Table 40 Advantages Identified by Users of the Little Bay reef (N=16)**

Advantages	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Accessibility	1	13	6%	81%	88%
Proximity to home	0	4	0%	25%	25%
Proximity to customers	0	3	0%	19%	19%
Additional safety/Safe distance to the shoreline when teaching children to swim	1	1	6%	6%	13%
Best reef available	1	0	6%	0%	6%
Proximity to Brades	0	1	0%	6%	6%
Sentimental value attached to the use of Little Bay Reef	0	1	0%	6%	6%
Recognisable - the first place you see when entering Montserrat	0	1	0%	6%	6%
Nice place to meet people (fostering tourist visits)	0	1	0%	6%	6%
The depth is suitable for beginners	1	0	6%	0%	6%

For 38% of these sixteen respondents the loss of the reef habitat due to the construction of the new pier would have no impact (Table 41). These six reef users are all male and their main activities on the reef are spear fishing and conducting dive tours. However, 31% of the respondents said that it would mean an increase in travel time to an alternate location. Loss of income and livelihood and tourists no longer wanting to visit the reef was a concern for 19% of the respondents respectively. Two of the respondents shared the view that the reef is already severely deteriorated and does not have that much to offer anymore. Another respondent suggested that the breakwater/pier could facilitate coral growth to offset what is being lost and in any case there are several other locations where tours can be conducted. He figured that the site would continue to get a lot of usage.



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**Table 41 Impact of Reef Habitat Loss on the Reef Users (N=16)**

Impacts	Frequency of response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
No impact	0	6	0%	38%	38%
Increase in my travel time to alternate location	0	5	0%	31%	31%
More expense in fuel to get to alternate location	0	4	0%	25%	25%
Loss of income/livelihood	1	2	6%	13%	19%
Tourists will no longer want to go to the reef	0	3	0%	19%	19%
Loss of income from fish sales	0	2	0%	13%	13%
Do not know	0	1	0%	6%	6%
Will be unable to continue educating his children about the reef habitat, as well as teach them about the trade	0	1	0%	6%	6%

All of the respondents were able to identify several alternate reefs that they could utilise. As Table 42 displays, 63% of the respondents identified the reef in Rendezvous Bay, 44% the reef in Carrs Bay and 31% the reef at Yellow Hole. As many as 57% of the respondents are already using some of these alternate reefs and Table 43 displays the ones already in use with Rendezvous Bay being the most popular. One respondent noted that he uses as many reefs as he can, and another said he used the entire island but has a preference for the Atlantic side because fish is more abundant there.

**Table 42 Alternate Reefs that Respondents could Use (N=16)**

Alternate Reefs	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Rendezvous Bay	1	9	6%	56%	63%
Carrs Bay	0	7	0%	44%	44%
Yellow Hole	0	5	0%	31%	31%
Bunkum Bay	0	4	0%	25%	25%
Woodlands	0	3	0%	19%	19%
Old Road Bay	1	1	6%	6%	13%
Lime Kiln	0	2	0%	13%	13%
Plymouth	0	2	0%	13%	13%
Isles Bay	0	1	0%	6%	6%
Pinnacle Point	0	1	0%	6%	6%
Little Rendezvous	0	1	0%	6%	6%
Redonda	0	1	0%	6%	6%
Hot Water Pond	0	1	0%	6%	6%
Kinsale	0	1	0%	6%	6%



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**Table 43 Alternate Reefs already in Use by the Respondents (N=14)**

Alternate reefs	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Rendezvous Bay	1	7	7%	50%	57%
Carrs Bay	0	4	0%	29%	29%
Yellow Hole	0	3	0%	21%	21%
Lime Kiln	0	2	0%	14%	14%
Various sites around the island	0	2	0%	14%	14%
Bunkum Bay	0	2	0%	14%	14%
Woodlands	0	2	0%	14%	14%
North west bluff	0	1	0%	7%	7%
Plymouth	0	1	0%	7%	7%
Isles Bay	0	1	0%	7%	7%
Pinnacle Point	0	1	0%	7%	7%
Little Rendezvous	0	1	0%	7%	7%
Redonda	0	1	0%	7%	7%
Bransby Point (pass Foxes Bay)	0	1	0%	7%	7%
Foxes Bay	0	1	0%	7%	7%
Shoul's ground	0	1	0%	7%	7%

These alternate reefs are in use primarily because 64% of the respondents rate them as good (Table 44). These locations were considered accessible by 29% and 21% noted that they are in close proximity to their homes.

**Table 44 Reasons for Choosing Alternate Reefs (N=14)**

Reasons	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Good reef available	0	9	0%	64%	64%
Accessibility	0	4	0%	29%	29%
Proximity to home	0	3	0%	21%	21%
Sound mooring on a good bottom	0	1	0%	7%	7%
The programme includes kayaking to Rendezvous Bay and tours to Rendezvous Bay and the bat caves	1	0	7%	0%	7%
Rendezvous Bay has the only white sand beach on the island and enhances the attraction of the reefs even more	0	1	0%	7%	7%
There is more sea life in Carrs Bay reef than Little Bay reef	0	1	0%	7%	7%



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
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**Table 44 Reasons for Choosing Alternate Reefs (N=14)**

Reasons	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Not used quite as often	0	1	0%	7%	7%
Better fishing options	0	1	0%	7%	7%
A greater variety of fish	0	1	0%	7%	7%
Good for spearfishing (especially catching lobsters)	0	1	0%	7%	7%

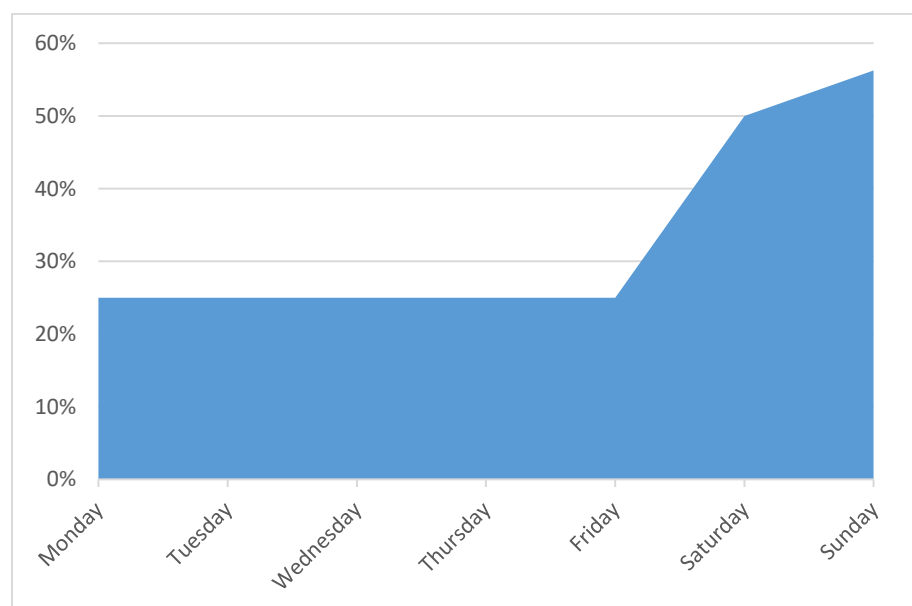
## 2.2 EXTENT OF USE AND INCOME FROM THE REEF

Table 45 shows that 63% of these respondents typically use the Little Bay reef from under eight hours per week to 13% who use it between 11-20 hours per week.

**Table 45 Hours per Week Respondents use the Little Bay Reef**

Hours	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
< 8 hours	0	10	0%	63%	63%
8 – 10 hours	1	3	6%	19%	25%
11 – 20 hours	0	2	0%	13%	13%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

Figure 7 shows that the reef is used every day, but it peaks on Saturday and Sunday.



**Figure 7 Days of Week Respondents use the Reef**



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
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Only the female respondent indicated that the reef is her sole source of income. One respondent chose not to respond to this question. Table 46 shows that 57% of the male respondents are technicians or associate professionals and 21% are service and sales workers, in craft and related trades or in skilled agriculture respectively. Fourteen of the respondents stated that the reef provided less than half of their income. Consequently, seven of the respondents, 44%, stated that if they could no longer use the reef it would not affect their income because it is a hobby (Table 47). Using alternate reefs was the coping strategies identified by 38% of the respondents and 31% said that they would work multiple jobs. However, 25% stated that they did not know what their coping strategy would be, this included the female respondent.

**Table 46 Other Employment for Reef Users (N=14)**

Other employment	Frequency of Response	Percentage
Technicians and Associate Professionals (Engineering Technician, Police Officers, Teachers)	8	57%
Service and sales workers (Cosmetologists, House Keepers, Sales Workers etc.)	3	21%
Craft and related trades workers (Carpenters, Masons, Plumbers, Painter, Roofers, Handicraft Workers, Jewellers, Tailor)	3	21%
Skilled agricultural, forestry and fishery workers (Farmers etc.)	3	21%
Clerical Support workers (Secretaries, typist, Bank Tellers, Clerks etc.)	1	7%
Other	1	7%

**Table 47 Coping Strategies for the Respondents if they Lose Income from Reef Use**

Coping strategies	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
No impact (not main source of income / activity is a hobby)	0	7	0%	44%	44%
Use alternative reef sites	0	6	0%	38%	38%
Work multiple jobs	0	5	0%	31%	31%
Do not know	1	3	6%	19%	25%
Postpone debt payments	0	1	0%	6%	6%
Reduce food consumption	0	1	0%	6%	6%

According to Table 48, ten of the sixteen respondents have dependants. The age and sex of the dependants is displayed in Table 49, indicating that twelve are female and eleven are male. Sixteen of the dependants, 70%, are students and one of the female dependants has a physical disability.



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
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**Table 48 Reef Users' Dependants**

Number of dependants	Number of Respondents		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
No dependants	0	6	0%	38%	38%
One dependant	1	3	6%	19%	25%
Two dependants	0	2	0%	13%	13%
Three dependants	0	1	0%	6%	6%
Four dependants	0	3	0%	19%	19%
<b>TOTAL</b>	<b>1</b>	<b>15</b>	<b>6%</b>	<b>94%</b>	<b>100%</b>

**Table 49 Age and Sex of the Reef Users' Dependants**

Age	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
0-4 years	1	0	4%	0%	4%
5-17 years	5	10	22%	43%	65%
18-29 years	2	1	9%	4%	13%
30-39 years	2	0	9%	0%	9%
40-49 years	0	0	0%	0%	0%
50-64 years	1	0	4%	0%	4%
65-74 years	1	0	4%	0%	4%
<b>TOTAL</b>	<b>12</b>	<b>11</b>	<b>52%</b>	<b>48%</b>	<b>100%</b>

**Table 50 Employment Status of the Reef Users' Dependants**

Employment Status	Frequency of Response		Percentage		TOTAL Percentage
	Female	Male	Female	Male	
Student	5	11	22%	48%	70%
Full-time employed	3	0	13%	0%	13%
Part-time employed	1	0	4%	0%	4%
Not applicable	1	0	4%	0%	4%
Retired	1	0	4%	0%	4%
Self employed	1	0	4%	0%	4%
<b>TOTAL</b>	<b>12</b>	<b>11</b>	<b>52%</b>	<b>48%</b>	<b>100%</b>

Only six, 38%, of the respondents operate a boat. Table 51 shows the distribution of the crew members; three are female and eleven are male.



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Little Bay Reef  
March 31, 2021

**Table 51      Size of Respondents' Crew**

Number of crew	Number of Respondents	Percentage
One crew member	2	33%
Two crew members	2	33%
Four crew members	2	33%
<b>TOTAL</b>	<b>6</b>	<b>100%</b>

### 2.3 REEF USERS CREW MEMBERS

In selecting respondents from the fourteen crew members identified by the reef users (Table 51) several were not eligible for the survey. This is because of features common to many of the individuals who crew on tour boats. They typically fall into the following categories:

- Many individuals crew one several boats.
- Some crew for fishing trips or tours elsewhere on the island – but not on Little Bay reef.
- Relatives who were under the age of sixteen who come along for the experience from time to time.
- Some own their own boats but also crew on other people's boats
- Some had travelled to study or for other reasons

Ultimately, two crew members, one male and one female were interviewed. Between the two of them they conduct dive, snorkel and kayaking tours and one of them spear-fished. Further details of their demographics are withheld since in such a small sample they would be obvious identifiers. One worked for between 8 – 10 hours per week, seven days a week doing the tours and the other worked less than 8 hours only on Saturday and Sunday. The latter works for two tour operators and both have alternate sources of income. For one, losing the option of conducting tours on the Little Bay reef, would mean having to work multiple jobs as a coping strategy; for the other it would have no significant impact.





## MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Bat Cave  
March 31, 2021

### 3.0 USERS OF THE BAT CAVE

There are currently six operators who conduct tours that include a stop at the Bat Cave (i.e., the female roost and/or the male roost, which reside in separate caves). The tours are:

1. Buffy Tours
2. Scuba Montserrat
3. Montserrat Dive Group
4. Quanjo Boat Tours
5. Aqua Montserrat / Fish & Fins
6. Scriber Tours

One of the operators is female. These operators have been including the Bat Cave in their tours for between 5 and 15 years. For five of the six respondents there is no specified day of the week or amount of tours per week or month that includes the Bat Cave. Half of the six operators indicated that it was included based on the request of the clients. One respondent indicated that typically his tours on Friday, Saturday and Sunday would include the Bat Cave.

The Bat Cave is considered to be a very important stop during the tours by four of the six respondents, 66.7% of the respondents. One respondent stated that it was not very important and the other said it was somewhat important.

The operators were asked how they perceived that the port construction would impact on their business. Four of the six, 66.7% said that they would adapt. One respondent noted that he conducts tours in other locations such as Plymouth and Rendezvous so his focus is not exclusively on Little Bay, and another stated that initially he imagined there could be a decrease in the number of tours but he did not expect it to be significant.

Two respondents identified some of the benefits that they could derive from the construction:

- Would enhance water sports activities
- Smoother transition getting people on and off the boats
- Safer and calmer space for vessels

Three respondents, 50%, identified several potential challenges to their businesses. One respondent noted that 60% of all their tours are visits to the bat cave. These tours typically include hikes to Rendezvous beach and then a swim back to Little Bay making a stop at the bat cave where an explanation is given about the variety of species and the history of the bats of Montserrat. This respondent was concerned that during the construction phase of the pier, swimming from Rendezvous beach to Little Bay would no longer be possible. Additional concerns raised by the respondents were:

- Will not be able to do as much tours especially scuba
- The area beneath the footprint of port provides easy access to dive sites
- The Little Bay reef areas will not be accessed and those are a part of the tours
- Would have to use open waters hence more risky



## **MONTSERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS**

Users of the Bat Cave  
March 31, 2021

- Will not be able to do more bat cave tours or enjoy kayaking tours as much
- Operation is eco-friendly, i.e., using no oils or fuels. The change will mean that the kayak tours will interact with marine traffic. It is also likely to make the tours longer and less interesting as they will be kayaking further from the cliff side.
- Swimming from rendezvous beach will no longer be possible

The respondents were asked to offer suggestions regarding the development. They noted that the Port enhancement is important to the development of the people of Montserrat, but at the same time the design must safeguard the natural environment and perhaps the current Layout is too close inland. Mitigation measures must be put in place to protect the environment.

### **3.1 BIRD WATCHING AT RENDEZVOUS BLUFF**

Only one of the tour operators conducts bird watching tours at Rendezvous Bluff, and he has been doing so for the past 13 years. There are no specified days of the week or hours per week for these tours, but of all his tours, bird watching on the Rendezvous Bluff contributes most to his income, and if bird watching tours were affected, it would significantly impact his business.

One of his concerns is that he mostly engages bird tours in the evening. While the birds may not always be spotted, it is the actual sounds that they make that fascinate the clients, as the bluff is the nesting ground for a variety of species, including the Audubon Shearwater and the Red-billed Tropic bird. He fears that the construction and associated lights will negatively affect the tours and make them less interesting. This respondent explained that he understands the need for development but in the best interest of Montserrat suggests that the biodiversity of the island be considered and therefore every effort be taken to minimize impacts on the bat cave and bird nesting habitats.

He employs three persons to assist with the bird watching when he is unavailable. In the event that the habitat for the marine birds at Rendezvous Bluff is affected he might still be able to employ them to conduct tours in the forest which notably will not be the same.

### **3.2 BUSINESSES IN CLOSE PROXIMITY TO THE PORT**

The Community Liaison Officer recommended that the three businesses whose access road is adjacent to the Port be interviewed. Information on their use of that road would assist the Contractor in developing his traffic management plan for the construction.

The three businesses are Lab Works Ltd., Eddie's Trucking Ltd., and T & A Services. Eddie's Trucking had been interviewed back in 2019 when the other commercial enterprises were interviewed. Table 52 provides a summary of the main characteristics of the three businesses.



## MONTERRAT PORT DEVELOPMENT PROJECT: ESIA ADDENDUM - SOCIAL STAKEHOLDER INTERVIEW RESULTS

Users of the Bat Cave  
March 31, 2021

**Table 52 Profiles of the Three Businesses**

Name of Business	Type of Business	Number of Full-Time Employees	Operating Hours	Number of Trucks in Operation
Lab Works Ltd.	Block manufacturing plant	8	7:00 - 3:30	2
Eddie's Trucking Ltd.	Mining and quarrying	10	8:00 - 4:00	6
T & A Services	Trucking	2	No set office hours for operations; works seven days a week and is always on call	10

Only one of the businesses conducts transactions with the Port Authority. None of the trucks owned by the three businesses operate on a strict daily schedule and none of the respondents could confirm how many trips were made daily. One respondent explained that the number of trips made on any given day depended on the volume of cargo from the port and the magnitude of work to be conducted outside the Little Bay area. Two of the three businesses indicated that customers come to the properties to conduct transactions but again they could not confirm how many on a daily basis. One of the respondents reported that business had slowed because of Covid-19. The administrative office for one of the companies is located behind the port complex, and the trucks are stationed elsewhere and do not come into and go out of Little Bay.

All three respondents indicated that they had never experienced any challenges accessing their properties in the past because of Port operations. One respondent stated that he does not expect the construction at the port to affect his business. He said that as long as persons are able to access the Port Authority then his business should not be affected as he is located behind the port. He also hoped that the expansion was big enough because he did not want the same scenario as the airport. A second respondent noted that higher volumes of heavier traffic due to operations could slow down incoming and outgoing traffic into his business, potentially creating congestion, and he suggested that the Contractor took this possibility into consideration. He also wanted a port designed to include the pier further out or closer to the end of the bluff to accommodate a better breakwater and safe harbour. He also looked forward to the possibility of renting construction equipment to the project. The third respondent simply stated that as long as the access point to his business was not blocked then he did not expect the project to affect his business.



# **APPENDIX C**

Public Comments on Original ESIA (2019) and  
ESIA Addendum (2021)



**Montserrat Port Development Project**  
Open Public Consultations of the Environmental and Social Impact Assessment (ESIA)

Published Documents: Draft ESIA for Alternative A Port Layout (2019) available for the public for comments on 18 November 2020  
Draft ESIA Addendum for Alternative K Port Layout (2021) available for the public for comments on 18 June 2021  
Publication location for ESIA Documents: Online Government of Montserrat website - [www.gov.ms](http://www.gov.ms); Printed copies - Montserrat Port Authority and the Montserrat Public Library.  
Town Hall Meeting: held on 29 June 2021  
Procedure for submitting public comments: Email [portproject@gov.ms](mailto:portproject@gov.ms)  
Closing date for public comments: 16 July 2021

**Public Comments and Responses**

No.	Date Email Sent	Organization	By Whom	Question / Comment	Responses
1	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>“The Convention on the Rights of Persons with Disabilities seeks to ensure that people with disabilities have access to the same rights and opportunities as everybody else. The CARICOM Regional Organization for Standards and Quality (CROSQ) requires full accessibility of facilities, with which Montserrat, as a CROSQ associate member, should be compliant. However, there are no legal or policy provisions to secure these rights in Montserrat. Therefore, air and sea ports and many public sector buildings are fully not accessible, and do not have fully accessible washrooms. One of the anticipated benefits of the Project is that it should eliminate barriers to persons with disabilities who are unable or chose not to use the tender from the ferry to come ashore. With the new quay, visiting persons with disabilities should be able to safely disembark from the ship. When they arrive at the ferry terminal and beyond into Montserrat, they should also be able to access the restaurants, bars and any other building that they choose to as part of their visitor experience. All persons with disabilities in Montserrat should be able to do so. However, currently without adequate provisions, there is effective discrimination against persons with disabilities.”</p> <p>We are very grateful for this statement. It is similar to what we have been saying to many agencies and consultants that have visited the island, but it has been very difficult to get someone to write this down and state the obvious. This is the first time we have commented on a consultant’s report and started by commending it. But you met us and you listened. <b>We know it is part of the brief for the assessment, but then shouldn’t it have been in the others?</b> This is the first report to highlight the difficulty that persons with disability face on the island, whether permanent residents, or visitors. But we have some further comments.</p>	Comment noted, and thank you. Other reports are beyond the scope of this Environmental and Social Impact Assessment (ESIA). It is anticipated that with the cruise ship's ability to berth directly against the new pier, there will be an improvement for persons with disabilities disembarking the cruise ship.
2	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>Disability is not a protected characteristic in the constitution and there is no specific legislation protecting the rights of persons with disabilities. The Labour Code does provide some protection but the Government is exempt from many of its provisions, and the section about reasonable adjustments is not reflected in the Governments General Orders.</p> <p>Montserrat's Tourism Strategy makes no reference to accessible tourism, and the lengthy and detailed comments made by MAPD on the draft strategy were ignored. The organisation also submitted detailed comments on the Access Strategy which were also ignored. The ITT for the new tourism website never included any requirement for it to be useable by persons with disabilities. In many countries, including the USA, this would be illegal. We have also pointed out before that the FCO and DFID were always making statements about the importance of addressing disability in the use of aid, but that when it came to the overseas territories, they remained silent.</p>	Comment noted.

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3	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>The Stantec report states: “There is a limited legal and regulatory framework in Montserrat to address issues pertaining to gender and people with disabilities.” This is undoubtedly true and MAPD has been drawing attention to this, with some success, particularly since the initial consultation with MAPD in January 2019. In December 2019 Montserrat was visited by a mission from the UN C24 Decolonisation Committee and its final report it said “greater efforts need to be made to respond to the challenges and needs of the vulnerable, including persons with disabilities”. It made the following recommendation: “The mission urges the administering power to assist Montserrat in preparing for the extension of the territorial application of the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of Persons with Disabilities.”</p> <p>It also said: “The mission calls upon the administering Power and the Government of Montserrat to conduct an analysis and mapping of the development steps needed to ensure the implementation in the Territory of the 2030 Agenda for Sustainable Development, in order to build a sustainable community and leave no one behind. In that context, the mission considers that greater efforts need to be made to respond to the challenges and the needs of the vulnerable, including persons with disabilities, women and girls, and older persons.”</p> <p>These recommendations were approved by the UN General Assembly in November 2020. The Assembly also requested “the administering Power to report to the Secretary-General on the steps taken and progress made with regard to the recommendations contained in the report of the visiting mission.” We would see the Stantec report as something that should be presented as part of this report to the UN.</p> <p>We are not confident that either the Government of Montserrat or UK Government will take any action on the UN recommendations unless we continue to press. The UN has never previously passed resolutions on disability in Montserrat, and did so on this occasion as a result of our initiatives. We will persist.</p> <p>We note your comment that “there could be an increase in visitor arrivals that could include persons with disabilities, as well as the elderly. The local regulatory and institutional framework, as well as infrastructure, cannot adequately provide for these visitors.”</p>	Comment noted.
4	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>Despite the weakness in the legislative framework, it does state in the Montserrat Constitution Order that “no person shall be treated in a discriminatory manner in respect of access to any place to which the general public has access”. So, it is a constitutional requirement that the port be accessible We also note your reference to CARICOM “As a member of CARICOM, The CARICOM Regional Organization for Standards and Quality (CROSQ) requires full accessibility of facilities, with which Montserrat should be compliant.” This is new information to us, and very useful. A point we often make is that accessibility has to be built in during the design stage of major project as rectification would be expensive. If we are building capital projects that are not accessible, then we are saying that no progress will ever be made on disability in the future, and that the GoM is willing to ignore its own constitutionYour report explicitly identifies the issues that were discussed with our representative. And you have elsewhere mentioned the lack of accessible public washrooms. The toilets at nearby Marine Village were built to be non-accessible. The GoM has also never required its ferries to have accessible toilets so the port facilities are very important. There is an accessible toilet at the airport.</p>	Thank you for your comments. Comments noted

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5	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>You have mentioned employment is respect of construction and operations. With regard to construction the report says it is “unlikely to provide employment for persons with disabilities”. This may not necessarily be the case. In Montserrat we have no legal definition of who is and who isn’t disabled, but there are people with intellectual disabilities that work and who may find opportunities there.</p> <p>On operations you said that “new positions should be based on equity and social inclusion to ensure that women, men and persons with disabilities have an equal opportunity for employment at the Port”. This probably requires a review of the contents and scope of the Labour Code. <b>It is not clear to us which of the sections cover the activities of the Port.</b></p> <p>There are two relevant sections of the Labour Code.</p> <p>Clause 62 (e), which states that “disability” “shall not constitute a valid reason for termination of employment or other forms of discipline”.</p> <p>Clause 81 (f), which says that you have to make reasonable adjustments. Specifically, “special facilities or modifications, whether physical, administrative of otherwise.”</p> <p>Clause 62 explicitly does not apply to the Government, and we assume that “Government” includes the Port Authority. That will need to be changed if employment is to be fair.</p> <p>Clause 81 does apply to Government but it has no policy in respect of Clause 81 (f) and still follows the General Orders. These pre-date the Code (by several decades in most cases). Persons with disabilities are treated as sick under HR procedures and are taken to a medical board to determine whether their employment should continue.</p>	Comment noted. Assessment and interpretation of the Labour Code is beyond the scope of the Montserrat Port Development ESIA.
6	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>A couple of years ago the Government engaged a consultant to produce an access strategy. Part of the brief was to produce a policy for concessionary fares. This was not specifically related to disability but MAPD suggested that it should be. This was for the following reasons:</p> <ul style="list-style-type: none"> <li>• There is a constitutional requirement to provide equal access to all Government facilities regardless of whether members of the public have a disability.</li> <li>• It recognises that applying the disability codes of practice relating to the larger ferries used in other countries would limit the options available to the Government in sourcing operators of smaller vessels.</li> <li>• It recognises the role of unpaid carers in allowing persons with disabilities to be full and active members of society.</li> <li>• It will allow Montserrat to include accessibility in the marketing of the island as a tourist destination.</li> </ul> <p>In the end the consultant wrote a brief paragraph in support, but no policy was ever written, no eligibility criteria was produced, the policy never appeared on the websites and there was no means of buying the tickets on line.</p> <p>We were looking for something along the line of EU Regulation (No 1177/2010) which is, we believe, used within the overseas territories of the other European nations. The regulation applies to “disabled persons and persons with reduced mobility” which seems to be the appropriate wording. In Montserrat various terms are used including “mentally challenged” and “physically challenged”, which have no specific meaning in this context. The EU regulation provides “disabled persons and persons with reduced mobility” with:</p> <ul style="list-style-type: none"> <li>• The right to be accompanied by a companion free of charge</li> <li>• The right to special assistance at the port if requested in advance.</li> <li>• And where the carrier is responsible for damage to disability equipment – compensation which corresponds to the replacement value or to the costs relating to repairs.</li> </ul> <p><b>We would like to see an SRO (Statutory Rules and Orders) which the equivalent of and EU regulation, rather than simply relying on the Access Division to come up with a policy.</b></p>	Comment noted. Addressing Statutory Rules and Orders are beyond the scope of the Montserrat Port Development ESIA.
7	10-Dec-20	Montserrat Association for Persons with Disabilities	Montserrat Association for Persons with Disabilities	<p>We are very pleased with the report, but as you can see there are few important issues that also need to be addressed</p>	Comment noted.

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8	30-Jun-21	Public	Aldean William on behalf of Simon Morson	Will there be tug boats in operation at the new Port to assist the ships in docking? If the answer is "No", then, looking at the drawing, the new wharf needs to be at a much wider angle to the shoreline, to assist easy and safe docking. At its current angle (almost parallel to the shoreline), ships will find it difficult to dock on sea conditions other than dead calm.	Tugs are not anticipated. The alignment of the new pier and the size and dimensions of the dredged ship basin and port entrance were designed by a master mariner and former harbourmaster at the ports of Vancouver and Quebec City. These were in turn reviewed and endorsed by cruise and cargo captains who call on the port presently at Little Bay as well as the cruise lines Royal Caribbean and Carnival.
9	30-Jun-21	Public	Aldean William on behalf of Simon Morson	Is the new wharf designed to be a solid structure from seabed up, or will water flow underneath?	The new pier will be a solid gravity based structure from the seabed to top of deck.
10	30-Jun-21	Public	Aldean William on behalf of Simon Morson	Looking at the drawing, the breakwater doesn't seem to be providing the required protection against rough seas coming from neither North or South.	The formal breakwater has been removed from the original project port layout but the remaining pier in the current port layout will serve as a partial breakwater.
11	4-Jul-21	Public	Desmond Meade	I listened with interest last Wednesday to the public town-hall meeting, where the Little Bay Port Project, along with the Environmental and Social Impact studies were presented. I must commend the efforts of your team to bring the project to this stage. I am an avid beach goer, fisher and boater who has utilized the Little Bay beach, and the existing port boat launch/ramp on numerous occasions. I also expect in the near future to offer to the general public other services, which will utilize the "New FACILITY". I have not attached any technical data, or drawings for this "comment" proposal. The reason being, that expertise is in your domain. In the presentation at the town-hall meeting, mention was made of Fishers, tour operators, and other businesses who will be affected by the construction of the port, that these entities will be compensated by the GoM for loss of revenue. Further to that, boat trailers will be provided to owners of boats, which will enable the retrieval from the existing moored positions, and maneuverability when on land. This is necessary since all boats will have be removed due to the construction and other work at the port, which will hinder the use of these vessels. However, I listened with concern, whereby there were no provisions mentioned, or options given to boat operators regarding the launch or retrieval of a vessel should the owner decide he wanted to utilise the vessel for a particular reason. <b>What options does that boat owner have? 1/ use a crane, which is costly, or 2/ use the existing dangerous launch ramp, which was not designed for recreational boat users.</b> As a community we, have managed to "MAKE DO" with that ramp on the south side of the existing pier. So here is the reason for my comment.... Since the GoM is going to invest in trailers for boaters/fishers, why not at this opportune time, design in the port project, a purpose built launch/tie-up ramp structure. I propose to "FILL-IN the area between the NEW PIER, and the EXISTING pier. Most boat ramp which I have visited and used in Antigua, Trinidad, and the US have a gentle slope grade to a maximum depth of 3 ft. With the protection of the "NEW PIER" boats can be launched and retrieved safely in moderate swells, with the use of a pickup or similar vehicle.As mentioned in the briefs at the town-hall meeting, I understand the slope and cliff face stabilization will be required as part of the SAFETY in PORT operations. Therefore, this material can used to provide the reclaim material for the "PROPOSED BOAT RAMP. This is the close of my comments, and I trust, the GoM would consider the inclusion of the "Proposed Boat Ramp". or similar considerations to enhance the viability, and purpose-use of TAX -PAYERS money.	The options available for launching and retrieving of vessels are: 1) The port authority crane, 2) private sector crane truck suppliers, 3) existing slipway. Filling in the area between the NEW PIER and the EXISTING PIER for the use of a boat ramp will allow significant volume of wave run-up on the causeway during unfavorable wave conditions and increase the downtime of the facility. The design allows for the height of the leeward amour crest height of +3m and above the road level. The wave conditions at the existing slipway (launch) ramp will be improved with the shelter created by the proposed new pier.
12	5-Jul-21	Public	Vaughn Barzey	Will you publish the initial brief from the Government of Montserrat to the designers? If not may I please have a copy?	The development of the proposed port facility is being procured under a Design and Build service. The procurement process is ongoing, and the design and build bidding documents that include the initial design brief is not available to the public at this time.



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13	5-Jul-21	Public	Vaughn Barzey	How many days per year it is anticipated that dredging will be necessary after the port is complete?	This would be dependent on the final design. Once this is available the required frequency for maintenance dredging will be ascertained through a sedimentation study. There has been no maintenance dredging at the existing facility in 20 years. Silt traps will be installed along the drainage channels of the proposed infrastructure to reduce the silt deposit into the harbour basin.
14	5-Jul-21	Public	Vaughn Barzey	There will be an increase in port activity inherent with the development of the new port. What terrestrial infrastructure do you think is necessary for the design to operate at its optimum? And will that cost be attributed to the port development?	Improvements to the passenger terminal, container handling equipment and warehouse areas would complement the new port.
15	5-Jul-21	Public	Vaughn Barzey	Given the design-life of the Port is fifty (50) years, and that it has already taken twenty five (25) years to get to this stage of the design, not to mention, this port is an absolute lifeline for Montserrat, isn't 50 years an inordinately short life for the proposed port?	A design life of 50 years is standard industry practice.
16	5-Jul-21	Public	Vaughn Barzey	What is the average design life of essential ports in other parts of the world? (eg US, UK, Canada) given due consideration that this port will be the only international link/life-line with port facilities on Montserrat.	A design life of 50 to 75 years is common. Generally a design life over 50 years will require additional measures that increase project cost substantially.
17	5-Jul-21	Public	Vaughn Barzey	What is the estimated cost of annual maintenance (dredging, painting, surveys etc) for the new port?	Initial maintenance costs within the initial 5 to 10 years of project life are generally minimal and will increase after that. A timescale assessment of maintenance costs has not been prepared.
18	5-Jul-21	Public	Vaughn Barzey	Montserrat has many 'rough-sea-days' sometimes weeks, when given the proposed design the port will be closed. What is the average 'rough-sea-days' (waves averaging 2 metres and above) per year in this area? Not including storms, has this being factored into the design?	The significant wave height (Hs, which is the average height of the 1/3 of largest waves) is expected to exceed 1.25 m 13.5% of time during the winter months offshore of the end of the new pier while at the middle point of the inside berth of the new pier significant wave height is expected to exceed 1.25 m 0.1 % of the time.
19	5-Jul-21	Public	Vaughn Barzey	Besides space, which is what the cruise operators have been asked to check, what other factors would those cruise ships require in order to operate in the port safely? And are the cruise ship requirements any different to those of the of cargo ships expected to call at the port?	Cruise operators require sufficient space to disembark and embark passengers which the new pier provides and seas generally below 0.7 m (Hs), while cargo ships often require greater space for cargo operations to accommodate equipment plus calmer seas depending on the type of cargo, for example, containers. The length and width of the pier is based on the needs of cargo operations.
20	5-Jul-21	Public	Vaughn Barzey	There is a sink-hole on the rendezvous bluff, Is there any danger of collapse in that area as a result of works to deliver the port project? And would any such collapse affect the port in any way?	The Contractor is required to assess and stabilize Rendezvous Bluff adjacent the new pier and causeway.
21	5-Jul-21	Public	Vaughn Barzey	What is the height of the pier above the high water mark? (High tide)	The pier will be 2.4 m above high water.
22	5-Jul-21	Public	Vaughn Barzey	At High tide, would two (2) metre waves overtop the pier?	Waves with a height of 2 m are not expected to overtop the pier but will break and possibly result in substantial spray on the new pier.
23	5-Jul-21	Public	Vaughn Barzey	If I were to buy a kettle a drill or even a child's toy, the manufacturers guarantee is a statutory one (1) year, with some manufacturers offering much more than that. What therefore, is the rationale for the foremost major infrastructure project, and probably the biggest project that will ever take place on Montserrat have only one (1) year defect liability period? Bearing in mind that if there is a defect, it will more than likely cost very many millions of pounds, or if you prefer even more millions of dollars to rectify.	One year is acceptable time for the defects liability period for civil infrastructure projects.
24	5-Jul-21	Public	Vaughn Barzey	Does the defect liability refer to the contractor only?	Yes.

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25	5-Jul-21	Public	Vaughn Barzey	Is any liability placed on the designers? (ie: if the port is built by the contractor to the design but the design itself is at fault and it does not perform to the expected parameters and design criterion)?	The Contractor is the designer as well so the Defects Liability Period applies to their design also.
26	5-Jul-21	Public	Vaughn Barzey	What is the designer's liability?	The same as the Contractor's.
27	5-Jul-21	Public	Vaughn Barzey	Would a breakwater improve the operability of the port in all prevailing weather conditions?	Yes. Please also see response to Comment No. 10.
28	5-Jul-21	Public	Vaughn Barzey	Would a breakwater extend/improve the life of the port?	Most likely but not substantially.
29	5-Jul-21	Public	Vaughn Barzey	By how many years would the life of the port be extended if a breakwater were built to protect it?	There are far too many factors and variables to accurately answer such a question.
30	5-Jul-21	Public	Vaughn Barzey	What are the design factors that govern the life of the port? (Currently designed for a 50 year life-span)	The type of structure and the selection and details of the materials used. Workmanship, the conditions and exposure during the life of the structure and quality and frequency of routine maintenance over the structure's life are also key factors that govern the structure's service life.
31	5-Jul-21	Public	Vaughn Barzey	What would need to be added into the design to increase the life of the port to eg 100 years?	Higher quality materials, particularly concrete, and increased structural member sizes are two of the many elements that can increase project service life.
32	5-Jul-21	Public	Vaughn Barzey	Would the port be able to operate more days of the year if a breakwater was built to protect it, given the annual seasonal rough seas that is prevalent in the area?	Yes.
33	5-Jul-21	Public	Vaughn Barzey	What is the cost per day to the government when the port is inoperable? (ie: cruise ships, cargo, or pleasure yachts turned away, workers unable to work those days etc.)	The cost of Port Operations are largely fixed, however revenue opportunities are lost both for the MPA and the Montserrat economy when vessels are unable to berth safely.
34	5-Jul-21	Public	Vaughn Barzey	With the present design, how often will dredging have to take place?	Please also see response to Comment No. 13.
35	5-Jul-21	Public	Vaughn Barzey	If the pier were longer and out in to deeper water, would that negate the need for dredging? (Hence the inherent associated cost of the actual dredging, workers without pay, and downtime of the port may well be avoided?)	Yes, but the lengths of the pier in shallower water would not be useable by most of the stipulated design vessels if no dredging occurred. It is far less costly to dredge than to build the pier longer out into required vessel water depths.
36	5-Jul-21	Public	Vaughn Barzey	Much has been made of the resident bats and birds. How will the construction affect the bird and bat population during and after construction?	There is the potential for adverse effects on the bats and birds during the construction and operation phases of the port. However, mitigation measures and monitoring have been proposed to reduce these potential adverse effects and are describe in the Environmental and Social Management Plan (ESMP) in Appendix A of the ESIA Addendum. These are described in Tables 5.6 and 5.7 for the birds and bats, respectively, in the ESMP.
37	5-Jul-21	Public	Vaughn Barzey	How will the construction affect the 'resident' human population of the area? And will there be a longer-term adverse impact?	The potential effects on stakeholders and the public as a result of the port project are described in Section 7 of the ESIA Addendum. Although there is the potential for some social and human adverse effects during construction of the port, which will be reduced with the implementation of mitigation measures and management of social impacts described in Section 6 of the ESMP, the longer term effects of the port are anticipated to be overall positive impacts on the human population of Montserrat.
38	5-Jul-21	Public	Vaughn Barzey	Will there be a financial sanction against the contractor if their operation disrupts the normal operation of the port?	No. Significant disruptions are not expected. Almost all of the construction activity will be seaside of the existing port facility.
39	5-Jul-21	Public	Vaughn Barzey	What is the on-going cost of maintaining the proposed port?	This information is not available at this time.

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40	5-Jul-21	Public	Vaughn Barzey	What is the cost/day of operating the port?	The Port financial statements which provides a complete picture are laid before the Legislative Assembly and provides the detailed cost of operating the port.
41	5-Jul-21	Public	Vaughn Barzey	What supply services would be available at the port for ships?	Portable water, communication, water for fire fighting and cleaning, garbage disposal, ship chandlery and other private services.
42	5-Jul-21	Public	Joseph (Jim) Bass	<p>The GIU Press Release of Friday June18, 2021 states 'The Montserrat Port Development Project will entail the following: A combined offshore breakwater and berth structure consisting of a concrete blockwork quay, concrete caissons, and a steel sheet pile wall ; etc.' However, at Project Description. Table 2.1 Comparative Overview of Key Project Characteristics for the Original Layout with the Current Layout. Under 'Comments', it says, 'The main differences between the two Port layouts are that the Current Layout has no breakwater etc.' <b>Which is it?</b></p> <p>If there is no offshore breakwater, or a south facing breakwater to guard against what older fishermen and sailors often referred as the 'devastating South Sea' that often devastated coastal areas during some hurricane or near hurricane type weather, the new port will be greatly exposed. It is this 'South Sea' effect that took away about a quarter of Sturge Park up to the edge of the western car parking area as elements of hurricane Luis blew past Montserrat in 1995. Furthermore, without adequate breakwater protection. it means that except for the fact that the new port will facilitate increased sea passenger and cargo handling capacity, as has been the case over the generations, whenever major storms are expected, any boats that cannot be taken from the water will have to seek shelter in Antigua.</p>	The Current Layout/Project is the design for the new pier, which will also serve as a partial breakwater by reducing prevailing wave heights along its leeward berth (see also response to Comment No. 10). However, during extreme storm events (tropical storms and hurricanes) large waves can and will overtop the pier thereby rendering the pier unusable during the storm. The new pier will not provide hurricane protection.