St. Maarten Medical Center

ST MAARTEN HOSPITAL RESILIENCY & PREPAREDNESS PROJECT

Preliminary Environmental and Social Management Plan for the New General Hospital

November 2018

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ABBREVIATIONS AND ACRONYMS

AQCMP	Air Quality Control and Monitoring Plan
AW	Additional Wing
BOD	Board of Directors
CC	Complaint Committee
CHSSMP	Community Health, Safety and Security Management Plan
CLA	Collective Labor Agreement
CLO	Community Liasion Officer
CTMP	Construction Traffic Management Plan
DBM	Design Build and Maintenance
E&S	Environmental and Social
EDP	Emergency Disaster Preparedness Plan
EHS	Environmental Health and Safety
EOC	Emergency Operations Center
EPRP	Emergency Preparedness and Response Plan
ER	Employee Representative
ER	Employees Representative
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
FTE	Full Time Equivalent
GEBE	Gemeenschappelijk Electriciteitsbedrijf Bovenwindse Eilanden- Electricity and Water Company
GFA	Gross Floor Area
GoS	Government Services
HMMP	Hazardous Material Management Plan
HP	Hurricane Plan
HSE PLAN	Health Safety and Environmental Plan
IGRM	INSO Grievance Redress Mechanism
INSO	INSO Sistemi per le Infrastrutture Sociali S.p.A Italy
JCI	Joint Commission International
LEED	Leadership in Energy and Environmental Design
MB	Main Building
MECYS	Ministry of Education, Culture, Youth and Sports
MSDS	Material Safety Data Sheets
NCMP	Noise Control and Monitoring Plan
ODM	Office of Disaster Management
OHSP	Occupational Health and Safety Plan
PPE	Personal Protective Equipment
Project	The New General Hospital
PRT	Permitted Recovery Time
QMS	Quality Management System
SMGH	St Maarten General Hospital

SMMC	St Maarten Medical Center
SZV	Sociale Ziekte Verzekering- Social and Health Insurances
TB	Technical Building
TMP	Traffic Management Plan
Tripartite	Protocol est. 2015 consisting of VSA, SZV and SMMC
VROMI	Volkshuisvesting, Ruimtelijke Ordening, Milieu en Infrastructuur- Ministry of Public Housing, Spatial Development, Environment and Infrastructure
VSA	Volksgezondheid, Sociale en Arbeidszaken- Ministry of Public Health, Social Development and Labor
WMP	Waste Management Plan
WWTP	Waste Water Treatment Plan

EXECUTIVE SUMMARY

Background

This document provides the Environmental and Social Management Plan for construction and operation of the new general hospital. The ESMP has been developed to meet international standards on environmental and social management performance, specifically those set out by the World Bank in its Environmental and Social Safeguard Policies. In addition, the safeguard provisions defined in this ESMP also incorporate appropriate national building, environmental and planning requirements.

The ESMP is essential for successfully implementing the Project's social and environmental performance throughout the life of the Project. Having this framework in place ensures a systematic approach to bringing environmental and social considerations into decision making and day-to-day operations. It establishes a framework for tracking, evaluating and communicating environmental and social performance and helps ensure that environmental and social risks and liabilities are identified, minimised and managed. The ESMP will be a living document and will continue to develop during the design and construction phase to enable continuous improvement of the Project's social and environmental performance.

In particular, the objectives of the ESMP are to:

- Promote environmental and social management and communicate the aims and goals of the ESMP;
- Ensure that all workers, contractors and others involved in the Project meet legal and other requirements with regard to environmental and social management;
- Incorporate environmental and social management into Project design and operating procedures;
- Address concerns and issues raised in the ESMP stakeholder consultation process and those that will likely continue to arise during the Project's lifetime;
- Serve as an action plan for environmental and social management for the Project;
- Provide a framework for implementing Project environmental and social commitments; and
- Prepare and maintain records of Project environmental and social performance (i.e. monitoring, audits and non-compliance tracking).

Project Description

The **St Maarten Medical Center** (SMMC) is a private non-profit foundation and is the owner and operator of the only hospital facility on St Maarten. Government signed a bilateral agreement with SMMC in which it delegated the new general hospital implemention responsibility to SMMC. As such, SMMC will have the overall responsibility for technical supervision and fiduciary activities for the execution of the Project.

To strengthen the healthcare sector on St Maarten, a Tripartite protocol (Tripartite) was established in 2015 consisting of: (i) the VSA, (ii) the SZV and (iii) the SMMC. With its focus on **achieving affordable and sustainable quality healthcare**, the Tripartite declared that the existing hospital building was unsuitable for a complete re-design over the long-term. Given the Tripartite is focused on achieving affordable and sustainable quality healthcare based on the concept of 'care close to home,' it decided on the need to build a **new general hospital** (hereinafter 'The Project').

A **turn-key Design, Build and Maintain** contract will build the new general hospital in St Maarten which includes all medical equipment, furniture and ICT infrastructure. The Project will be **financed** by (i) a consortium of private financiers (local pension funds and banks), (ii) a contribution from the St. Maarten Hurricane IRMA Reconstruction, Recovery and Resilience Trust Fund managed by the World Bank (registered as Project P167532) and (iii) own funds of the SMMC.

The new general hospital will be constructed on the same location as the existing hospital, Welgelegen Road 30 (known as Cay Hill). This location (hereinafter the SMMC location) has been zoned by Government as a Hospital. The land is owned by Government and SMMC has been given a long-term lease for the use of this land. The area adjacent to the current and new general hospital consists of mixed use of businesses, residencies, schools, sports complex, and several smaller public buildings.

The new general hospital Project, upon completion, will be a modern multiple service operational facility consisting of 110 beds and after completion will include:

- A Main Building (MB) with 5 stories of each between 3.300 and 4.000 square meters,
- An Additional Wing (AW) with 3 stories of each approximately 1,000 square meters,
- A Technical Building (TB),
- General parking area,
- A Parking garage of 4 to 5 floors,
- A Heliport, and
- Supply and installation of medical equipment, furniture, backup power plant and all IT related equipment/network (medical).

The construction of the new Main Building will be undertaken while the existing Hospital is fully operational. This Main Building with be completed upon approval and certification of all medical services and equipment at the same time the existing hospital is in operation. After transfer of all medical services to the new general hospital facility, the existing building will be demolished. After demolition the construction of the "additional wing", main entrance, parking lots, parking garage and heliport and landscaping will follow.

The Project will be constructed in four main phases:

Phase 1: Includes all the steps and processes to complete design, permitting and site preparation including the following:

- Preliminary design
- LEED submission
- Permit applications
- Soil investigation
- Site preparation and staging
- Demolition and construction of the new waste water treatment plant
- Final technical design

Phase 2: Construction of the new general hospital, which includes the Main Building and Technical Building, erected adjacent to the existing hospital. This Phase includes also retaining walls, drainages, services and access roads and can be divided into the following sub phases:

- Construction of the Main Building and Technical Building
- New Building Commissioning certificate.

Phase 3: Demolition of the existing hospital. This phase can be divided into the following sub phases:

- Moving into the Main Building
- Demolition of Existing Hospital

Phase 4: Construction of the main entrance and other facilities. This phase can be divided into the following sub phases:

- Construction Main Entrance Main building
- Construction Additional Wing
- Construction new parking lot
- Construction Parking Garage
- Construction Heliport

The construction for the new general hospital will require a relatively small work force (100-130 workers) across skilled and unskilled workers. As far as possible, unskilled workers who consist of the largest work force contingent will be locally contracted. Special skilled laborers and professionals are expected to be temporarily on the island for various stretches of time during construction. Consequently, there will be no worker camp or special worker housing compounds, since these workers will live in accommodations around Phillipsburg and its outskirts. SMMC, contractors and the Project supervisor have been made aware of the provisions of the World Bank Guidance on Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx. In collaboration with the World Bank safeguards specialists assigned to the Project there is agreement that the worker living and working arrangements are not per se

conditions required to be applied for this Project. Nonetheless, INSO and the Project supervisor will apply relevant provisions of the HSE Plan covering worker conduct, behaviour and social interaction rules.

Applicable World Bank Safeguard Policies

This Project has been classified as a Category B Project, as documented in the World Bank Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS) issued in June 2018. Based on early scoping of the Project by World Bank environmental and social specialists, there are only two World Bank safeguards policies triggered explained in detail in the ESMP, Environmental Assessment OP/BP 4.01 and Pest Management OP/BP 4.09

The Project's overall potential socio-environmental impacts are positive for the entire Dutch side of the island and adjacent islands. As explained in the early sections of this document, **i**n addition to the expansion in the scope of services, the new general hospital will: (i) increase capacity from 66 to 110 beds; (ii) have 4 operating theaters and larger areas for ambulatory care, including a new flow of patients for ambulatory surgery; (iii) include critical characteristics to increase the resiliency of the hospital (external protection to withstand category 5 plus hurricanes, installation of modern and safe medical gas, greater storage capacity for having supplies for longer periods, underground communication through fiber optic capability, and a landing platform for helicopters for the transport of trauma patients, etc.).
Environmental impacts are limited to the life of the construction process and result directly from construction activities. Compliance with OP 4.01, Environmental Assessment, will be accomplished by the application of relevant clauses in construction contracts designed to mitigate the potential impacts identified. The details of these measures are found in the subsequent descriptions of the INSO HSE Plan and the specific Management Plans.
The Project activities do not trigger OP 4.12 Involuntary Resettlement. The construction of the new general hospital, financed by the Project, will take place on public land free of occupants and not in use for any type of activities, and does not involve any involuntary resettlement. It is part of the land of the existing hospital and its public ownership is not contested. Potential adverse social impacts include: worker safety in the construction activities; safety of patients and staff using the current hospital facility while the current hospital is being used; the management of labor coming from outside St Maarten; community health and safety.

ESMP Process, Consultation, and Review Process

Several steps have been followed in the ESMP development, submissions and review. These are summarized below.

- Specialists across environment and social safeguards teamed with the SMMC staff to contribute to the ESMP
- A first consultation was held at SMMC on November 26, 2018
- A World Bank environmental safeguards specialist reviewed the ESMP
- The Preliminary ESMP was posted on the SMMC websites for public review and comment
- The ESMP was disclosed also on the World Bank website

Potential environmental and social impacts and risks were evaluated during a scoping process. There is a defined Area of Influence that is considered the "direct impact" zone. In this area the Project activities are assessed to determine any direct and indirect impacts between the Project and its environment resources and people, communities and businesses. An Environmental and Social Impact and Risk Assessment matrix is presented in the report. It is important to clarify that this assessment is considered "preliminary" and will need to be updated once the final design with all detailed construction details is completed in 2019.

Organization Roles and responsibilities

SMMC is committed to provide resources essential to the implementation and control of the ESMP. Resources include the appropriate human resources and specialised skills. SMMC will have dedicated

personnel competent on the basis of appropriate education, training, and experience that will manage and oversee the E&S aspects of the Project.
SMMC selected INSO as the Design Build and Maintain (DBM) Contractor ('the Contractor') for the Project, according to commercial, technical, quality assurance and its past performance on EHS standards so as to satisfy SMMC's requirements and policies. Scope of the Contractor is to Design, Build and Maintain for 20 years (10 years plus an option for another 5+5 years) the Project components mentioned in 2.4.
SMMC selected KPMG and Royal HaskoningDHV to act as Employer's Representative and support SMMC during the design, construction and first year of operation of the Project. The Employer's Representative will provide the ESMP implementation support across the life of the Project which is detailed in the ESMP.
Several GoS agencies have direct responsibility for this Project. They include VROMI, (public Works), and VSA (Department of Health and Social Services). These agencies will work closely with SMMC to ensure compliance with all building and operational requirements.
The World Bank will provide the necessary implementation support to ensure adherence to all World Bank Project requirements across safeguards as well as financial and procurement requirements. This implementation support will be provided through regular interactions, implementation support missions, and thematic review missions if required.

Training, awareness and competency

Both SMMC and INSO will identify, plan, monitor, and record training needs for personnel whose work may have a significant adverse impact upon the environment or social conditions. The Project recognises that it is important that employees are aware of the Project's environmental and social management plans including potential impacts of their activities and specific roles and responsibilities to comply with these plans and procedures. Employee training will include awareness and competency with respect all aspects of environmental and social impacts and conforming to the requirements of the ESMP (including its specific Management Plans and Procedures).
An EHS Manager is responsible for coordinating training, maintaining employee-training records, and ensuring that these are monitored and reviewed on a regular basis. The EHS Manager will also periodically verify that staff is performing competently through discussion and observation. 3.4

Communication and stakeholder engagement

As part of the existing hospital operations, SMMC maintains a formal procedure for communications with the regulatory authorities. A client panel is also in place as well as a Complaints Policy and Procedure. SMMC will develop a Stakeholder Consultation and Engagement Plan for the Project, first for the Construction Phase and then for the Operation Phase. The EHS Manager will be responsible for communication of E&S issues to and from regulatory authorities whenever required. The CLO will be responsible for communication with communities.

Environmental and Social Management Plan

ESMP Matrix

Mitigation and enhancement measures, responsibility for implementation, and monitoring and verification indicators are provided in the ESMP Table in Appendix 2. These measures and the Management Plans discussed in the document have been adopted by SMMC and are considered INSO contract requirements. SMMC and INSO will determine what additional risks and proposed management controls are required based on the final design and work method statements.

Specific Management Plans

Several Management Plans are still to be finalized to support the implementation of this ESMP. The timing of the development of the plans may be staged, ensuring that the appropriate focus and level of detail is provided for construction and operational activities. They will be finalised by INSO with SMMC and Employees Representative coordination. When appropriate, the Project owner and their representatives may

meet with GoS agencies and other key stakeholders. The contents of the Management Plans are outlined in Appendices, including the Management Plans available at this stage.

Construction Phase

As per contract requirements, INSO is revising its HSE Plan ('the Contractors HSE Plan') which requires SMMC approval before the start of new general hospital Construction activities.
The INSO HSE Plan will include the following Sections or Management Plans:

- Air Quality Control and Monitoring Plan
- Noise Control and Monitoring Plan
- Waste Management Plan
- Hazardous Materials Management Plan
- Emergency Preparedness and Response Plan
- Construction Traffic Management Plan
- Occupational Health and Safety Management Plan
- Community Health, Safety and Security Management Plan
- Hurricane Plan for the Construction Phase
- INSO Grievance Redress Mechanism

The draft HSE Plan was submitted to SMMC in July 2018. Based on comments by the Employer's Representative, INSO is revising and finalising this HSE Plan. The Contractor will also develop and implement its own internal Grievance Redress Mechanism in either the Contractors HSE Plan or Quality Management System (QMS) developed for the Project.
Further, since an approved HSE Plan is not expected to be in place before the start of site preparation activities, the Contractor is preparing a Site Preparation Environmental Management Plan to cover these impacts.

Operational Phase

The Contractor will adopt and amend specific Management Plans to address all the E&S risks associated with the operational phase of the new general hospital. There will also be a Quality Management System developed for this operational service period.

1 Introduction

This document provides the Environmental and Social Management Plan ("ESMP") for construction and operation of the new general hospital ('the Project').

1.1 Overview and scope

The ESMP has been developed to meet international standards on environmental and social management performance, specifically those set out by the World Bank in its Environmental and Social Safeguard Policies. In addition, the safeguard provisions defined in this ESMP also incorporate appropriate national building, environmental and planning requirements.

The ESMP is intended to cover those activities described in Chapter 2 of this document. It covers Project activities during pre-construction, construction and operation and will be subject to thorough reviews prior to the commencement of activities to ensure completeness. The ESMP does not include measures for activities related to equipment and facility fabrication being done offsite. It should be noted that this provides the outline requirements for environmental and social management. Provisions will be made for updating the outline ESMP once the detailed Project design is complete and for adapting the ESMP to relevant Project stages as part of the overall ESMS.

1.2 Objectives

The ESMP is essential for successfully implementing the Project's social and environmental performance throughout the life of the Project. Having this framework in place ensures a systematic approach to bringing environmental and social considerations into decision making and day-to-day operations. It establishes a framework for tracking, evaluating and communicating environmental and social performance and helps ensure that environmental and social risks and liabilities are identified, minimised and managed. The ESMP will be a **living document** and will continue to develop during the design and construction phase to enable continuous improvement of the Project's social and environmental performance.

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- Serve as an action plan for environmental and social management for the Project;
- Provide a framework for implementing Project environmental and social commitments; and
- Prepare and maintain records of Project environmental and social performance (i.e. monitoring, audits and non-compliance tracking).

2 Project Description

2.1 Project Owner

The **St Maarten Medical Center** (SMMC) is a private non-profit foundation and is the owner and operator of the existing hospital. In 2007, SMMC was appointed by Government through a National Decree as the only hospital facility on St Maarten. On June 19, 2018, Government signed a bilateral agreement with SMMC in which it delegated the Project implementing responsibility to SMMC. As such, SMMC will have the overall responsibility for technical supervision and fiduciary activities for the execution of the Project.

SMMC is governed by a Supervisory Board responsible for the supervision of the Board of Directors. The Supervisory Board formally approves key decisions made by the Board of Directors, such as budget setting, foundation reorganization, investments outside the original budget and annual financial statements submitted by the Board of Directors. Supervisory Board members have specific profiles approved by the Minister of VSA to ensure that the Board has diverse expertise (e.g. medical, legal, financial, organizational management/human resources). Comprised of a minimum of three and a maximum of five members, Supervisory Board members are appointed by the Minister of VSA, upon a binding nomination by the Supervisory Board.

The Board of Directors is tasked with the daily management and decision making related to operating the hospital, according to the strategic plan and the budget. The Board of Directors is comprised of a maximum of two members: one with a background in financial management and the other with medical expertise. The Directors are appointed by the Supervisory Council in consultation with the Minister of VSA.

While the objectives, functions, capacities and legal status of the foundation will not be affected, it is expected that by the end of 2018, the name of the foundation will be changed and the current governance structure will be adjusted. These changes will not have an impact on the foundation as a legal entity and all existing rights and obligations of the foundation will continue to exist unaltered following the name change of the foundation to the St Maarten General Hospital (SMGH). The changes to the governance structure will include: (i) the Supervisory Board will include an appointment of one representative of the VSA and one member appointed by the SZV; and (ii) the Board of Directors will expand from a current maximum of two members to three members.

2.2 Project background

In terms of health service delivery, only primary and secondary care is provided in St Maarten by a mix of non-profit and private providers, as follows: the St Maarten Medical Center (SMMC), 23 general practitioners (private), dental care providers, the White and Yellow Cross Foundation (primary care, nursing home and specialized ambulatory care), the Turning Point Foundation (drugs and rehabilitation), the AIDS Foundation, the Diabetes Foundation and 15 pharmacies, of which one is situated within SMMC (Cay Hill Pharmacy).

SMMC is the only hospital and the only source of secondary health services on the Dutch side of the island and is the primary source of care for the nearby islands of Saba and St. Eustatius. SMMC provides outpatient (emergency, radiology, dialysis and other special clinics) and inpatient care (medical pediatric and surgical wards, intensive care, labor and delivery, and an operating theater). No tertiary services are provided on the island and patients needing such services are referred to neighbouring countries (Colombia, Dominican Republic, Puerto Rico, etc.). In addition to the permanent population, SMMC provides services to approximately 2.6 million tourists per year (2 million cruise ship tourists and 0.6 million stay-over tourists).

Built in 1991 for a population of 23,000, the existing hospital has surpassed its lifetime capacity and has weathered several hurricanes. The hospital design has an open structure with five internal open-air patios that leave the hospital vulnerable to severe weather and hurricane damage. After Hurricane Irma in September 2017, the SMMC suffered substantial damage and services were disrupted for several units, for example, intensive care and dialysis. Although the SMMC resumed operations immediately after the hurricane, due in part to provisional repairs carried out by the Dutch Marine engineering support unit, it is not expected to withstand another hurricane higher than Category 4. In addition, the hospital capacity and design (including 4 to 6 persons per room) does not provide options to rehabilitate or redesign the hospital to improve quality, reduce risk of the admitted patients and increase efficiency of health services.

To strengthen the healthcare sector on St Maarten, a Tripartite protocol (Tripartite) was established in March 2015 consisting of: (i) the VSA, (ii) the SZV and (iii) the SMMC. With its focus on achieving affordable and sustainable quality healthcare, the Tripartite declared that the existing hospital building was unsuitable for a complete re-design over the long-term. At that time, SMMC was in a poor financial situation because the hospital service fees (tariffs) were not increased between 2004 and 2016, which resulted in underinvestment. This has had negative impacts on maintenance, technology, quality care and expansion of services in line with the increased demand for care.

Given the Tripartite is focused on achieving affordable and sustainable quality healthcare based on the concept of 'care close to home,' it decided on the need to build a **New General Hospital** (hereinafter 'The Project').

A **turn-key Design, Build and Maintain** contract will build the new general hospital in St Maarten which includes all medical equipment, furniture and ICT infrastructure. The Project will be **financed** by (i) a consortium of private financiers (local pension funds and banks), (ii) a contribution from the St. Maarten Hurricane IRMA Reconstruction, Recovery and Resilience Trust Fund managed by the World Bank (registered as Project P167532) and (iii) own funds of the SMMC.

2.3 Project location

The new general hospital will be constructed on the same location as the existing hospital, Welgelegen Road 30 (known as Cay Hill). This location (hereinafter the SMMC location) has been zoned by Government as a Hospital. The land is owned by Government and SMMC has been given a long-term lease for the use of this land. Reference is made to figure 2.1 for the SMMC location.

The area adjacent to the current and new general hospital consists of mixed use of businesses, residencies and the following facilities:

- The Learning Unlimited School (LUS) located at Welgelegen Road #32, Cay Hill Dutch Caribbean, which is at the opposite of the new general hospital. The LUS is an US accredited school that provides the following classes (i) Kindergarten, (ii) Elementary school, (iii) Middle school and (iv) Upper School.
- The Asha Stevens Elementary School (ASES), located at Jackal Road #4 (Cay Hill) / Grapefruit Road #25 (St. Peters) which is also used as a public shelter and houses the Office of Disaster Management for post disaster management and administration.
- The island main Fire Brigade station that houses all essential equipment and communication facilities and firetrucks.
- The ambulance service which is the central station for the Island.
- The Raoul Illidgee Sport Complex, and
- Several smaller public buildings like churches, community center, sport schools etc.

The SMMC complex is very central and is accessible via three main roads:

- From Simpson Bay area via the G.A. Arnell Boulevard
- From Philipsburg area via Little Bay Road
- From Philipsburg area via the A.J.C. Brouwer Road.

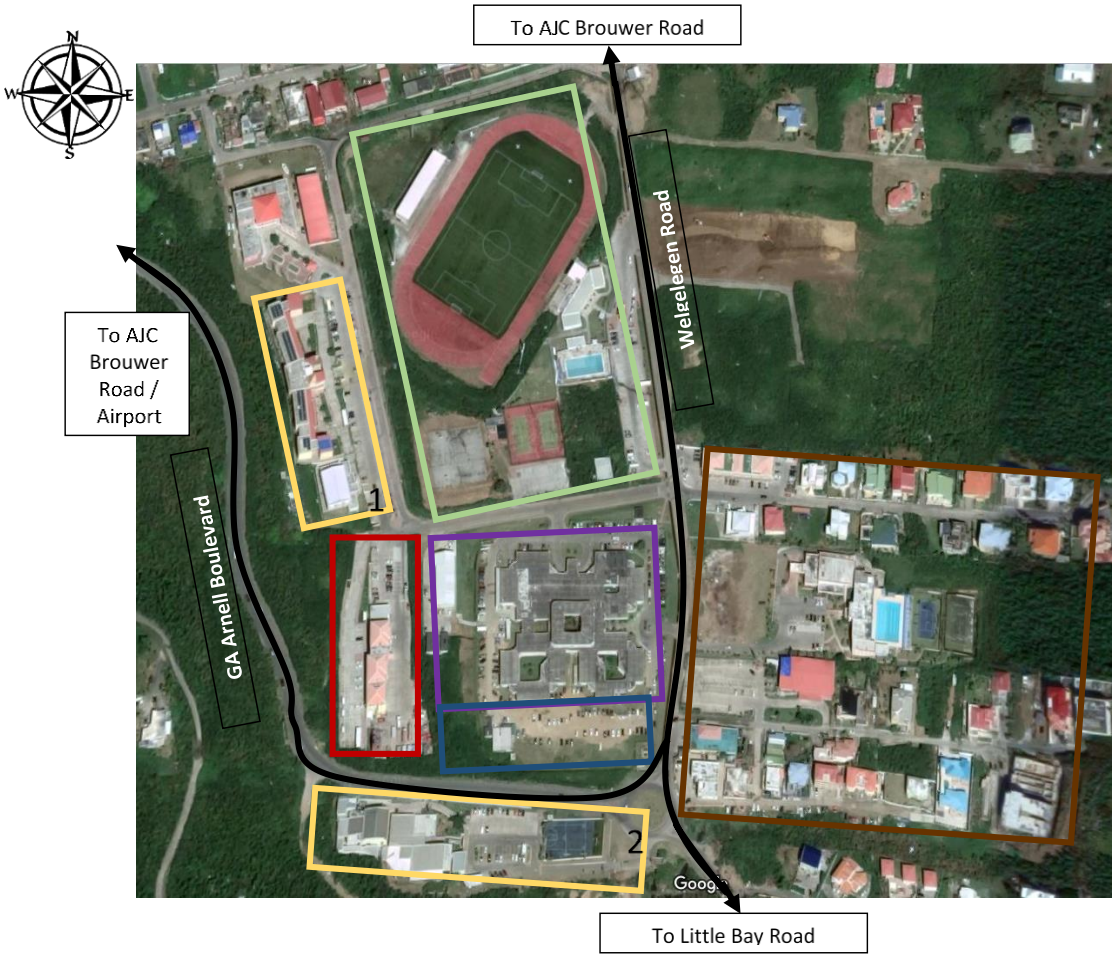


Figure 2-1: SMMC location including adjacent areas and main areas

2.4 Project components

The new general hospital Project, upon completion, will be a modern multiple service operational facility consisting of 110 beds.

The new general hospital Project includes the construction of the following components:

- The Main Building (MB) with 5 stories of each between 3.300 and 4.000 square meters,
- The Additional Wing (AW) with 3 stories of each approximately 1,000 square meters,
- A Technical Building (TB),

- General parking area,
- A Parking garage of 4 floors,
- A Heliport, and
- Supply and installation of medical equipment, furniture, backup power plant and all IT related equipment/network (medical).

The design is to incorporate the following departments and facilities:

- Surgery department
- Central equipment sterilization
- Treatment department (endoscopy)
- Emergency department
- Imaging
- Special care
- Inpatient
- Mother and child department
- Day care ward
- Dialysis
- Outpatient
- Administration, General Facilities, Laboratory, Pharmacy, Factory non-medical
- Option for medical tourism
- Technical area
- parking area for staff, patients and visitors
- Heliport
- Self-supporting back up power
- Sewage treatment plant
- Autoclave
- Retaining walls and drainage.

Appendix 1-2. contains several illustrations of the new general hospital.

2.5 Project activities

2.5.1 Construction Phase

The construction of the new Main Building will be undertaken while the existing Hospital is fully operational. This Main Building with be completed upon approval and certification of all medical services and equipment at the same time the existing hospital is in operation. After transfer of all medical services to the new general hospital facility, the existing building will be demolished. After demolition the construction of the “additional wing”, main entrance, parking lots, parking garage and heliport and landscaping will follow.

The Project will be constructed in four main phases:

Phase 1: Includes all the steps and processes to complete design, permitting and site preparation including the following:

- Preliminary design
- LEED submission
- Permit applications
- Soil investigation
- Site preparation and staging

- Demolition and construction of the new waste water treatment plant
- Final technical design

Phase 2: Construction of the new general hospital, which includes the Main Building and Technical Building, erected adjacent to the existing hospital. This phase includes also retaining walls, drainages, services and access roads and can be divided into the following sub phases:

- Construction of the Main Building and Technical Building
- New Building Commissioning certificate.

Figure 2-2: SMMC site configuration at the end of Phase 1

Phase 3: Demolition of the existing hospital. This phase can be divided into the following sub phases:

- Moving into the Main Building
- Demolition of Existing Hospital

Figure 2-3: SMMC site configuration at the end of Phase 2

Phase 4: Construction of the main entrance and other facilities. This phase can be divided into the following sub phases:

- Construction Main Entrance Main building
- Construction Additional Wing
- Construction new parking lot
- Construction Parking Garage
- Construction Heliport

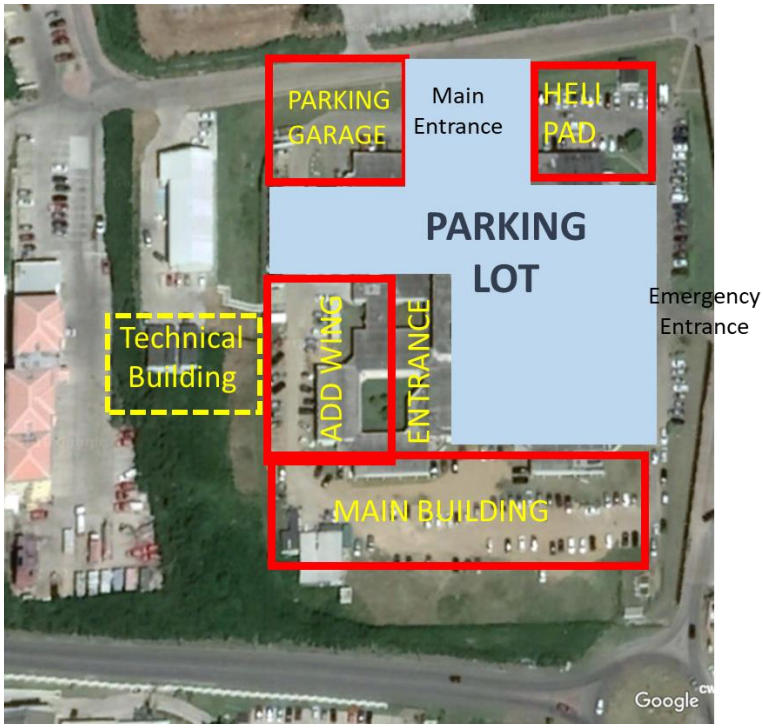


Figure 2-4: SMMC site configuration at the end of Phase 3

A more detailed description of these phases follows.

Phase 1. Preconstruction design, permitting and site preparation

Preliminary design

The pre-design of the new hospital considered not only additional capacity in terms of beds and ambulatory services, but also the need to incorporate new services, adding new diagnostic and treatment procedures, and new medical specialties. In September 2016, the selection process to hire a firm to design, construct and implement the new hospital was completed. This turn-key contract included full design of the new hospital, construction and equipment (medical and non-medical equipment), training (for equipment) and maintenance services for a 10-year period (with an option to extend the maintenance period for two additional periods of 5 years). By the time the complete design of the hospital was ready, damages caused by Hurricane Irma underlined the critical need for the new hospital to be designed with a structure and features that will increase the hospital's ability to withstand category 5 plus hurricane level winds (200mph+). These changes required an amendment to the existing turn-key contract (variation order) with the increased cost of the contract to allow for the required additional works, features and protections. The final detailed designs are still under preparation, but the preliminary designs were submitted for all building permit applications.

Building permits

A Building and Hindrance Permit have been submitted to the appropriate local authority (VROMI). The Building Permit is an authorization for construction based on the Building Ordinance or Zoning Ordinance and is issued by the Government of St Maarten before the construction of the new building can legally occur. This authorization also includes approval from several designated authorities (fire department, traffic police, aviation department etc.).

The Hindrance Permit is required for specific types of activities that can cause danger, damage and/or nuisance to the environment or the surroundings. It is tied to regulations designated to protect the environment and ensure safe and clean practices on St Maarten. These regulations prevent, and/or limit

pollutions (soil, water, noise, air, and odor) and energy use. The Hindrance Permit is required for the Waste Water Treatment plant and the Generators, Transformers. Chillers, Air Compressors, Oxygen Generator, Steam Generators, Autoclave/Grinder, etc.

Soil investigation

The soil investigation consists of Geotechnical and Hydrological investigations to provide sufficient data concerning the ground and the ground-water conditions at and around the construction site for a proper description of the essential ground properties and a reliable assessment of the characteristic values of the ground parameters to be used in design calculations.

Site preparation

Site preparation will include a limited number of preparation activities undertaken during a three-month period in the beginning of 2019. The activities include:

- Site fence & Access Construction
- Acoustic soundproof panel installation
- Construct new Waste Water Treatment Plant and connect to the existing Hospital
- Embankment excavation
- Clean existing drainage including slope to runoff rainwater
- Connect existing drainage to the main system alone Welgelegen Road
- Construct concrete retaining wall and drain box
- Set-up a storage, security and deposit area
- Demolish existing Waste Water Treatment Plant
- Temporary installation of electrical, water and internet connections
- Install small temporary office
- Install truck wheel wash station with a silt trap reusable water system

This starts with SMMC relocating the current parking area which is now located on the new hospital construction area. Subsequently, INSO will install fencing to secure the construction site. Sound proofing panels will then be assembled along strategic locations on the fencing. Within the construction site, a small office will be installed for the contractor and labor facilities including adequate washroom, toilet facilities and a shaded rest area. This site will also be used to store equipment and materials for the first construction activities. Clearly visible warning and security signs will be displayed in strategic locations to inform the public, hospital patients, visitors and staff about construction warnings and detours.

The site layout and activities for this preparation stage are presented in Appendix 1-1. The activities shown include the location of the construction fence, storage area, acoustic sound panels, embankment excavation, and the new concrete retaining wall and box drain. Also, the new temporary access road and security gate for worker and construction equipment access is designated. The new flow of hospital traffic, patient access, and emergency traffic is also designated.

Demolition and construction of the new waste water treatment plan

In the Cayhill area there is no sewerage distribution network. Therefore, the existing hospital has its own waste water treatment plant (WWTP) on the SMMC location which will be discharged to the pond at the other side of the Arnell Boulevard. The current WWTP is too small and will not meet the capacity requirements for the new hospital. Therefore, a new WWTP needs to be completed in the early stage of construction. Appendix 1 contains the location of the current WWTP and the new WWTP.

The new WWTP must be operational before demolishing the old one. The new and existing hospital need to be connected to the new waste water system. The design and specifications of this new system ensure that there will be no noxious odors around the hospital area.

Final technical design

In the final design INSO will provide detailed floorplans and room layout for all departments, and complete mechanical, electrical and plumbing drawings. All drawings will include layout calculations and specifications needed for construction and designate the sequence of construction.

LEED design submission

As part of the requirements for the New General Hospital a LEED (Leadership in Energy and Environmental Design) certificate will be obtained. The Project will at least meet the certified level, however efforts are made to reach the silver level. An independent party with both experience in the Caribbean and with hospital projects will be contracted to complete the LEED submission and ensure the desired certification is acquired. The steps to acquire LEED certification is detailed in Figure 2-5.

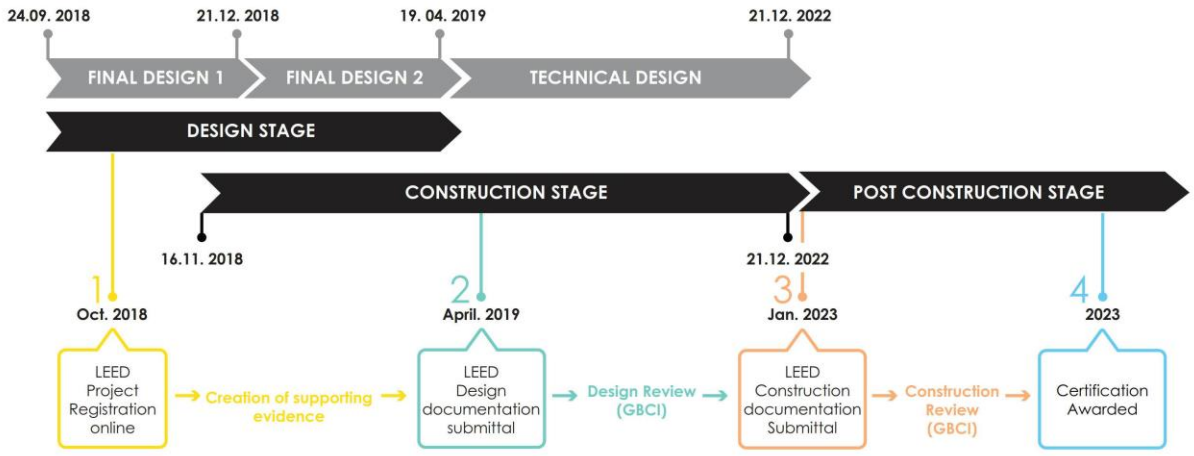


Figure 2-5: Planning of the LEED Certification process

Phase 2. Construction of the Main Building and Technical Building

The construction of the Main Building will commence in January 2019 and will be ready for use in October 2021. The Main Building will be constructed at the existing parking lot at the west side of the SMMC location. Parking for employees, patients and visitors will be diverted to alternative location controlled by SMMC. The Main Building will be 5 stories high consisting of 4 functional floors of average 3.600 square meters per floor plus one floor for technical equipment. The equipment on the roof (chillers, solar panels) will be protected against hurricane winds and debris by a metal cage. All windows will be constructed of hurricane proof glass and all glass and doors are covered by hurricane shutters.

This phase includes the procurement and installing of all medical equipment, beds, furniture and ICT network/terminals. The Main Building has two large patios to ensure that all rooms with a public function have daylight access. These patios will also be used as a recreational area for patients, visitors and employees.

In order to maximize the functionality of the new general hospital, the Main Building will be built as close as possible to the existing hospital that will remain in operation during construction. Adequate measures will be taken by the contractor to avoid dust and noise nuisance as much as possible.

The new general hospital is designed for wind forces of 200 miles per hour and is protected against earth quakes, (up to an earthquake with a magnitude 6 on the Richter scale), by using base Isolators. As protection against flooding, the SMMC location is connected to the existing large storm drains. In order to protect the SMMC location for erosion, retaining walls will be constructed at the west side of the SMMC location.

The Main Building will have separate entrances for public (patients, visitors, employees), logistic and emergency traffic. When the Main Building will become operational in October 2021 there will be temporary main entrance at the West side of the Main building. After demolishing of the existing hospital, the temporary entrance will be reallocated to the east side. The final entrance will be built at the east side of the Main Building together with the Additional Wing.

A separate Technical Building will be constructed for:

- The connection to the electricity grid based on two individual power lines;
- To house the hospital dedicated set of backup generators including storing capacity for fuel for a least 7 days.

The tanks for the water storages (at least a 7 days' supply) will be located in the basement of the Main Building.

The contractor (and its subcontractors, suppliers) are responsible for providing adequate training to SMMC personnel for the use of new equipment (medical and technical). The contractor will be responsible for the maintenance (including replacement) of the new general hospital and all technical and medical equipment.

New Building Commissioning certificate

Before SMMC can use the new general hospital, the following inspections need to be executed:

- Technical inspection of the Buildings and testing of all (medical) equipment by SMMC's engineer and specialized advisors (medical, security etc)
- Inspection by the various departments of the Government amongst others the fire department, traffic department, VROMI etc.
- Inspections by the (independent) Medical Inspectorate (Ministry of Health)
- SMMC acceptance

Phase 3. Moving into the Main Building and Demolition of Existing Hospital

Comissioning patients to a new general hospital is a complicated logistical process which will be prepared well in advance by SMMC supported by a specialized company. The new general hospital is turnkey Project with all new equipment which reduces the operational issues to a large extent.

Demolition of the existing hospital

After the Main Building is fully operational the existing hospital will be demolished whereby the construction debris will be transported to the Island dump. The demolition and the transportation of debris will be executed under the stipulations of this ESMP.

Phase 4. Construction of the Main Entrance and Other Facilities

The Main entrance (north side) can only be constructed after the demolition of the existing hospital as the entrance will be built on the location of the existing hospital.

Construction of the Additional Wing

The Additional Wing will have 3 stories of approximately 1,000 square meters each. On top of the top floor there will be some technical equipment which will be protected for hurricane winds and debris by a cage. There will be one central patio for daylight access. The technical construction and the use of the materials of the Additional Wing is similar to the Main Building. In this phase only the ground floor will be fully furnished. The other two floors will be constructed based on a core and shell principle. SMMC will develop a business case for the use of these floors in the second half of 2019.

Construction of the new parking area

Parking is important as many employees, patients and visitors will come by car as public transportation is very limited to Cayhill. Based on the stipulations of VROMI, there is a minimum ratio of 2.5 parking spots per 100 square meters GFA. Based on the projected seize of the Main Building and the Additional Wing, this results in a minimum of 439 parking spots of which 343 will be created at the new parking area. The remaining 96 parking spots will be located in the multilevel parking garage. SMMC has developed a parking plan to secure safe walking and parking which includes a separation between parking for employees and patient/visitors.

Construction of the Parking Garage

As there is no sufficient parking space at the parking area, a Parking Garage of 4 floors will be constructed on the North West side of the SMMC location. In addition to the 96 mandatory parking spots, SMMC will construct approximately another 100 parking spots for possible future developments in the Additional Wing.

Although there are currently only a limited number of electric cars on St. Maarten, the Parking Garage will be equipped with 4 chargers for electric cars with the possibility to expand on a demand base.

Construction of the Heliport

SMMC also supports the secondary care on the two sister islands; Saba and St. Eustatius. For emergency transportation, the new general hospital will be equipped with a Heliport. The helicopter is stationed in Saba and the Heliport will only be used for emergency transportation to drop off and or pick up patients. Patients will be transported by ambulance from the Heliport to the emergency entrance of the Hospital. For safety reasons there will be no refuel facilities at the Heliport at the SMMC location. For refuelling the helicopter will fly to the Princess Juliana International Airport in St.Maarten.

2.5.2 Operation phase

The new general hospital will be able to provide approximately 84% of the basic specialties, increase the number of beds from 66 to 110 and expand specific areas to provide more outpatient surgeries and other ambulatory services. In addition, there will be new diagnostic and treatment procedures including new medical specialties like Urology, Ophthalmology, Pulmonology, Orthopaedics and Neurology. Approximately 300 FTE (full time equivalent) are currently employed by the SMMC which will be increased to 400 FTE when the new general hospital is operational.

In addition to these attributes, the new general hospital will:

- Meet international healthcare quality standards of the Joint Commission International (JCI)[1] through a rigorous certification program

[1] The Joint Commission International identifies, measures, and shares best practices in quality and patient safety. JCI provides leadership and innovative solutions to help health care organizations across all settings improve performance and outcomes. JCI is the oldest and largest standards-setting and accrediting body in health care in the United States.

- Operate in an energy efficient and environmentally friendly and sustainable manner through compliance with LEED (Certified or Silver)
- Be earthquake and hurricane resistant (category 5 plus hurricane level winds (200mph+)
- Be expandable in the future, within the limits of the current location.

The turnkey Design Build and Maintenance contract also ensures the Contractor will perform according to the requirements within the DBM contract. The Contractor will provide preventive maintenance, corrective maintenance and replacement maintenance**.** In addition, the current SMMC maintenance program (inclusive of administration and staffing) will be integrated in the new DBM maintenance contract. This operational service contract will be valid for a ten (10) year period with two optional periods of five (5) years each.

2.6 Project planning

The planning for this new general hospital Project started in 2015. INSO, the selected contractor, started working on the preliminary design in 2017 and submitted the Building Permit on August 7, 2018. The Phase 1 site preparation is scheduled to start in December 2018 and the construction phase of the Project is expected to be completed in December 2022. A more detailed time schedule is provided in Figure 2-6.

Time schedule Design and construction process New General Hospital St. Maarten	Nov-18 2018	Dec-18 2018	Qtr. 1 2019	Qtr. 2 2018	Qtr. 3 2019	Qtr. 4 2019	Jan-June 2020	July -Dec 2020	Jan-June 2021	July -Dec 2021	Jan-June 2022	July -Dec 2022
Phase 1 Construction of the New Hospital												
Soil Investigation	Nov-Dec 2018											
Site preparation			Jan-19									
Demolition/construction Waste Water treatment												
Final design	Okt-2018 - April 2019											
Leed design submission	Registration Nov 2018- April 2019 submittal Design- Jan 2023 submittal construction											
Construction Main Building			January 2019-Oktober 2022									
New Building Operation Certificate										Oct. 2021		
Phase 2 Demolition existing hospital												
Moving into new Hospital										Nov-Dec		
Demolition of New Hospital										Dec 2021- Feb 2022		
Phase 3												
Construction Main Entrance Main building											Jan-March	
Construction Additional Wing											March- Nov 2022	
Construction New Parking area/green works												July-Dec
Construction Parking Garage												July-Oct
Construction Helicopter Platform												July-Sept

Figure 2-6: Project planning

2.7 Project workforce

The construction for the new general hospital will require a relatively small work force (100-130 workers) across skilled and unskilled workers. As far as possible, unskilled workers who consist of the largest work force contingent will be locally contracted. Special skilled laborers and professionals are expected to be temporarily on the island for various stretches of time during construction. Consequetnly, there will be no worker camp or special worker housing compounds, since these workers will live in accommodations around Phillipsburg and its outskirts. SMMC, contractors and the Project supervisor have been made aware of the provisions of the World Bank Guidance on Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx. In collaboration with the World Bank safeguards specialists assigned to the Project there is agreement that the worker living and working arrangements are not per se

conditions required to be applied for this Project. Nonetheless, INSO and the Project supervisor will apply relevant provisions of the HSE Plan covering worker conduct, behaviour and social interaction rules.

3 Environmental and Social Impacts and Risks

The environmental and social management issues per se are not substantial in this Project. One of the risk factors identified in the early stages of the overall Hurricane Irma Recovery Program, is that the Government of St Maarten is a new client to the World Bank and is being introduced to the World Bank Environmental and Social Safeguards for the first time. In addition, the Project has been prepared under condensed procedures in a post-hurricane environment.

3.1 Applicable World Bank Safeguard Policies

This Project has been classified as a Category B Project, as documented in the World Bank Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS) issued in June 2018. Based on early scoping of the Project by World Bank environmental and social specialists, there are only two World Bank safeguards policies triggered as explained below.

Table 3-1: E&S Safeguards Triggered

Safeguard Policies	Explanation
Environmental Assessment OP/BP 4.01	This policy is triggered and the proposed Category B classification is based on the proposed investments that will finance construction of the new general hospital and rehabilitation of the existing damaged hospital. These works are expected to be of moderate impact generating localized environmental impacts due to the Project-financed activities. These impacts will include debris management, soil stabilization and erosion control, noise and traffic management and worker's health and safety, and the management of hospital/hazardous waste that can be identified, mitigated, and managed by following the Government Requirements and the General World Bank Group Environmental, Health, and Safety (WB EHS) Guidelines and the Specific Industry WB EHS Guidelines for Health Care Facilities. The Project will prepare an Environmental and Social Management Plan (ESMP) to be consulted and disclosed before the start of works as considered by the Safeguards Action Plan of the PAD. Given the lack of client experience with WB safeguards, the ESMP will include provisions for training and capacity-building early-on to avoid delays related to screening and environmental and social management planning as necessary.
Pest Management OP/BP 4.09	While the Project does not expect to utilize or purchase pesticides, this policy is triggered on a precautionary basis since existing or new structures may need rodent/pest control.

The Project's overall potential socio-environmental impacts are positive for the entire Dutch side of the island and adjacent islands. In addition to the expansion in the scope of services, the new general hospital will: (i) increase capacity from 66 to 110 beds; (ii) have 4 operating theaters and larger areas for ambulatory care, including a new flow of patients for ambulatory surgery; (iii) include critical characteristics to increase the resiliency of the hospital (external protection to withstand category 5 plus hurricanes, installation of modern and safe medical gas, greater storage capacity for having supplies for longer periods, underground communication through fiber optic capability, and a landing platform for helicopters for the transport of trauma patients, etc.).

Environmental impacts are limited to the life of the construction process and result directly from construction activities. Compliance with OP 4.01, Environmental Assessment OP/BP, will be accomplished by the application of relevant clauses in construction contracts designed to mitigate the potential impacts identified. The details of these measures are found in the subsequent descriptions of the INSO HSE Plan and the specific Management Plans.

The Project activities do not trigger OP 4.12 Involuntary Resettlement. The construction of the new general hospital, financed by the Project, will take place on public land free of occupants and not in use for any type of activities, and does not involve any involuntary resettlement. It is part of the land of the existing hospital and its public ownership is not contested. Potential adverse social impacts include: worker safety in the construction activities; safety of patients and staff using the current hospital facility while the current hospital is being used; the management of labor coming from outside St Maarten; community health and safety

3.1.1 ESMP Process, Consultation, and Review Process

Several steps have been followed in the ESMP development, submissions and review. These are summarized below.

- Specialists across environment and social safeguards teamed with the SMMC staff to contribute to the ESMP
- A first consultation was held at SMMC on November 26, 2018
- A World Bank environmental safeguards specialist reviewed the ESMP
- The Preliminary ESMP was posted on the SMMC websites for public review and comment
- The ESMP was disclosed also on the World Bank website

3.2 Assessment of Environmental and Social Impacts and Risks

3.2.1 Approach for impact and risk assessment

In this section each of the Project components and associated activities are assessed for potential environmental and social impacts and risks. There is a defined Area of Influence that is considered the “direct impact” zone. In this area the Project activities are assessed to determine any direct and indirect impacts between the Project and its environment resources and people, communities and businesses. The ESIA also predicts and quantifies to the extent possible the magnitude of impacts and risks for each of the Project activities. For this ESIA magnitude of impacts and risks are based on the following considerations:

- Type of impact (i.e., direct, indirect)
- Nature of the change (what is affected and how)
- Size, scale, or intensity
- Duration and/or frequency (e.g., temporary, short term, long term, permanent)

The magnitude describes the actual change that is predicted to occur and in the case of adverse impacts is ranked from low, medium to high. It is also imperative to identify positive impacts. The Environmental and Social Impact and Risk Assessment matrix is presented in Table 3.2. It is important to clarify that this assessment is considered “preliminary” and will need to be updated once the final design with all detailed construction details is completed.

Table 3.2. New General Hospital Components and Activities Environmental and Social Impact and Risk Assessment Matrix*

* + represents positive impacts or risks and – is negative impacts or risks

New General Hospital Activities	Environmental and social impacts/risks
Phase 1. Preconstruction design, permitting and site preparation	
1.1 Soil Investigation • Geotechnical & hydrological investigations • Identify specific soil substrate and groundwater conditions for detailed construction planning	**Environmental** + Provides better understanding of baseline conditions + No significant impacts **Social** + No significant impacts
1.2 Site Preparation • Relocation of current parking area • Build new access road and security gates • Install fencing • Install sound barriers • Install office facility and worker facility • Establish storage area for equipment and materials • Embankment excavation • Build new retaining wall and box drain Apply **Site Preparation Environmental Construction Management Plan**	**Environmental** - air emissions from machinery and vehicles - noise from construction and equipment - demolition debris - oil and lubricant discharge from equipment + Sound barriers reduce noise + Fencing creates secure area **Social** - traffic interruption along adjacent roads - disruption to local schools, businesses and households in the AoI + SMMC & INSO advertise and conduct community outreach + Establish GRMs
1.3 Demolition and Construction of the WWTP • Remove current WWTP • Build new WWTP • Hook up and operate new WWTP Apply **Site Preparation Environmental Construction Management Plan**	**Environmental** - air emissions from machinery and vehicles - noise from construction equipment - demolition debris - oil and lubricant discharge into canal waters from repair equipment + Allows uninterrupted operation of WWTP + Apply **Site Preparation Environmental Construction Management Plan** **Social** + WWTP design reduces noxious odours
1.4 Permit Applications and Final Designs	**Environmental** No significant impacts **Social** No significant impacts

Phase 2. Construction of the Main Building and Technical Building	
2.1 Main building construction **2.2 Technical building construction** Apply all INSO **Management Plans**	**Environmental** - air emissions from machinery and vehicles - noise from construction equipment - construction waste - oil and lubricant discharge from equipment **Social** -worker activities around current hospital operations - traffic interruption along adjacent roads - disruption to local schools, businesses and households in the AoI
2.3 New General Hospital commissioning	**Environmental** No significant impacts **Social** - challenges in coordinating all changeover to NGH + Modern new and improved facility providing better services

Phase 3. Moving into the Main Building and Demolition of Existing Hospital	
3.1 Transfer of all operations into new building	**Environmental** No significant impacts **Social** - challenges in coordinating all changeover to NGH + Modern new and improved facility providing better services
3.2 Demolition of existing hospital Apply all INSO **Management Plans**	**Environmental** - air emissions from machinery and vehicles - noise from construction equipment - demolition debris - oil and lubricant discharge from equipment **Social** -worker activities around current hospital operations - traffic interruption along adjacent roads - disruption to local schools, businesses and households in the AoI
Phase 4. Construction of the Main Entrance and Other Facilities	
4.1 Build main entrance **4.2 Build additional wing** **4.3 construct new parking area** **4.4 construct new parking garage** **4.5 build heliport** Apply all INSO **Management Plans**	**Environmental** - air emissions from machinery and vehicles - noise from construction equipment - demolition debris - oil and lubricant discharge from equipment **Social** -worker activities around current hospital operations - traffic interruption along adjacent roads - disruption to local schools, businesses and households in the AoI

4. Organisation

4.1 Roles and responsibilities

4.1.1 SMMC

SMMC is committed to provide resources essential to the implementation and control of the ESMP.

Resources include the appropriate human resources and specialised skills. SMMC will have dedicated personnel competent on the basis of appropriate education, training, and experience that will manage and oversee the E&S aspects of the Project.

Table 4-1: Roles, responsibilities and contact details

Position	Responsibilities	Name
Director	Oversee and coordinate all activities pertaining to the Project; ultimately responsible for EHS. Ensure delivery by the Project of its EHS and operational targets. Ensure effective communication with all stakeholders.	Kees Klarenbeek
Operations Manager	Technical aspects of the Project including Contractor supervision during operations. Responsible for the execution of Emergency Response Plan.	TBN
Construction Manager	Technical aspects of the Project including Contractor supervision during construction.	Erika van der Horst
EHS Manager	Ensuring that the Project and Contractor operate in accordance with the applicable regulatory environment, health and safety requirements and plans. Monitor implementation of environmental and social protection measures.	Erika van der Horst
Community Liaison Officer (CLO)	Liaise with local communities and government regulators on the Project's behalf. Implement EHS awareness and education programmes with communities.	Lydian Baneke

4.1.2 Contractor

SMMC selected INSO as the Design Build and Maintain (DBM) Contractor ('the Contractor') for the Project, according to commercial, technical, quality assurance and its past performance on EHS standards so as to satisfy SMMC's requirements and policies.

Scope of the Contractor is to Design, Build and Maintain for 20 years (10 years plus an option for another 5+5 years) the Project components mentioned in 0.

Contractor is made responsible for:

- To Design Build and Maintain the Project according to SMMC's requirements,
- Inventory of all required Permits (see section 4.2.1 for details) etc,
- Making the Project compliant to all Permit Requirements,
- Reporting to the SMMC on the progress regarding Permits etc.

Obligations of the Contractor regarding health and safety management as included in the Process Requirements of SMMC include:

- Applying a HSE management system.
- All activities required under the National Safety Ordinance and the Safety decrees I, II and III.
- Appointing HSE coordinators and attending the HSE coordination meetings / events.
- The preparation and implementation of a HSE plan, HSE file and emergency plan.
- Organising the relevant HSE instruction (training) and induction for employees, assistants, staff and visitors to the construction site.
- Implementing risk management to benefit health and safety.

- Recording and handling of incidents and (near) misses and accidents.

During the Operation Service Period, the Contractor's role is to ensure and prove that the Permanent Works (e.g., building, fixed furniture, medical equipment, inventory and terrain) keep performing according to SMMC's requirements at all times ensuring continuous health care services.

INSO will assign an HSE Manager whose responsibility is to ensure that environment, health and safety regulatory requirements are met and that ESMP requirements are properly implemented.

4.1.3 Regulatory agencies

Several GoS agencies have direct responsibility for this Project. They include VROMI, (public Works), and VSA (Department of Health and Social Services). These agencies will work closely with SMMC to ensure compliance with all building and operational requirements.

Principal Agencies Providing Support under the ESMP

Agency	Agency Role
VROMI	National public works agency. Responsible for preparation of technical specifications for construction related contracts. Provides inspection and supervision services for all works. Includes the national solid waste management department.
GEBE	National company for the provision of water and electricity for St. Maarten. Responsible for preparation of technical specifications for construction related water and power infrastructure. Also provides supervision services for construction activities in the utility sectors
VSA- Department of Health	Statutory authority in charge of occupational and public health. Also in charge of the screening of social eligibility criteria of the roof repairs program.
MECYS – Ministry of Education,Culture, Youth and Sports	Counterpart agency for historic preservation and archeological concerns

Table 4-2: Principal Agencies Providing Support under the ESMP

4.1.4 Employer's Representative (ER)

SMMC selected KPMG and Royal HaskoningDHV to act as Employer's Representative and support SMMC during the design, construction and first year of operation of the Project.

The Employer's Representative will provide the following support to SMMC regarding the ESMP implementation:

- **Review of the design, working methods, materials, risk registers and specific management plans developed by the Contractor for the pre-construction and construction and maintenance activities**. This review includes several predefined documents to be provided by the Contractor as listed in SMMC's process requirements (including e.g., Project Management Plan, Final Design, Construction Plan, **Contractor HSE plan**, Verification Plan, Construction Work Inspection Plan, detailed time schedules for all Project phases). Approval of these documents by SMMC is required before the Contractor is allowed to carry out the related activities.
- **Site supervision** during construction activities. SMMC's contract manager and two dedicated site supervisors will monitor if the contractor carries out all works according to the approved documents and management plans. This includes HSE supervision. Contractor is required to proof compliancy to all requirements following the approved Verification Plan and Construction Work Inspection Plan. Verification, audit plan and weekly site meeting between SMMC, Employer's Representative and Contractor will also cover HSE performance.

- **Review of the specific management plans developed or updated by SMMC for the operation and maintenance of the new general hospital**.

4.1.5 The World Bank

The World Bank will provide the necessary implementation support, including by bringing in international expertise where relevant, providing hands on guidance and training to ensure: (i) SMMC's knowledge and understanding of Bank safeguards instruments; (ii) that counterparts have the capacity to undertake environmental and social analyses and develop mitigation approaches; and (iii) regular and close implementation support during the terms of the Grant.. This implementation support will be provided through regular interactions, implementation support missions, and thematic review missions if required.

4.2 Institutional arrangements (permitting)

This section presents the permits and clearance required before the start of construction, during construction and operation.

4.2.1 Construction

A Building Permit, Demolition Permit and Hindrance Permit were obtained from the appropriate local authority (VROMI) in November 2018. The **Building Permit** is an authorization for construction or development, based on the Building Ordinance or Zoning Ordinance and is issued by the Government of St Maarten before the construction of the new building can legally occur. This authorization includes the approval from Local Authorities (fire department, traffic police, aviation department etc.).

The **Hindrance Permit** is required for specific types of activities that can cause danger, damage and/or nuisance to the environment or the surroundings. It is tied to regulations which are meant to protect the environment and ensure safe and clean practices on St Maarten. The regulations generally pertain to regulate, prevent, and/or limit pollutions (soil, water, noise, air, and odor) and energy. A Hindrance Permit is required for the Waste Water Treatment plant and the Generators, Transformers, Chillers, Air Compressors, Oxygen Generator, Steam Generator, Autoclave/Grinder, etc.

The **Demolition Permit** is required for both the existing Waste Water Treatment Plant (WWTP) and the demolition of the existing Hospital. Goal of the permit is to limit impact of the activities on the living- and working environment for the public and ensure that demolished materials are disposed of according to regulations.

4.2.2 Operation

The Department of Public Health has issued a **Permit (Nr 11777) to procure medical equipment and construct new general hospital'**.

4.3 Training, awareness and competency

Both SMMC and Contractor will identify, plan, monitor, and record training needs for personnel whose work may have a significant adverse impact upon the environment or social conditions. The Project recognises that it is important that employees are aware of the Project's environmental and social management plans including potential impacts of their activities and specific roles and responsibilities to comply with these plans and procedures.

Employee training will include awareness and competency with respect to:

- Environmental and social impacts that could potentially arise from their activities;
- Necessity of conforming to the requirements of the ESMP (including its specific Management Plans and Procedures), in order to avoid or reduce those impacts; and
- Employee roles and responsibilities across all these plans and procedures.

The EHS Manager is responsible for coordinating training, maintaining employee-training records, and ensuring that these are monitored and reviewed on a regular basis. The EHS Manager will also periodically verify that staff is performing competently through discussion and observation.

Employees responsible for performing site inspections will receive training by drawing on external resources as necessary. Training will be coordinated by the EHS Manager prior to commissioning of the facilities. Upon completion of training and once deemed competent by management, staff will be ready to train other people.

The **Contractor HSE Training Program** will be subject to consent by SMMC and it will be audited to ensure that:

- Training programs are adequate;
- All personnel requiring training have been trained; and
- Competency is being verified.

4.4 Communication and stakeholder engagement

As part of the existing hospital operations, SMMC maintains a formal procedure for communications with the regulatory authorities. A client panel is also in place as well as a **Complaints Policy and Procedure**. SMMC will develop a **Stakeholder Consultation and Engagement Plan** for the Project, first for the Construction Phase and then for the Operation Phase. The EHS Manager will be responsible for communication of E&S issues to and from regulatory authorities whenever required. The CLO will be responsible for communication with communities.

Meetings will be held, as required, between SMMC, INSO, the employee's representative, subcontractors and the appropriate regulatory agency and community representatives to review EHS performance, areas of concern and emerging issues. All such meetings shall be properly documented with the proceedings made available to the public.

4.5 Documentation

SMMC will manage the EHS reports, management plans, associated procedures, and checklists. All records will be kept on site and will be backed up and stored in a secure cloud site. Records will be kept in both hard copy and soft copy formats and all records will be archived for the life of the Project.

Furthermore, the document control procedure will describe the processes that the Project will employ for official communication of both hardcopy and electronic (through the internet) document deliverables. In addition, it will describe the requirement for electronic filing and posting and for assignment of document tracking and control numbers (including revision codes).

The EHS Manager is responsible for maintaining a master list of applicable EHS documents and making sure that this list is communicated to the appropriate parties. The EHS Manager is responsible for providing notice to the affected parties of changes or revisions to documents, for issuing revised copies and for checking that the information is communicated within that party's organisation appropriately.

The subcontractors will be required to develop a system for maintaining and controlling its own EHS documentation and describe these systems in their respective EHS plans.

4.6 Management of change

Changes in the Project may occur during final design, commissioning or even operations. The Project will implement a formal **Variation Procedure** that applies to all Project activities.

The objective of the procedure is to ensure that the impacts of changes on the environment and health and safety of workers and communities are identified and assessed prior to changes being implemented.

The management of change procedure will ensure that:

- Proposed changes have a sound technical, safety, environmental, and commercial justification;
- Changes are reviewed by competent personnel and the impact of changes is reflected in documentation, including operating procedures and drawings;
- Hazards resulting from changes that alter the conditions assessed in the present ESMP have been identified and assessed and the impact(s) of changes do not adversely affect the management of health, safety or the environment;
- Changes are communicated to personnel who are provided with the necessary skills, via training, to effectively implement changes; and
- The SMMC EHS Manager accepts the responsibility for the change.

Significant design and procedural changes will also be updated in each appropriate Management Plans. The environmental, social and engineering feasibility and cost considerations will be taken into account when choosing between possible alternatives.

4.7 Operational controls

As indicated in the table 3-2, and in Appendix 2, all potential impacts identified in the present ESMP have mitigation measures that specifies appropriate procedures, work instructions, best management practices, roles, responsibilities, authorities, monitoring, measurement and record keeping provisions. These Operational Controls will be monitored for compliance and effectiveness on a regular basis through the designated monitoring and auditing processes described in Section **Error! Reference source not found.**

4.8 Emergency preparedness and response

4.8.1 SMMC

SMMC has an **Emergency Disaster Preparedness Plan (EDP)** (SMMC document reference no. 116) in place to identify the potential for, and response to, environmental accidents and health and safety emergency situations and for preventing and mitigating potentially adverse environmental and social impacts that may be associated with them.

The EDP is covering the following disaster scenarios: hurricane, tornadoes, earthquakes, tsunamis, mass casualties accident (air crashes, maritime accidents and road traffic accidents), structure fire (code red), gas rupture/exploration (code grey), hazardous material incidents – biological and chemical (code brown), civil disorders, barricaded suspect/hostage situation, bomb incidents (code black).

Emergency preparedness and response is being reviewed by SMMC on at least every two years and after the occurrence of any accidents or emergency situations to ensure that lessons learnt inform continuous improvement. The EDP will be updated for the new general hospital upon completion of final design and before the new general hospital is commissioned.

Emergency exercises are and will be undertaken on a regular basis to confirm adequacy of response strategies. Investigations of accidents or incidents will follow formal documented procedures.

4.8.2 Contractor

INSO has developed a **Hurricane Plan for the Construction Phase** (Inso Appendix No. 10A, Rev.00). This plan will be aligned with the SMMC EDP. INSO will also prepare as part of its **HSE Plan** a **Section on Emergency Preparedness and Response** covering other emergency scenarios identified in its risk assessment for the Construction Phase.

4.9 Checking and corrective actions

These actions discussed below include inspections, monitoring as well as audit activities to confirm proper implementation of mitigations and enhance measures proposed in the ESMP. Corrective actions include response to improper activities, non-compliances, and non-conformance. These actions also include measures to improve performance.

4.9.1 Monitoring and verification

Monitoring will be conducted to ensure compliance with the ESMP. Monitoring and verification indicators are detailed in the ESMP table provided in Appendix 2.

Monitoring of Contractors Performance

During the Construction phase and the first year of Operations, the Employer's Representative will monitor the Performance of the Contractor as described in section 4.1.4.

During the rest of the Operational Service Period, SMMC will take over that role and monitor the performance of INSO's maintenance activities as follows:

- SMMC Supervisor will review the performance of the works of the Contractor, and
- SMMC Contract Manager will monitor the performance of the Contractor in relation to the management plans (requirements, impact to the healthcare processes, and the level of cooperation).

The proposed frequency of monitoring by SMMC is as follows:

- At Strategic level: yearly contract meetings
- Monthly Progress meetings and discussion of monthly progress reports
- Tactical performance meeting (quarterly), and
- Weekly work meetings.

4.9.2 Auditing

Beyond the routine inspection and monitoring activities conducted, audits will be carried out internally by SMMC (or the Employer's Representative) to ensure compliance with regulatory requirements as well as their own EHS standards and policies. Audits to be conducted will also cover the Contractor self-reported monitoring and inspection activities. The audit shall be performed by qualified staff and the results shall be reported to SMMC to be addressed.

The audit will include a review of compliance with the requirements of the ESMP and include, at a minimum, the following:

- Completeness of EHS documentation, including planning documents and inspection records;
- Conformance with monitoring requirements;

- Efficacy of activities to address any non-conformance with monitoring requirements; and
- Training activities and record keeping.

There will be a cycle of audits into specific areas of the Project. The frequency of audits will be risk based and will vary with the stage of the Project and will depend on the results of previous audits.

4.9.3 Corrective action

Investigating a 'near-miss' or actual incident after it occurs can be used to obtain valuable lessons and information that can be used to prevent similar or more serious occurrences in the future.

SMMC and Contractor will implement a formal **Non-compliance and corrective action tracking procedure** for investigating the causes of, and identifying corrective actions to, accidents or environmental or social non-compliances. This will require coordinated action between SMMC and Contractor. The EHS Manager will be responsible for keeping records of corrective actions and for overseeing the modification of environmental or social protection procedures and/or training programs to avoid repetition of non- conformances and non-compliances.

4.10 Reporting

Throughout the Project, SMMC will keep the regulatory agencies informed of the Project performance with respect to EHS matters by way of written status reports and face-to-face meetings. SMMC will prepare a report on environmental and social performance and submit it to the regulatory agencies. The frequency of this reporting will be agreed upon between SMMC and the regulatory agencies.

If required, SMMC will provide appropriate documentation of EHS related activities, including internal inspection records, training records, and reports to the relevant regulatory agencies. Contractor is also required to provide EHS performance reporting to SMMC on a regular basis through monthly progress reports. These will be used as inputs to the above.

5 Environmental and Social Management

5.1 ESMP

Mitigation and enhancement measures, responsibility for implementation, and monitoring and verification indicators are provided in the **ESMP Table** in Appendix 2. These measures and the Management Plans discussed below have been adopted by SMMC and are considered INSO contract requirements. SMMC and INSO will determine what additional risks and proposed management controls are required based on the final design and work method statements. The table contains reference to the specific INSO Health, Safety and Environment Plan (HSE) Plan sections that describe each of the required provisions.

5.2 Specific Management Plans

As highlighted in the ESMP Table, specific Management Plans are to be finalized to support the implementation of this ESMP. The timing of the development of the plans may be staged, ensuring that the appropriate focus and level of detail is provided for construction and operational activities. They will be finalised by INSO with SMMC and ER coordination. When appropriate, the Project owner and their representatives may meet with GoS agencies and other key stakeholders. The contents of the Management Plans are outlined in Appendix 4, while Appendix 3 includes the Management Plans available at this stage.

5.2.1 Construction Phase

Contractor

As per contract requirements, INSO is revising its **HSE Plan** ('the Contractors HSE Plan') which requires SMMC approval before the start of new general hospital construction activities.

The INSO HSE Plan will include the following Sections or Management Plans:

- **Air Quality Control and Monitoring Plan**
- **Noise Control and Monitoring Plan**
- **Waste Management Plan**
- **Hazardous Materials Management Plan**
- **Emergency Preparedness and Response Plan**
- **Construction Traffic Management Plan**
- **Occupational Health and Safety Management Plan**
- **Community Health, Safety and Security Management Plan**
- **Hurricane Plan for the Construction Phase**
- **INSO Grievance Redress Mechanism**

The draft HSE Plan was submitted to SMMC in July 2018. Based on comments by the Employer's Representative, INSO is revising and finalising this HSE Plan. The Contractor will also develop and implement its own internal **Grievance Redress Mechanism** in either the Contractors HSE Plan or Quality Management System (QMS) developed for the Project.

Further, since an approved HSE Plan is not expected to be in place before the start of site preparation activities, the Contractor is preparing a **Site Preparation Environmental Management Plan** to cover these impacts.

SMMC

SMMC has developed a **Complaints Policy and Procedure**. They will also develop a **Stakeholder Consultation and Engagement Plan**.

5.2.2 Operational Phase

Contractor

The Contractor will adopt and amend specific Management Plans to address all the E&S risks associated with the operational phase of the new general hospital. There will also be a Quality Management System developed for this operational service period.

The Contractor will provide the following documents for Consent or Approval not later than 90 days before the start of the Operational Service Period:

- **Operation & Maintenance Management Plan**
- **HSE Plan Operation Service Period**
- **Procedures for periodical tests (monitoring)**:
  - Audit of the Quality management system
  - Evaluation report energy & water consumption
  - Audit monitoring system
  - Test on Compliance to law and regulations
  - Maintenance condition assessment

- Yearly maintenance plan
- Yearly safety scan Medical Equipment
- Fire safety scan
- Legionella inspection
- Air Quality inspection
- Emergency power system inspections
- Medical Gasses inspection
- Waste water treatment system inspection

Many of the above plans and actions require various types of reports, monitoring or both. These results shall be reported to SMMC in a standardized computer format. All defects, shortcomings, and problems are required to be rectified within the applicable permitted recovery time (PRT).

SMMC

SMMC is implementing the following Operational and Management Plans for the current hospital operations:

- Bio-hazardous and general waste disposal (085)
- Medical waste protocol
- Hazardous waste chart, 2011
- Emergency Disaster and Prepaaredness Plan (Ref 116)
- Security tasks plan (Ref FM 103-2)
- Fire safety and evacuation plan (Ref FM 101-1)
- Complaint Policy and Procedure
- FONA (Fault or Near Accidents) procedure
- Rodent and Pest Control Plan (complies with the triggered World Bank Pest Management Policy)

Further, related to Human Resource Development, SMMC has the following documents:

- Collective Labor Agreement (CLA),
- Staff Handbook,
- Introduction form new staff / specialists, including new in service program with coaching,
- Evaluation procedures all staff,
- Several policies, a lot due for revising (health care), and
- Training program for critical procedures (nursing staff).

Additional plans identified to be required to be developed or updated based on the existing above-mentioned documentation include:

- Stakeholder Consultation and Engagement Plan
- Complaint Policy and Procedure
- Exposure Control Plan for blood-borne pathogens
- Radiation Exposure Control Plan
- Radioactive Substance Management Plan
- Occupational Health and Safety Management Plan
- Air Quality Control and Monitoring Plan
- Emergency Preparedness and Response Plan
- Community Health and Safety Management Plan
- Security Plan
- Human Resources Policy

References

INSO, 2018, Health, safety & Environment plan Rev. 00, Design and Construction Phases
https: Hyperlink

SMMC, 2018, Preliminary LEDD Report
https: Hyperlink

World Bank Group, Environmental, Health, and Safety (EHS) Guidelines; MAIN WEB PAGE
https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines

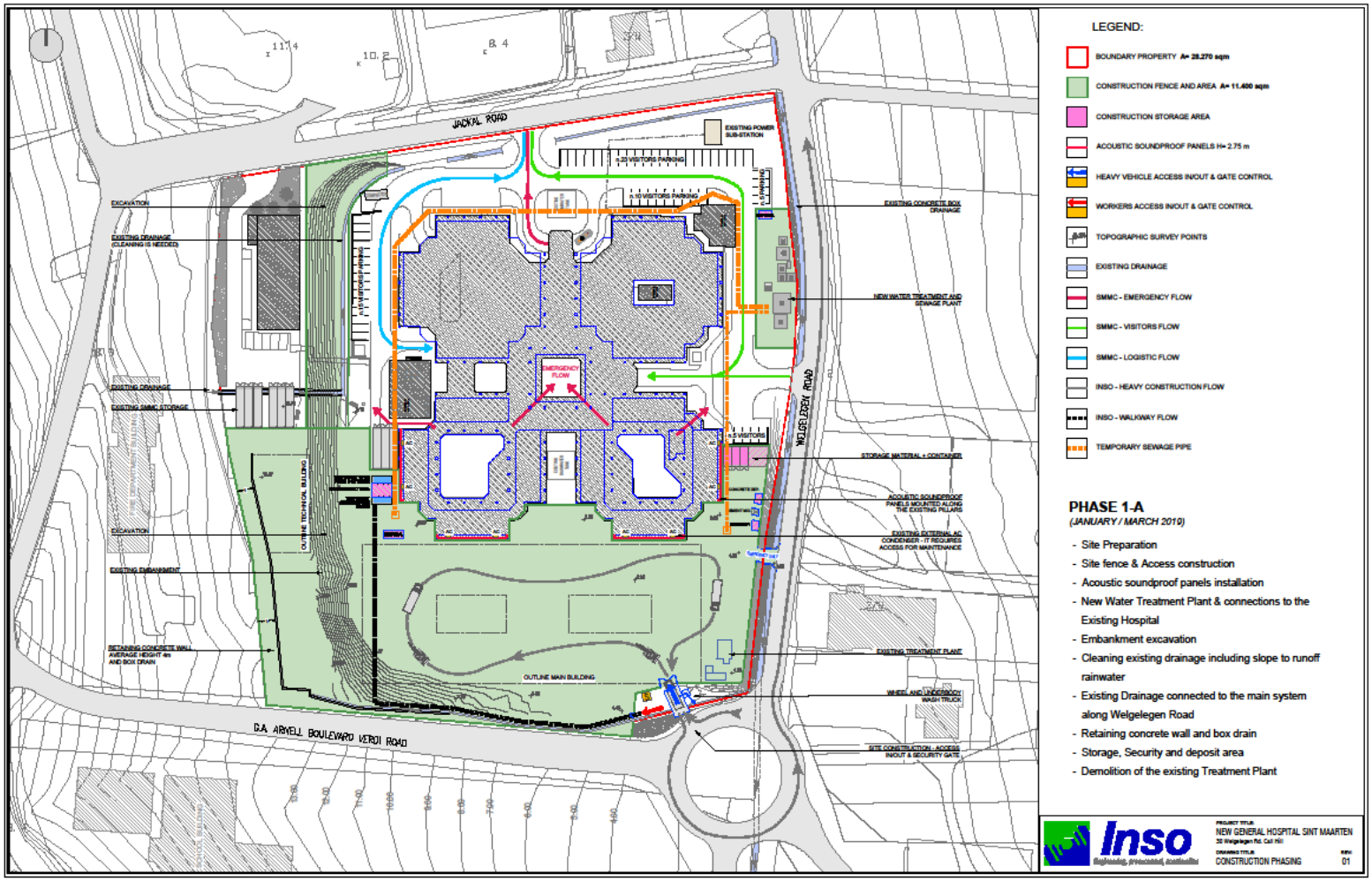
World Bank Group, Environmental, Health, and Safety (EHS) Guidelines; GENERAL EHS GUIDELINES: INTRODUCTION
https://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES
World Bank Group, Environmental, Health, and Safety (EHS) Guidelines; HEALTH CARE FACILITIES
https://www.ifc.org/wps/wcm/connect/bc554d80488658b6b6e6f66a6515bb18/Final%2B-%2BHealth%2BCare%2BFacilities.pdf?MOD=AJPERES&id=1323161961169

World Bank, 2016 - Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx
http://pubdocs.worldbank.org/en/497851495202591233/Managing-Risk-of-Adverse-impact-from-project-labor-influx.pdf

World Bank, 2018, Project Information Document-Integrated Safeguards Data Sheet - Sint Maarten Hospital Resiliency Preparedness Project - P167532
http://documents.worldbank.org/curated/en/214261530290733277/Project-Information-Document-Integrated-Safeguards-Data-Sheet-Sint-Maarten-Hospital-Resiliency-Preparedness-Project-P167532

Appendix 1:
SMMC New General Hospital Design Documents

1-1. Site layout during site preparation stage
1-2. New general hospital impressions

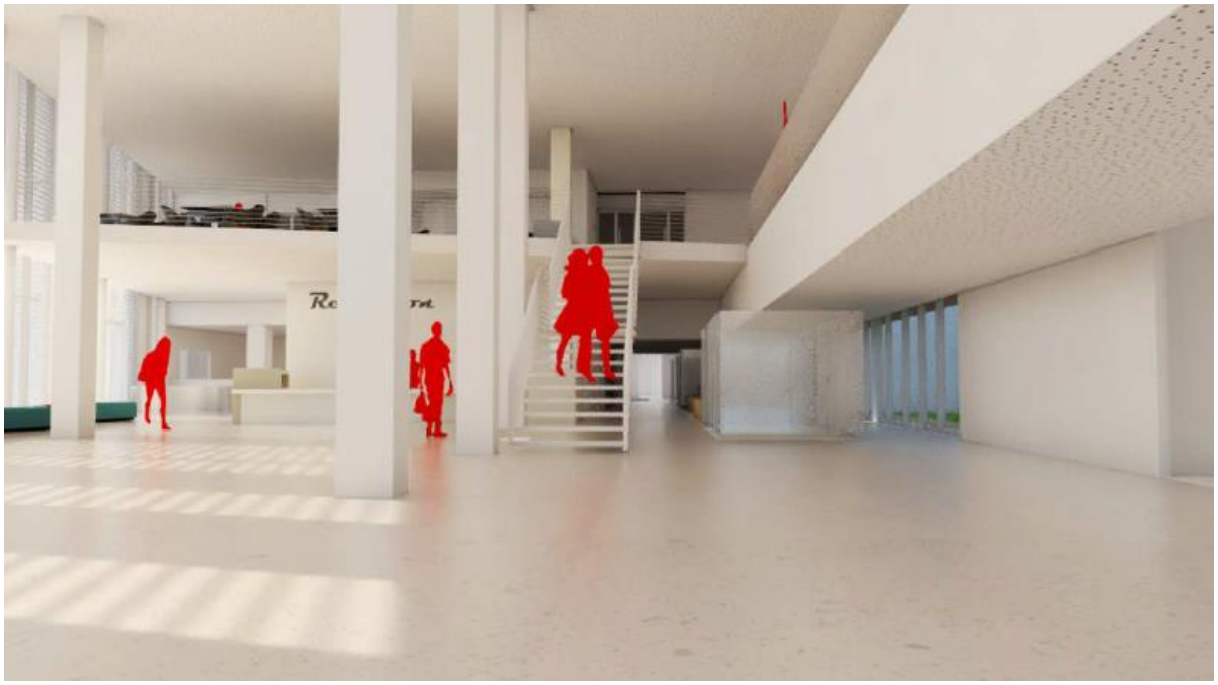


App.Fig 1-1: Site layout during site preparation stage

App.Fig 1-2a: General perspective

App.Fig 1-2b: Façade detail

App.Fig 1-2c: Entrance exterior



App.Fig 1-2d: Entrance lobby interior

App.Fig 1-2e: Interior patient room

App.Fig 1-2f: Interior corridor and patio

Appendix 2:
ESMP Table

App.Table 2-1: ESMP Matrix for Construction Phase (* contains reference to specific sections in the INSO HSE Plan found in Appendix 3)

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
Environmental and Social Management System (ESMS)			
System to manage, control and monitor E&S risk	Implement the ESMS (INSO HSE Plan - Quality, Environmental and Safety), as certified by Lloyd's Register in compliance with UNI EN ISO 9001:2015 - UNI EN ISO 14001:2015 - OHSAS 18001:2007; as well as the EMS 14001.	Contractor	• Monthly progress reports and meetings • Audits
Noise and Air Pollution			
Noise generated by construction equipment and activities	• Maintain all construction equipment in accordance with manufacturer's specifications. • Schedule construction and rehabilitation work during daylight hours and to minimize activity during peak periods of tourism and recreation (weekends, holidays, etc.). • Develop and implement a *Construction Communications Plan* to inform businesses and residents of construction activities. • Limit construction noise levels to applicable standards such as EHS Guidelines • The plants and equipment used in construction (including the aggregates crushing plant) shall strictly conform to the EHS noise standards. • All vehicles & equipment used in construction shall be fitted with exhaust silencers. • During routine servicing operations, the effectiveness of exhaust silencers shall be checked and if found to be defective shall be replaced. • Limits for construction equipment used in this Project (measured at one meter from the edge of equipment in the free field) such as compactors, rollers, front loaders, concrete mixers, cranes (moveable), vibrators and saws as specified in the EHS Guidelines. • Maintenance of vehicles, equipment and machinery shall be regular and to the satisfaction of the Project Supervisor to keep noise from these at a minimum. • Workers shall wear earplugs in vicinity of loud noise, and working with or in crushing, compaction, or concrete mixing operation.	Contractor	• Training of workers and drivers to raise awareness • Check vehicles' maintenance results • Check results of noise monitoring and vibration-if needed- monitoring • Site inspections to check construction site practices • Grievance register (both INSO & SMMC)

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
	✓ Chapter 12.9 Contractor HSE Plan for the **Air Quality Control and Monitoring Plan.** ✓ Chapter 12.7 of Contractor HSE Plan for the **Noise Control and Monitoring Plan**. ✓ Chapter 10.1 of the Contractor HSE Plan for the **Construction Traffic Management Plan**. ✓ **SMMC Complaints Policy and Procedure**. ✓ **INSO Grievance Redress Mechanism**		
Exhaust emissions from construction vehicles and equipment	• The construction equipment and trucks will be maintained regularly to keep them in good working condition to minimize exhaust emissions caused by poor performance. • Low sulphur fuel will be preferred as far as possible. • Engines of the equipment/trucks will be prevented from idling and running unnecessarily. • Suppress dust as needed in unpaved areas. • Avoid burning non-vegetative wastes (refuse, etc.) at construction sites. ✓ Chapter12.9 of the Contractors HSE Plan for the **Air Quality Control and Monitoring Plan.** ✓ Chapters 10.1 of the Contractors HSE Plan for the **Construction Traffic Management Plan**.	Contractor	• Check results of air quality monitoring • Training of workers and drivers to raise awareness • Site inspections to check construction site practices • Grievance register
Materials Supply			
	• Aggregates and materials will be sourced from quarries, borrow pits, crushing plants and asphalt plants operating with valid environmental and other permits and licenses and where the sites are managed in full compliance with all applicable environmental standards and specifications. • Recycled materials and materials certified as “green” and low carbon will be used to the extent possible. • Materials used are part of the LEED sustainability certification and will be sourced from locations as required. •	Contractor	• Check records of construction material supply sources • Identification of opportunities for use of recycled or low carbon sources • LEED sustainability certification
Materials and Waste Management			

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
Soils, surface water and groundwater	• Contractor will be required to adopt good construction site practices for the protection of soils and to follow the *EHS Guidelines*. • Provisions will be taken for the protection of newly exposed soil surfaces from rainfall and wind erosion, use of silt fences mandatory. • Contaminated soils (if generated any) will be disposed of in an appropriately licensed disposal site. • The use of cement and wet concrete in or close to any exposed areas will be carefully controlled. Good construction site practices (i.e. measures such as using designated areas for storing materials, regular inspections at construction sites, training of construction workers, placement of sediment traps and/or oil/water, etc.) will be adopted to minimize risks of water pollution. • Construction workers and relevant staff will be trained on spill response and prevention measures. • The location, storage and handling of hazardous material (including refueling activities) will be as per the Hazardous Material Management Plan • The storage, transport and disposal of waste materials generated will be as per the Waste Management Plan • Hazardous materials will be handled according to the *Hazardous Material Management Plan* • Hazardous and non-hazardous waste will be handled according to the *Waste Management Plan* ✓ Chapters 6 and 12.5 of the Contractors HSE Plan for the **Hazardous Material Management Plan**. ✓ Chapter 12.4 of the Contractors HSE Plan for the **Waste Management Plan**.	Contractor	• Periodic (e.g. weekly) site inspections • Check that hazardous and non-hazardous waste disposal records are kept properly • Check the installation of the conduit system and communication records with DSI • Regular inspection of construction activities and training of relevant staff • Check inspection and training records • Check necessary measures (i.e. bunds) are in place at areas where hazardous materials are handled • Check the records of regular integrity testing of underground storage tanks and lines • Check subcontractors' contract in line with **Subcontractor Management and Monitoring Plan**
Spills/accidents and contaminated land	• Fuels, oils and chemicals will be stored on an impervious base protected by bunds to 110% of capacity. Drip trays will be used for fueling mobile equipment. • Any spillages from handling fuel and liquids will be immediately contained on site and the contaminated soil removed from the site for suitable treatment and disposal. • Spoil and other surplus material arising from the works which is classed as "acceptable fill" shall, wherever practicable, be recovered and used	Contractor	• Control whether appropriate designated storage areas are constructed for fuel, oils, chemicals • Ensure that appropriate spill response materials and kits are in place • Check operations and placement of all emergency response equipment • Check the records of contaminated soil (if any occurred) disposal

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
	in the construction works. Relevant authorities shall be consulted regarding this on a site by site basis to ensure the re-use of waste materials is acceptable. • All contractors and subcontractors will be required to report any incidents and these will be subject to investigation and remedial and preventive actions will be taken as needed. • Appropriate spill response kits including absorbent materials will be present on site. These will be kept at designated areas with specific instructions for their use. Site staff will be trained on the use of spill kits. • An Emergency Preparedness and Response Plan will provide for mitigation of spills from hazardous materials during construction. • Response to the spill will be made as fast as possible. Contaminated materials will be collected and sent to appropriate disposal facilities. • Operation of a closed drainage system and implementation of *Emergency Preparedness and Response Plan* in the event of spills, fire etc. will prevent significant impacts on soils during construction and operation. • Chapter 5 of the Contractors HSE Plan for the **Emergency Preparedness and Response Plan**. • Chapter 12.8 of the Contractors HSE Plan for **Soils and Contamination** actions.		• Check records of surplus material reuse • Review accidents and spills records
Material Resources and Waste Management			
Waste Generation and Management	• All wastes during construction will be managed in line with the Waste Management Plan (WMP). • Necessary permits related to disposal of excavated soil to be obtained from the local environmental authorities. • Should risk management actions be warranted, the assessment approach (as outlined in the IFC EHG Guidelines) are to be applied (establish whether the three risk factors of 'Contaminants', 'Receptors', and 'Exposure Pathways' co-exist, or are likely to co-exist) and put in place permanent risk reduction measures. ✓ Chapters 12.4 of the Contractors HSE Plan for the **Waste Management Plan.**	Contractor	• Ensure that the WMP is implemented during construction phase • Check consents/permits from local authorities for the disposal of excavated soils • Check disposal records of contaminated soils • Ensure that central temporary waste storage area is designed and constructed to ensure that hazardous wastes are properly stored at the construction site • Periodic site inspections to ensure that all wastes are separately collected, segregated, labeled and stored in designated areas

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
			• Check disposal records of all types of wastes (including against SMMC MW Protocol) • Check waste disposal contracts • Check copies of haulers' and disposal facilities' licenses • Check declaration records made to the Ministry • Ensure that all waste manifests are in order and ready for review during Authorities' audits • Check training records of staff and awareness during site audits
Wastewater	• A new Wastewater Treatment Plant will be erected at a different location on the Project site to enable the construction of the new hospital. The current Wastewater Treatment Plant will only be demolished after new Plant has been commissioned and tested. The WWTP will require a permit which will be obtained prior to build. After WWTP is approved, demolition permit is obtained (as part of the Building permit). The new Wastewater Treatment Plant will be designed and built according to both Employers Requirements and Authorities requirements.	Contractor	• Check permit obtained from the relevant authority • Check effluent analysis results to ensure they meet with discharge criteria defined in the connection certificate
Occupational Health and Safety and Human Resource Development			
Management of health and safety of workers - *general*	• The revised INSO HSE plan must be approved by the SMMC before start of any construction works • All applicable national health and safety legislation and international regulations will be followed. • All the health and safety risks of each activity during construction will be identified followed by identification of the appropriate mitigation measures/personal protective equipment. • All relevant training requirements will be dealt with in the HSE Plan. ✓ Chapter 9 of the Contractors HSE Plan for **Occupational Health and Safety Plan.**	Contractor SMMC	• Monitor INSO HSE Plan particularly in terms of progress and updates. • *INSO Worker Grievance Mechanism* (including SMMC responsibility for Contractor actions) to be assessed in terms of workers feedback. • Monitor updated Contractors risk register. • On-site verification
Worker Occupational Health and Safety – *fire and emergencies*	• All employees will be trained on health and safety, and the *Emergency Preparedness and Response Procedures* to respond timely to the incidents.	Contractor SMMC	• Check implementation of worker training programmes

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
	• All medical emergency procedures will be included in the *Emergency Preparedness and Response Plan* (in Contractors HSE Plan) and SMMC's Monitoring of *Emergency Disaster and Preparedness Plan*. ✓ chapter 5 of Contractors HSE Plan for the **Emergency Preparedness and Response Plan** ✓ **SMMC Monitoring of Emergency Disaster and Preparedness Plan (Ref 116)** ✓ **SMMC Fire Safety and Evacuation Plan (Ref 101-1)**		
Worker Occupational Health and Safety – *equipment use and hazardous material*	• All hazardous materials will be stored in designated areas having secondary containment and handled with care by authorized staff to prevent potential spills. ✓ chapters 6 and 12.5 of **INSO HSE Plan**	Contractor	Monitoring of monthly update of INSO HSE Plan and SMMC's Plan 085.
Worker Human Resource Development	• Contractor is required to comply with the Country Worker safety ordinance (February 3, 1958), and ILO conventions to which it is (via the Kingdom of the Netherlands) a signatory.	Contractor SMMC	• Monitor compliance of Contractor with Country Worker safety ordinance (February 3, 1958), and ILO conventions. • Monitor updated Contractors risk register.
Record of accidents	• All records of accidents or any mishap either at construction camp, construction workers‟ camp or at construction sites shall be maintained and documented regularly by the contractor.		• Monitor updated Contractors risk register
Labour Engagement and Disclosure			
Potential worker strikes and Union action on work stoppage	• Implement *Worker Grievance Mechanism* to ensure transparent and informed information sharing channel. Labour grievance channel is applicable to all workers and should be monitored. ✓ INSO HSE Plan, QMS or **Project Management Plan (PMP)** for the **Worker Grievance Mechanism** (to be developed since the SMMC Complaints Policy and Procedure doesn't cover INSO and subcontractors workers).	Contractor	• Monitor updated Contractors risk register. • Monitor SCEP and *worker grievance records* and resolutions, particularly in terms of progress and updates.
Community Engagement and Disclosure			
Transparency around Project status and sharing of alerts and updates	• Regular transfer of Project information to all stakeholders and the general public through a *Stakeholder Consultation and Engagement Plan*. Also include full disclosure and regular engagement.	SMMC	• Monitor SCEP and grievance records and resolutions, particularly in terms of progress and updates. • Monitor updated Contractors risk log.

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
	• Disclosure method, tools, programme to be documented in updated versions of the SCEP. ✓ **SMMC Stakeholder Consultation and Engagement Plan** (to be developed) ✓ **SMMC Complaints Policy and Procedure**.		• Ensure update of Complaints Policy to include SMMC responsibility for Contractor actions.
Community Health, Safety and Security			
Exposure to hazardous situations at construction site	• Implement risk management strategies to protect the community from physical, chemical, or other hazards • associated with sites under construction. • Update **INSO HSE Plan** (Chapter 7) to include risks to community. • Update Chapter 10 to include construction traffic risks to community. ✓ chapter 7 of the Contractors HSE Plan for the **community risk management** actions (to be updated) ✓ chapter 10 of the Contractors HSE Plan for **construction traffic risks to community** via a Traffic Management Plan (to be updated)	Contractor	• Early stages daily monitoring required, thereafter weekly. • Visual site inspection • Update and monitoring of the HSE Plan (including Site Preparation EMP) • Contractor risk register
Increased workers / movement of people and vehicles	• INSO HSE Plan to be updated to encompass community health, safety and security in order to manage general risks and impacts to the community • Update SMMC grievance management system to include general public not just the hospital community. • All employees trained on health and safety, and Emergency Preparedness and Response Plan to respond timely incidents. ✓ SMMC's **Complaints Policy and Procedure**. ✓ **INSO HSE Plan**, specifically Chapter 10 for the **Construction Traffic Management Plan** and Chapter 5 for the **Emergency Preparedness and Response Plan** ✓ **SMMC Monitoring of Emergency Disaster and Preparedness Plan (Ref 116)**	SMMC and Contractor	• Monitor Complaints procedure feedback
Inappropriate worker behavior	• The Contractor intends to recruit construction workforce locally to the extent possible. The full labour complement during construction is likely to not exceed 130 people since workers will be absorbed into accommodation facilities in the nearby Philipsburg area. • *Contractors Code of Conduct* covers workforce behavior on and off the jobsite, Prohibits unauthorised and illegal substance use, and addresses the prevention of communicable diseases.	Contractor SMMC	• Health reports from nearby health facilities. • Grievance register • Monitor updated Contractors risk register • Record of monthly progress meetings

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
	• All actions to avoid security risks to the local communities, to be highlighted in the Code. ✓ Chapter 10.2 in the HSE Plan for the **Contractors Code of Conduct**.		
Nuisance / disturbance of current hospital healthcare services due to energy disturbances/ vibrations/ air quality / noise	• The contractor is required to avoid disturbance of the healthcare processes due to construction activities. • Process requirement 6.2.2 (IB008) to be followed for the procedure related to "Work that causes and Nuisance". • Corrective measures will be applied with agreement from both Contractor and SMMC. ✓ **SMMC's Complaints Policy and Procedure**.	Contractor and SMMC	• RHDHV Process requirement, IB008, Item 6.2.2 • Monthly progress meetings • Contactors risk register • Grievance register
Reduced parking (access) of current hospital for visitors and staff	• Schedule parking and transport alternatives allowing patients, visitors and staff to reach the facility. • Provide alternative parking and transport for patients, visitors and staff • Possible planning for a temporary parking area within a 500-meter distance from the current hospital. • Construction related traffic inconveniences anticipated and measures available to reduce inconveniences ✓ Chapter 10.1 for the Contractors HSE Plan for the **Construction Traffic Management Plan**. ✓ **SMMC's Complaints Policy and Procedure**.	SMMC	• Monthly progress meetings • Contactors risk register • Grievance register
Access to fire brigade/department during construction works	• Emergency response of Fire brigade and ambulance (which are adjacent to the construction site and use the same access route) may not be hindered See Chapter 10.1 for the Contractors HSE Plan for the **Construction Traffic Management Plan**. **SMMC's Complaints Policy and Procedure**.	Contractor	• Monthly progress meetings • Contactors risk register • Grievance register
Socio-economy			
Formal local procurement (tradesmen, other	There will be added opportunity for local tradesmen to secure contracts for service provision.	Contractor	• Procurement policy implementation and progress to be reported on as per Inso Document 2.4 Local Involvement

E&S Impact/issue	Mitigation or Enhancement Measures	Responsible for Measures	Monitoring and Verification
specialty work)	Contractor is contractually required to recruit a significant amount of the labor force out of the available local labor workforce. See **Contractor's document 2.4 Local Involvement**.		• Complaints Policy (applicable to community and labour) • Grievance register • RHDHV Process requirements IB008, Item 7, May 2016
Surge in demand for basic services provision (housing, water, electricity, schooling, religious sites and health) from construction labour force	Local authorities to advise of availability of facilities for non-local workforce, bearing in mind that the majority will be from the local areas. The expected number of workers in the construction phase is between 100-130. As a mitigation, on-going monitoring will have to occur to ensure that demand does not outweigh supply.	Contractor	Regular contact with Authorities to assess particular basic service provision challenges.
Cultural Heritage			
Potential finds of cultural/heritage value	• This WB Safeguards Policy was not triggered however a chance-find procedure will be updated to the HSE plan.	Contractor	• Monitor updated Contractors risk register.

App.Table 2-2: ESMP Matrix for Operation Phase

Potential E&S impact/issue	Mitigation or enhancement measures	Responsible for measures	Monitoring
Environmental and Social Management System			
System to manage, control and monitor E&S risk	An NGH Operation phase ESMS will be developed in line with international good practice and guidelines (i.e. ISO 9001: 2008 – Quality Management System, ISO 14001: 2004 – Environmental Management System, OHSAS 18001: 2007 – Occupational Health and Safety Management System). Build on current hospital administration, management and operation polices and norms	SMMC	• monitoring records • training/ inspection records
Noise and Air Pollution			
General	• air emissions of trigeneration and boiler systems comply with national regulatory requirements • autoclave grinder adheres to WB EHS Guidelines. ✓ **Operations Phase Air Quality Control and Monitoring Plan.**	SMMC	• air quality monitoring • greenhouse gas emission quantification
Noise generating machinery and equipment	• 'Low-noise' equipment to be installed • Plans to enclose noise generating equipment and machinery in buildings with isolated and sound proofed walls, • Technical Building and silencers comply with regulatory standards.	SMMC	• Proper operation of noise silencers
Material resources			
Energy Consumption	• Add LEED Accredited Professional to Facility Management Department	Contractor SMMC LEED Commissioning Authority	• Monitor LEED progress reports
Supply of materials	• Recycled materials and materials certified as eco-friendly and low carbon used. • The NGH will operate as detailed in the LEED sustainability certificate.		
Waste Management			
Waste generation and management	• All wastes during operation will be managed in line with the SMMC WMP • An updated HWM plan will be developed to ensure implementation with the new auto-clave and grinder equipment ✓ **SMMC's Bio-hazardous and general waste disposal (085)**	SMMC	• update WMP every three years in accordance with the relevant regulations • disposal records and contracts of all types of wastes • copies of haulers' and disposal facilities' licenses • training records of staff and awareness during site audits

Potential E&S impact/issue	Mitigation or enhancement measures	Responsible for measures	Monitoring
	✓ **SMMC's Medical waste protocol.** ✓ **SMMC's Waste Management Plan** (to be developed)		
Wastewater	• New wastewater treatment plant will already be fully functional prior to the operation phase • Necessary measures will be taken for liquid wastes contaminated with radioactive substances and its treatment. There are no expected radioactive effluents.	SMMC	• permit obtained from the relevant authority • effluent analysis results to ensure they meet with discharge criteria defined in the connection certificate
Hazardous material	• All hazardous materials will be stored in designated areas having secondary containment and handled with care by authorized staff in order to prevent potential spills. • All detail relative to an inventory, PPE (equipment and training), and handling and storage will be reflected in a Hazardous Material Management Plan. ✓ **SMMC's Bio-hazardous and general waste disposal (085)**	SMMC	• Ensure that Hazardous Material Management Plan is in place and implemented
Occupational Health and Safety and Human Resource Development			
Occupational Health and Safety - general	• All applicable national health and safety legislation and international regulations will be followed. • All employees (including sub-contractors) will be trained on health and safety, and EPRP to respond timely to the incidents. • All the health and safety risks of each activity during operations will be identified followed by identification of the appropriate mitigation measures/personal protective equipment. These issues will be detailed in an Occupational Health and Safety Management Plan that is to be developed. The Plan must address control of radiation exposure, blood-borne pathogens, infections, the importance of the Hazardous Material Management Plan, and Waste Management Plan. • The efficiency of health and safety practices will be monitored through internal and external audits, and corrective actions will be taken if required. • Fire safety measures to also be included. ✓ **SMMC's Occupational Health and Safety Management Plan** (to be revised on the current system).	SMMC	• Checks records of internal and external audits • training records of workers • immunization records • records of accidents

Occupational Health and Safety - Adherence to all emergency response measures (fires/floods/political crisis, etc.)	• Safe operation of helipad to be maintained through the safety register. • Emergency responses related to natural or man-made disasters fully functional. • Regular training for staff, drills and evacuation tests, etc. ✓ **SMMCS's Emergency Disaster and Preparedness Plan (Ref 116).** ✓ **SMMC's Occupational Health and Safety Management Plan** (to be revised).	SMMC	• SMMC safety protocol • Conduct regular emergency drills
Human Resource	• Apply national labour requirements to all contracts • Recruitment procedures will be in line with SMMC Human Resources Policy ✓ **SMMC's Human Resource Policy.**	SMMC	• Verify contracts and conditions of work for staff • Cross-check internal labour policies to National Labour regulation alignment (including recruitment, retrenchment, downscaling procedures)
Community Engagement and Disclosure			
Public awareness and outreach	• Maintain internal and external communications process • Revise current program and amend as necessary ✓ **SMMC Stakeholder Consultation and Engagement Plan** (to be updated for the Operation phase) ✓ **SMMC Complaints Policy and Procedure**.	SMMC	• Complaint Registry
Socio-economic			
Local economy and employment	• Continue to promote local employment • Purchasing local goods and services to the extent possible.	SMMC	• records regarding local employment and local purchasing policies
Community Health, Safety and Security			
Community health, safety and security (general)	• A Community Health and Safety Management Plan will be developed and implemented to manage risks and impacts to the community. ✓ **Community Health, Safety and Security Management Plan** (updated based on current policies) ✓ **SMMC's Complaints Policy and Procedure**.	SMMC	• records of health and safety training of employees • training on emergency response measures
Air quality impacts on the nearby community	• An Air Quality Control and Monitoring Plan will be prepared and implemented during the operation phase of the Project.	SMMC	• Ensure Air Quality Control and Monitoring Plan is in place and implemented

Potential E&S impact/issue	Mitigation or enhancement measures	Responsible for measures	Monitoring
	See **Operations Phase Air Quality Control and Monitoring Plan** (to be developed)		
Exposure to disease	• Potential disease risks to the community minimized See **Community Health, Safety and Security Management Plan** (CHSSMP) (to be developed)	SMMC	• Proper communication measures
Value added health service	• Hospital expansion provides value-added services to a wider range of citizens. • Clinical guidelines and quality control protocols updated. • NGH advances access and provision of health services across genders.	SMMC	• Hospital records
Helicopter traffic	Heliport operates in accordance with all local and international transport standards An Emergency response procedure to be developed and implemented to enable safe helicopter operation. See **SMMC's Emergency Disaster and Preparedness Plan (Ref 116)** (to be updated).	Contractor SMMC	• Review applicability of Emergency Response Procedure for the activity in the Emergency Response Management Plan • Monitor updated Contractors risk log
Life and Fire Safety	• NGH designed, constructed, and operated in full compliance with local building codes, local fire department regulations, local legal/insurance requirements. • Fire safety is part of the **Building Permit** approval. • Maintenance of all fire safety systems in proper working order, including self- closing doors in escape routes and ventilation ducts with fire safety flaps. • Life and Fire Safety Audits will be undertaken by qualified professionals. ✓ **SMMC's Fire and Evacuation Plan (Ref FM 101-1)**	Contractor SMMC	• Register official inspections • audit reports
Security	• Security provided in a manner that does not jeopardize the community's, staff's and patron's safety. • SMMC's Service Provider(s) will ensure that security personnel	SMMC	• credentials of security staff • training records of security staff

Potential impact/issue	E&S	Mitigation or enhancement measures	Responsible for measures	Monitoring
		have not been involved in past abuses and are adequately trained. • Security will operate within the law. ✓ **SMMC's Security Plan (Ref FM 103-2)**		

Appendix 3:
The INSO Health Safety and Environment Plan

S I N T M A A R T E N G E N E R A L H O S P I T A L

Health, safety & Environment plan Rev. 00

DESIGN AND CONSTRUCTION PHASES

EMPLOYER:

SINT MAARTEN MEDICAL CENTER

KPMG ADVISORY SERVICES

ROYAL HASKONING DHV

Revision	Date	Description	Prepared by:	Approved by:
00	13 July 18	Issue Plan	PV, ER	AC

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	Site Project Engineer	
	Project Manager	

Royal Haskoning DHV		
	Process Manager	
Bart Hueben	Contract Specialist	

KPMG		
	Project Manager	

HSE PLAN - TABLE OF CONTENT

APPENDIX:

A. Hurricane Plan
B. Emergency information (for all info boards) – WILL BE ADDED IN LATER STAGE
C. Site layout with Assembly point(s) and other important info – WILL BE ADDED IN LATER STAGE
D. Information signs and location – WILL BE ADDED IN LATER STAGE
E. Information flyer for visitors / truck drivers / deliveries – WILL BE ADDED IN LATER STAGE
F. National Safety Ordinance and Safety decrees I, II and III – WILL BE ADDED IN LATER STAGE

1. Introduction

The Main purpose of a HSE plan of preventive measures at the New General Hospital Site is to prevent occupational injuries, occupational diseases and all other diseases related to work. In addition, preventive measures plan refers to the protection of work and the environment.

Health, safety and environment are an integral and inseparable part of the project and work organization and execution of all work processes.
The present Health & Safety Plan describes the overall responsibilities and general safety rules for the working site.
Based on a risk based approach, the document presents INSO S.p.A. methodology with regards to the prevention, protection, control and mitigation of hazards associated with the activity subject of the project. The main purpose of this approach is to identify the major hazards which could lead to injury to personnel or damage to facilities and to describe, in order to minimize the identified hazards, the safety measures which shall be adopted during all the operative phases in which INSO S.p.A. is involved.

The requirements listed in the present document are not complete but shall be regarded as basic rules when working on the SMMC site.
If, during the successive phases of the work, some elements are deemed to significantly influence the indications reported in the present document, a prompt revision of the Health & Safety Plan will be made.

2. HSE System in INSO

HSE System: INSO Integrated Management System of Quality, Environmental and Safety

INSO adopts an Integrated Management System (Quality, Environmental and Safety) certified by Lloyd's Register in compliance with UNI EN ISO 9001:2015 - UNI EN ISO 14001:2015 - OHSAS 18001:2007 in order to:

Design and construction "turn-key" of civil and industrial buildings. Design, supply, installation "turn-key" of medical equipment packages and related maintenance. Designed, installation and maintenance of civil and industrial plants. Management of General Contractor activities.

In accordance with the requirements of the standards and with the Integrated Management System of INSO, Quality, Environmental and Safety Procedures the main production activities involved in these operations are:

- Market research and the analysis of the requirements of the interventions to be performed;

- Managing the design of the interventions;
- Planning and managing the jobs, including the control of operations;
- The maintenance of the works realized when required by contract provisions.

Control of production and service provision - Production and Service Provision

In order to ensure that the completion of the work is done under controlled conditions systematically applying the provisions of the contract, the bidder shall prepare a dedicated QSE Plan.

The QSE Plan regards the following aspects:

- ✓ definition of the organization and responsibilities of the assignment;
- ✓ context analysis and identification of stakeholders
- ✓ identification of risks and opportunities;
- ✓ identification of the critical aspects of the assignment emerging from the requirement review phase;
- ✓ control of the relevance documents for the execution of works;
- ✓ supply management;
- ✓ identification of the products that require identification and traceability;
- ✓ possible need to control the customer's product;
- ✓ identification of the site layout;
- ✓ availability of work instructions, if required;
- ✓ definition of any productive processes that need validation (special processes);
- ✓ definition of monitoring and measuring;
- ✓ any other useful information for controlling that specific assignment (for instance assistance if provided for, special handling and / or storing provisions, etc.)
- ✓ environmental and Health and Safety legislation, identification and assessment of the HSE aspects of works operations;
- ✓ most suitable operating procedures and protective devices;
- ✓ identification of the optimal work environment, processes, machinery and installations;
- ✓ operational control of the aspects relating to quality, environment and safety (control plans) and supervision.

Monitoring and measurement of the product

During all phases of production, the bidder performs the monitoring and measurement of products / services in order to ensure compliance with contract requirements and with standards HSE. The work controls are specified in a specific QSE Control Plan, which defines the control of all aspects on site. To provide evidence of conformity of the product/service to the specified requirements, the provider shall record, store and keep the results of the controls carried out.

Safety and Environmental-related aspects

INSO identifies the significant aspect related to the impact on health and safety and environmental resulting from the company’s operations, quantifies the measurable data and evaluates conformance with legal norms and eventual voluntary agreements.

Steps of Risk Assessment are:

1. Identifying dangers and analyzing risks

2. Determining the significance of dangers
3. Identifying control activities
4. Updates and modifications

Risk Evaluation Document on occupational health and safety
This document lists the results of the periodic evaluation of risks related to the health and safety conditions of the workers and the activities performed. This document contains:

- The applicable legal prescriptions;
- The identification of the workplaces;
- The description of the criteria adopted for the evaluation of risk;
- The estimate of the risks and the identification of priority measures;
- The implementation program for the measures, detailed in terms of the methods and responsibilities;
- The control of the efficiency of the measures.
- The review program.

Risk Evaluation Document identifies the aspects related to the activities and services of the activities that influence or may influence health and safety.
For this purpose QSEM breaks down the processes into elementary steps and analyzes the real or potential effects (during normal operations, under reasonably predictable anomalous circumstances or in case of an emergency) taking into consideration the organization of the work phases, the machines and equipment and their adaptation to human abilities. Potential dangers are also taken into consideration that originate outside the workplace yet influence health and safety inside the workplace.
In the event that organizational changes are made, the QSEM must promptly identify the dangers and risks associated with said changes and identify any related controls that may be necessary.
Once each factor that impacts health and safety is identified, the “level of risk” is classified based on a previously established point threshold as specified in the instructions that take various aspects into consideration including:

- Risk factors, intended as a product of the frequency of occurrence and the gravity of the event;
- The existence of a specific norm;
- The adequacy of existing control measures.

The management system, and in particular, the instructions entitled “Identification of dangers, risk analysis and the definition of controls” defines the methods to be used for quantifying the aspects relative to occupational health and safety and identifies the risk evaluation criteria, based on which they are qualified as “Negligible” and “Unacceptable”. Specific improvement objectives are established for unacceptable risks, which must be reached within an established timeframe.

The main purpose of making a plan of preventive measures at the construction site is to prevent occupational injuries, occupational diseases and all other diseases related to work. In addition, preventive measures plan refers to the protection of work and the environment. Health and safety are integral and inseparable part of the work organization and execution of all work processes.

For each project is prepared a specific evaluation of risk and during the phases of site work, INSO is responsible for monitoring compliance with the prescriptions applicable to the company’s operations with the aid of a special checklist listing the authorizations or activities to be performed

to guarantee the continuous respect of environmental and safety requirements and controlling the prescriptions of the construction site operations.

3. HSE System for the Project in Sint Maarten

INSO will manage and will keep under control the Health, Safety and Environmental's part of the Sint Maarten General Hospital following the Employer's Requirements (see Chapter 4.2 of Health, Safety and Environment Management Process Requirements) and following the INSO Integrated Management System of Quality, Environmental and Safety (see Chapter 2 of this document),

As already mentioned, this is the HSE Plan only for design and construction phase. HSE plan for demolition phase and maintenance phase will be made and finalized 3 months before demolition and maintenance phases will start.
The Plan will be updates when necessary. Any updates will be always under the responsibility of the HSE coordinator. Distribution of the new revision of the plan will be as per distribution list.

All the activities required will be done under the National Safety Ordinance and the safety decrees I, II and III (see Appendix to the plan). In all Sub-contract agreements it will be mentioned that all works are under this Ordinance and decrees.
In due time, close to the start of construction phase, INSO will appoint an HSE Coordinator for the construction phase as forecast in the Organization Chart and it will be announced and introduced to the Employer's Supervisors. The HSE Coordinator will attend the HSE coordination meetings /events. HSE Coordinator will be supported by the Staff of the HSE Department. The number of the components of the staff will depend of the number of workers on site.

For the design phase Mr Bennacer Mahfoud of AIA Architects is the HSE design coordinator.
The HSE Plan has a series of HSE files and an Emergency Plan that will be implemented, updated and revised during all the construction phases.
The HSE Plan forecast a series of instruction and some specific trainings for employees, assistants, staff and visitors to the construction site.
Everybody that enter the site for the first time will get first directions and instructions by the HSE Coordinator and its Staff. Visitors will get a "visitor pass" and first instructions from the Security Guard. In case the visitor also needs to be on the construction site the Security Guard will inform the responsible person from the HSE department.
Nobody will enter site without a special pass or being accompanied (full time) by an inducted person. The inductions will be given by the HSE department.
The HSE responsible/coordinator of each Subcontractors, before that they will enter in the construction area to execute their works, will receive the HSE Plan and the relevant instructions. All the subcontractors personnel will receive a "site-I.D. card" will be prepared and handed out.

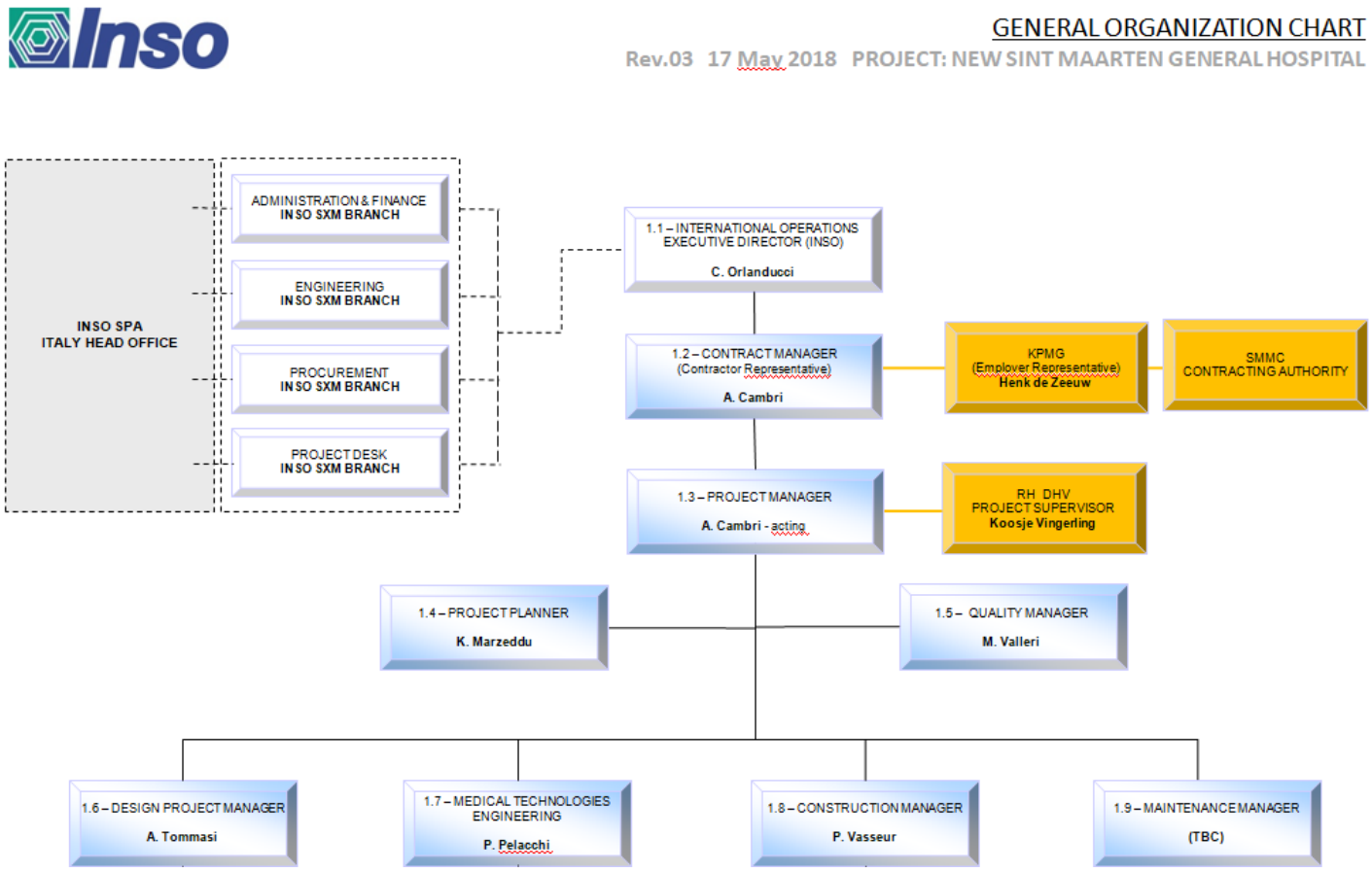
During the construction phase, will be done and regularly update/implemented the HSE risk analysis and it will be added to the general risk analysis for reporting.
Part of the HSE will be also and Emergency Plan that will describe how to identify the potential risk and emergencies, how to anticipate the detection of them and which instruction to follows to have the best coordination during accidents and emergencies.
A clear site layout must show the emergency exit for people and vehicles. A list of material to be used during emergencies will be part of the Emergency Plan.

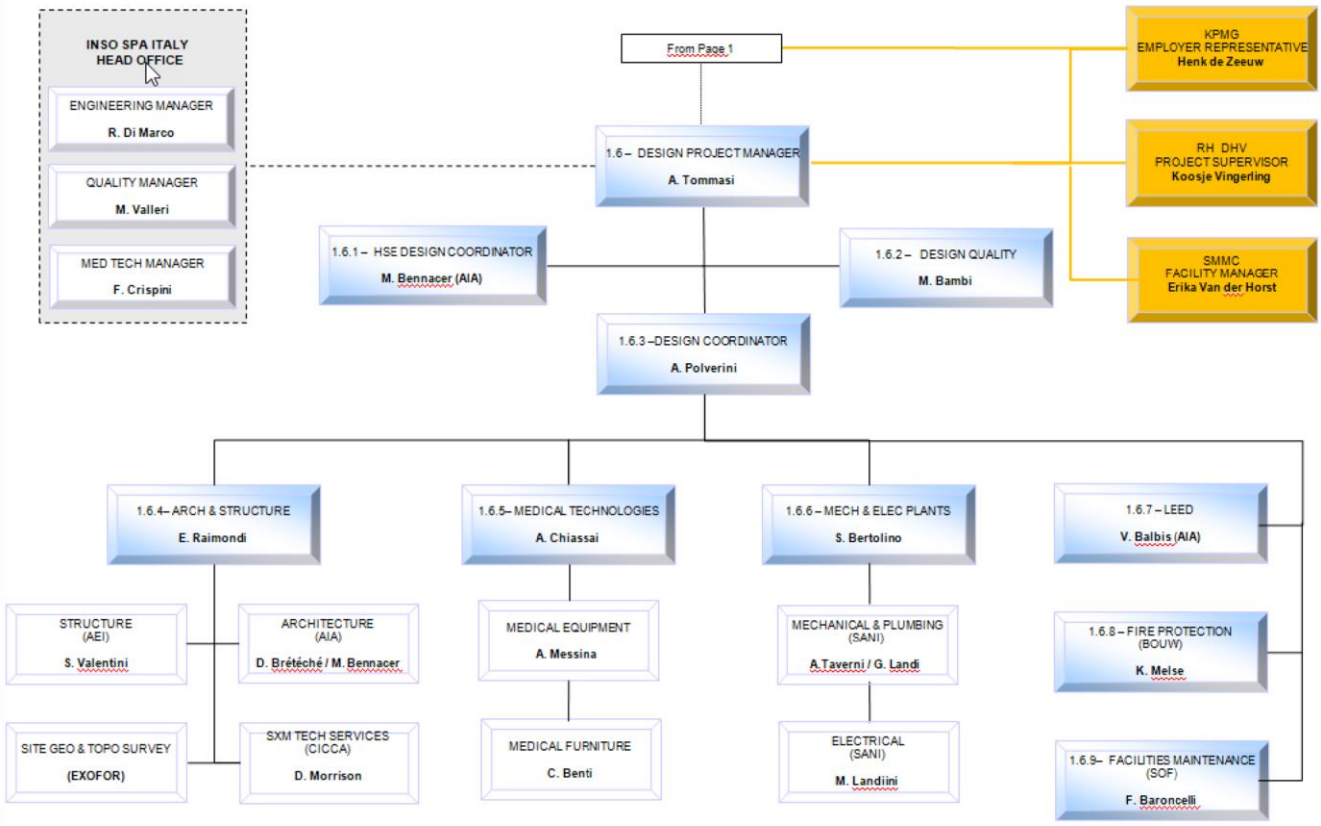
If during the construction of the hospital an accident will happen, a report will be made as soon as possible after the event happened and the record files will be updated. Analysis of the new data

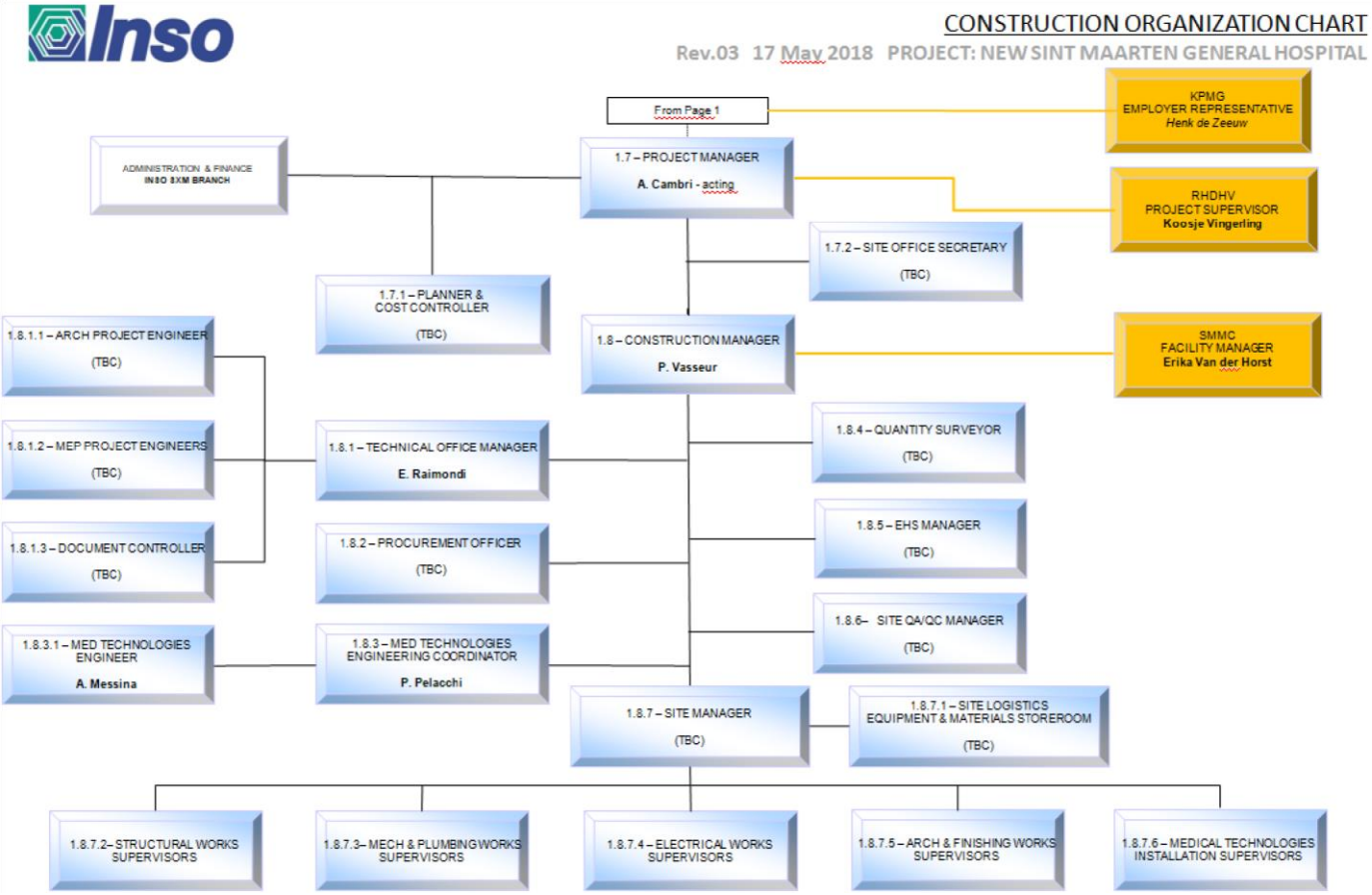
gathered will be done directly after (or during) the events and, if necessary, new safety instructions will be given or, in the worst case, activities will be stopped.
In any case, from the analysis of the records, conclusions will be drawn and if necessary new safety instructions or training will be given accordingly.
An Hurricane Plan and an Emergency Disaster Preparedness Plan we will set up and implemented if necessary. All the activities will be performed under the respect of the guidelines included in the plan and regular meetings will be done between Inso Managers and Coordinators and the Employer's Supervisors.

4. Organization of the Project

4.1 Organization Chart




INSO SPA ITALY
HEAD OFFICE
ENGINEERING MANAGER
R. Di Marco
QUALITY MANAGER
M. Valleri
MED TECH MANAGER
F. Crispini
From Page 1
1.6 – DESIGN PROJECT MANAGER
A. Tommasi
KPMG
EMPLOYER REPRESENTATIVE
Henk de Zeeuw
RH DHV
PROJECT SUPERVISOR
Koosje Vingerling
SMMC
FACILITY MANAGER
Erika Van der Horst
1.6.1 – HSE DESIGN COORDINATOR
M. Bennacer (AIA)
1.6.2 – DESIGN QUALITY
M. Bambi
1.6.3 –DESIGN COORDINATOR
A. Polverini
1.6.4– ARCH & STRUCTURE
E. Raimondi
1.6.5– MEDICAL TECHNOLOGIES
A. Chiassai
1.6.6 – MECH & ELEC PLANTS
S. Bertolino
1.6.7 – LEED
V. Balbis (AIA)
STRUCTURE
(AEI)
S. Valentini
ARCHITECTURE
(AIA)
D. Brétéché / M. Bennacer
MEDICAL EQUIPMENT
A. Messina
MECHANICAL & PLUMBING
(SANI)
A.Taverni / G. Landi
1.6.8 – FIRE PROTECTION
(BOUW)
K. Melse
SITE GEO & TOPO SURVEY
(EXOFOR)
SXM TECH SERVICES
(CICCA)
D. Morrison
MEDICAL FURNITURE
C. Benti
ELECTRICAL
(SANI)
M. Landiini
1.6.9– FACILITIES MAINTENANCE
(SOF)
F. Baroncelli



4.2 Description of main key persons

Project Manager - Specific tasks pertaining to safety

For projects that are entrusted to him/her, the PM manages and ensures:

- the organization of the site;
- the choice of machinery and equipment defining the site layout;
- planning and programming phases of work to ensure compliance with the measures necessary for the safety and health of workers;
- the selection and arrangement of temporary works;
- the presentation of the necessary complaints to the competent authority, before the opening of new sites and for any continuations of those already in place;
- drawing as necessary, before the commencement of the work, in collaboration with the Prevention and Protection Service, the Health and Safety Plan in compliance with the risk assessment document prepared by the company;
- that appropriate measures are taken to avoid that the adopted technical measures may result in a risk to public health or in a degradation of the environment, periodically verifying the continued absence of risk;
- That all the necessary measures for fire prevention and evacuation of the workplace have been taken.
- that all the prevention measures are promptly updated in relation to changes in organization and production that are relevant to health and safety at work, or in relation to the degree of evolution of the techniques of prevention and protection;
- To promote, in case of entrusting part of the work to subcontractors, the coordination of subcontractors and self employed workers, and their cooperation for the

Implementation of the preventive and protection measures against work risks and accidents during working activities subject of the contract and that the actions to prevent and protect against hazards at work are coordinated also in order to eliminate the risks due to interferences between the work of several companies involved.

- to duly check, in case of entrusting the work to contractors or subcontractors, the congruity of the health and safety plan of the contracting companies compared to his/her own one just before the transmission of such plans to the coordinator for the execution;
- that the site access has been arranged with clearly visible and identifiable signs;
- the protection of workers against atmospheric influences which could impair their safety and their health; • the care of the conditions for the removal of hazardous materials, prior, where appropriate, the coordination with the client or the project supervisor;
- care of the safety signs on site.

To achieve the above tasks, the PM has full administrative and managerial autonomy, while he/she has economic autonomy within the limits of his/her specific mandate.

Construction manager - Specific tasks pertaining to safety

The Construction Manager manages and ensures:

- the direction of the work site;
- the direction and coordination of activities carried out by the employees;
- in case of contract or subcontract, the cooperation for the implementation of the prevention and protection measures against hazards at work and the coordination of prevention and protection actions from occupational hazards, also in order to eliminate the risks due to interferences between the activities performed by the various companies involved;
- the monitoring and verification, also through his/her own structure, that all the staff complies with the regulations and the provisions with regards to occupational safety and health and ensures the compliance with the procedures contained in the executive and operational security plan prepared by the contracting companies present on site and that all the workers use the supplied PPE, giving instructions and suspending the operations in case of serious and imminent hazard, until the implementation of the proper adjustments has been verified.
- the adoption of measures to control the risk situations in case of emergency, immediately informing exposed workers and giving instructions so that they, in case of serious, imminent and unavoidable hazard, can leave the job or the danger zone;
- the technical controls on the supplies, on the processing and the execution of the final checks;
- the verification that the equipment present on site has been mounted / installed in compliance with the approved plans and resulting by the assembly instructions and / or following the executive project. The Construction Manager ensures that the devices used for safety and health protection of the workers have not been tampered and removed. That the periodical checks are duly performed as required by law. That the assembly, disassembly and use of the equipment is performed by appropriate staff adequately informed and educated about the conditions of safe use in foreseeable abnormal situations providing, for the staff of his/her own company, to give, if necessary, such information and instructions. For equipment that requires special knowledge and responsibility the Construction Manager ensures that the operators have received adequate and specific training that enables them to use such equipment in a suitable and safe way even in relation to hazards caused by other people;
- to take into account, when entrusting tasks to employees, their capacity and conditions in relation to their health and safety;
- the distribution to employees of the necessary personal protective equipment, hearing the head of the prevention

and protection service;

- the adoption of appropriate measures to ensure that only workers who have received adequate instructions and training can have access to specific areas that could expose them to a serious and specific risk;
- to require the compliance, by all the individual employees, to the existing rules as well as to the corporate safety and occupational hygiene provisions and the correct use of collective means of protection and personal protective equipment available to them;
- to adopt measures to control risk situations in case of emergency and to give instructions to workers in case of serious, imminent and unavoidable hazard, in order to leave the job or the dangerous zone;
- to inform as soon as possible the workers exposed to a serious and immediate hazard about the risk and the steps taken or to be taken for the sake of protection;
- refrain, except where duly justified by the need to protect the health and safety, from requiring workers to resume their activities in a work situation where there remains a serious and imminent danger;
- to enable the workers to verify the correct application of safety and health protection measures;
- to collaborate with the PM in taking appropriate measures to prevent that the adopted technical measures may result in a risk to public health or in an environmental degradation, periodically verifying the continued absence of risk;
- to collaborate with the office staff in collecting the necessary data, in relation to their powers, for statistical and informational purposes, related to work accidents involving absence from work of at least one day, excluding the day of the event and, for insurance purposes, the information relating to accidents involving absence from work for more than three days;
- to take the necessary measures for the purposes of fire prevention and evacuation of the workplace, as well as for the case of immediate and serious threat, according to the provisions of Art. 43. These measures must be adapted to the nature of the activity, the size of the company or unit production, and the number of people present;
- to provide the workers with appropriate identification card, containing particulars of the worker and the indication of the employer;
- that the workers for whom there is an obligation of health surveillance are not used for the specific job function without the appropriate judgment of suitability;
- to promote, in case of entrusting part of the work to subcontractors, the coordination of subcontractors and self employed workers and their cooperation for the implementation of the preventive and protection measures against work risks and accidents during working activities subject of the contract and that the actions to prevent and protect against hazards at work are coordinated also in order to eliminate the risks due to interferences between the work of several companies involved.
- to duly check, in case of entrusting the work to contractors or subcontractors, the congruity of the health and safety plan of the contracting companies compared to his/her own one just before the transmission of such plans to the coordinator for the execution;
- that the site access has been arranged with clearly visible and identifiable modalities;
- the arrangement or the piling of materials or equipment in a safe manner, in particular preventing their collapsing or overturning;
- the protection of workers against atmospheric influences which could impair their safety and their health; • the care of the conditions for the removal of hazardous materials, prior, where appropriate, the coordination with the client or the project supervisor;
- that the storage and removal of waste and debris are carried out properly;
- care of the safety signs on site;
- the adoption of the necessary organizational measures and the usage of the appropriate means, in particular mechanical equipment, to avoid the need for manual handling of loads by workers

and, in case such handling is not avoidable, the adoption of the necessary organizational measures in order to reduce the risk involved in manual handling of loads.

To achieve the above tasks, the Construction Manager has full administrative and managerial autonomy, while he/she has economic autonomy within the limits of his/her specific mandate.

HSE Manager

HSE manager is responsible for:

- identifying the risk factors, evaluating risks and identifying the safety and health measures of the work environments in compliance with current standards and based on their specific knowledge of the company's organization;
- elaborating the preventive and protective measures, within their realm of responsibility and systems for controlling said measures;
- elaborating safety procedures for the various company operations;
- proposals related to informational and training programs for workers;
- taking part in consultations regarding the protection of occupational health and safety;

- Providing workers with the information on:

a) health and safety risks associated with the company's general operations;

b) the protective and preventive measures and activities adopted;

c) specific risks they are exposed to in relation to the activities performed, safety standards and company policies on the matter;

d) dangers associated with the use of dangerous substances and preparations, based on the safety data forms provisioned by current regulations and technical standards;

e) procedures concerning first aid, firefighting procedures and the evacuation of workers;

f) the names of the persons in charge of the prevention and protection service and the occupational physician;

g) the names of the workers assigned to applying the measures specified;

Site Workers / Staff / Visitors - Specific tasks pertaining to safety

Each person must:

· take care of his/her own safety and health as well as the safety and health of all the other people present on the working site who may be affected by his/her actions or omissions;

· follow the Construction Manager indications for what pertains to his/her duties, for the purpose of individual and general safety;

· correctly use the tools, devices, machinery, dangerous substances, means of transportation and all the other site equipment as well as all the protection devices at their disposal and under the instructions of the Construction Manager;

· immediately inform any possible lack of means and devices assigned to them, as well as any other possible dangerous conditions they have come to know, directly acting, in case of urgencies and under their possibilities, to eliminate or reduce such lacks or hazards and promptly informing the Site Manager; · not remove, without authorization, protection, control or alert devices and must not perform, on his/her own initiative, any task not specifically pertaining to his/her duties or any task that may compromise his/her or someone else's safety;

· fulfill all the obligations imposed by the competent authorities or, in any case, the obligations necessary to protect the workers' safety and health.

5. Emergency Actions/Emergency Plan

In order to protect the safety of workers/staff/visitors and to ensure, if necessary, the best possible rescue conditions, we will provide the necessary general information with regards to the general

behavior to be held during emergencies, creating a service for managing specifically fire and first aid emergencies.

5.1 Fire Emergency

The site shall be equipped with:

- powder extingguishers
- health facilities, as required by current legislation

The responsible for emergency management in case of fire is the Construction Manager.
The procedure that has to be follows during the construction phase is the follows:

A) Prevention

All workers must follow the general rules of conduct specified in the special meeting, in particular, they should:

- avoid pilings, even temporary, of highly combustible materials (paper, cardboard, plastics, etc..) promptly placing them in the predisposed areas;
- keep always clear any escape route;
- do not remove fire extinguishers from the provided places, reporting to the supervisor their possible absence;
- report any anomalies (e.g. electrical faults, the presence of obstructions along the escape routes or emergency exits, liquids such as water leaks, products used on site, gas, etc.., principles of fire) to the supervisor.

The Construction Manager should check:

- that the extinguishing systems have not been tampered;
- that the safety signs have not been tampered;
- that the working tool are in good operative conditions;
- electrical and grounding;
- the usability of escape routes and exits;
- the use of combustible in the absence of ignition sources of fire. Moreover, at the end of each working day, check:
- removal of waste or storage under conditions that might lead to fires;
- decommissioning of electrical equipment not be used;
- the safety of the machines not to be used;
- the general conditions of the workplace.

Documents for fire protection (recovery plan, site plan with the evacuation roads, training of all employees, etc.) regulate the organization of the work process on the site, reduce the risk of fire, and if a fire breaks out, prevent its spreading and safe evacuation of people and property, in accordance with evacuation plan and guidelines in case of fire.

B) Behavior during emergencies

Each employee must:

- inform his manager and / or supervisor whenever he finds any evidence of the occurrence of a dangerous situation, clearly indicating the nature of the emergency and the area of the concerned site;
- take action, if in the presence of fire and after the immediate communication made in the manner outlined above, using only the available fire extinguishers;
- leave immediately, if an evacuation order is given by the alarm sounds, through the emergency routes, to reach the predetermined meeting point, where an attendant will check for any absences. If possible, he will also secure, before leaving the workplace, the equipment and machines used, with higher priority to be given to those most capable of generating dangerous situations;
- at the end of evacuation and when arrived in a safe place, move away from the emergency exits in order not to hinder the flow of other workers and / or rescuers.

C) Standards of conduct for emergency workers

Each employee, firstly within his own area of jurisdiction, shall:

- collect all the information about the emergency and directly verify the reliability;
- intervene with appropriate emergency means in case of small entity fire situations;
- perform, after informing the Site Manager and/or his supervisor, the evacuation of the area under his jurisdiction;
- ensure the successful evacuation;
- have calls to the Fire Department, PS, ambulances, etc.., according to the emergencies identified;
- assist the rescue team outside (Fire Department, ambulances, etc..), providing the necessary guidance.

5.2 Care Emergency

The responsible for emergency management in case of Emergency Care is the HSE Manager. The procedure that has to be follows during the construction phase is the follows:

A) Prevention

All employees are required to pay an immediate first aid to anyone who is injured or whose health is compromised, according to the general first aid rules set out in the proper meetings and promptly informing, as quickly as possible, the staff responsible for the first aid. In particular the following has to be done:

- in case of electrical shock, always interrupt the electrical contact in an indirect way, avoiding the use of metal objects, wet or in direct contact with the person struck;
- in case of cardiac arrest, cardiac massage and practice mouth to mouth respiration;
- if breathing has stopped, ensure airway clearing and practice mouth to mouth respiration;
- in case of severe bleeding, compress immediately with forces between the wound site and the heart, as per the given instructions.

Moreover, the following has NOT to be done:

- move the injured person with probable spinal injuries, unless there is absolute necessity and with appropriate precautions and maneuvers;
- administer drink to the unconscious injured person;

- reconstruct fractures and dislocations;
- touch burnt tissue;
- remove foreign objects in any part of the body, unless absolutely necessary.

B) Standards of conduct for emergency workers

The first aid team staff will:

- take prompt action among workers injured or those suffering by an illness, taking care to call, if necessary, emergency medical aid (ambulance, etc..,). They will administer the initial care to the injured as described in the attended specific training course;
- take care of the materials maintain and / or health facilities equipment;

- keep a register of loading and unloading of medical supplies;
- fill in the accident register;
- prepare and update the emergency signs indicating the telephone numbers of emergency services.

6. Storing and Equipment during Construction Phase

6.1 Site Plan with the necessary information

- ✓ DESIGNATED AREAS FOR THE DEPOSIT OF MATERIALS, WASTE MATERIALS AND HAZARDOUS MATERIALS TO BE ADDED

- ✓ DESIGNATED AREAS FOR PERMANENT MACHINERY/ TOOLS (INCLUDING THE AREAS WHERE THEY WILL BE USED) TO BE ADDED

6.2 Equipment used during construction phase

Construction equipment utilized for the various stages of the project:

Tower Cranes – 70 m diameter	Excavators
Concrete mixer trucks	Concrete mixer pumps
Formworks	Scaffolding
Forklifts all terrain	Trucks
Possible vertical platform	Construction Elevator
Mobile Crane	Axle Truck With Crane

7. Risk Management for Health & Safety

Identification of possible presence of exceptional conditions and situations which can aggravate the "risk" for workers health & safety, for example, work in multiple shifts and/or night work, work in limited spaces and / or problems in setting up the site, or the site location.

Definitions:

- Danger: source, situation or anything potentially damaging in terms of injuries or work-related illness or a combination of them;
- Event: an event linked to the work that will cause (or could cause) an accident or a work-related illness or similar;
- (Level of) risk: Combination of the probability that a dangerous event (or exposure to) could happen and the entity of the consequences could be caused by an event or exposure of this kind;
- Risk assessment: the risk assessment process emerges from a danger, and takes into consideration the adequacy of existing control measures, and establishes whether the risk is acceptable or not;
- Work place: every physical location where activities connected to work are under the control of the organization.

The plan for the activities to be carried out for the prevention and the elimination of the risks is drawn up in accordance with the European regulation, and consequently the European regulations.

Determining the RISK entity

The specified variables – Probability (P) and Consequence (C) - are considered to be distributed on a semi quantitative scale as described below:

The **risk (R)** is assessed with a conclusive assessment based on the estimated values of the **P** and **C** variables and of specific case, this assessment is expressed according to a scale composed as follows:

4	Criticai risk	Requires immediate action and must be brought to the attention of the client
3	High risk	Requires actions and must be reported to the client
2	Moderate risk	To be kept under surveillance
1	Low risk	No action

The following criteria is used to estimate the risk based on the scale of variables:

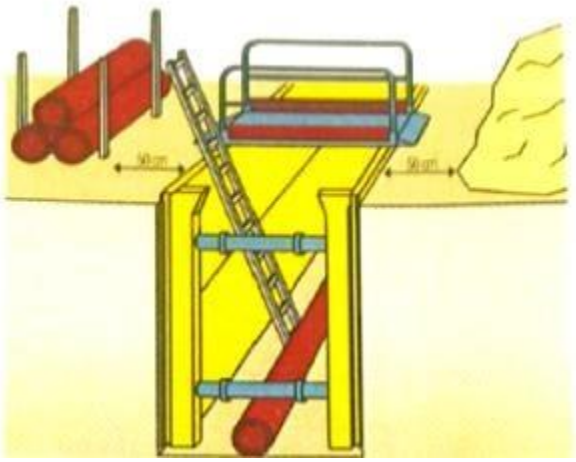
PROBABILITY/CONSEQUENCE CALCULATION TABLE

Probability							
	Very Large	5	3	3	4	4	5
	Large	4	2	3	3	4	4
	Moderate	3	1	2	3	4	4
	Small	2	1	1	2	3	4
	Very Small	1	1	1	2	3	3
			1	2	3	4	5
			Insignificant	Low	Moderate	Serious	Very Serious
			Consequence				

8. Detailed Construction Work Analyses

8.1 Earthworks: Measurement, analysis and improvements from aspect of digging works

Earthworks are carried out under the special security measures and protection. Special security measures and safety measures against collapse, landslide in excavation, landfill or making batter, measures to prevent slippage surrounding soil layers, measures against the negative effects of groundwater and surface water, and other measures to protect workers.
Special safety precautions are carried out under the supervision and guidance of professional staff. During the excavation on the site, samples of soil are taken from each layer, checked and compared with the data from the documents and controlled the behavior of soil. In case of change in the characteristics or behavior further steps to secure the continuation of the works must be taken.
The planking is set up to support the earth pressure from the excavation, and transmit it to the inner planking elements which these forces balance each other and distributed. The planking must not be set up to allow the soil fall into the trench.



Usage of planking, ensuring crossing the trench, securing excavation edges Of dredged and disposal material that is installed along the edge of the excavation

For machine earthworks, measures of health and safety protection must be taken to protect workers near the vehicles, in hazardous zones around the machine in motion, preventing unauthorized persons to approach machines and, means of transport, installation, objects, or objects that would work device to be threatened or whose presence could cause unsafe operations.

Mobile Excavator

Mechanical excavation of earth can be performed only when the conditions are provided for the proper operation and maneuver.
In case of deep excavation and embankments, the works shall be carried out by the rules determined in technical documents shall the stability of slope excavation and embankment slope. In case of unstable slope special safety measures are taken for safe work.

Security exit from deep excavations

When digging trenches and deep foundation pits the safe descent for workers must be ensured. To the excavated depth of 3.0 m below ground level access is provides by ladder secured against movement and overturning, raised above the edge at least 75 cm at the lower end, prevented to slide on surface.
Over the depth of 3.0 m for the descent and the exit, required staircase must be provided. Mutual permanent horizontal distance between the descent and exit points on the excavation at depths

greater than 3.0 m must not be greater than 20.0 m. When the excavation carried out in the soil with groundwater each stage of excavation must be protected against the external effects of the water column to the bottom of the excavation (lift), and a protective layer.

8.2 Reinforcement works

Reinforcement works on the site include cleaning, sorting and assembly of reinforcement In these works there is a hazard of falling objects from height. The reinforcement must be cleaned from corrosion, dirt and various fats before use.
To avoid falling pieces of iron or rust in the eye safety glasses are recommended for eye protection, protective gloves, and a protective apron.

Installation of reinforcement on the site

Reinforcement works at site requires walking over and between the bars. Sometimes it is a real "forest" of sharp and pointy parts so often snagging items or clothing provoke injuries or fall down of workers. To prevent it, the sleeves and pants of overalls must be fixed.

Installation of reinforcement on the site

Hazardous that usually occur during reinforcement works:

1. Flying particles when cleaning the reinforcement;
2. Cutting off pieces;
3. Harmful radiations during the "dot" welding of wire mesh reinforcement and joints, during the installation;
4. Fall from a height, collapse or caving, clay mass destruction.

The workers on reinforcing works on the loading, unloading, transfer, preparation (straightening, cutting and folding) and installation of concrete iron (reinforcement work) cannot access:

1. With long hair, if it is not tied or covered by cap;
2. With lousy clothes or unclothed;
3. Without protective shoes and gloves.

LOADING, UNLOADING

When loading or unloading by crane, the load must be previously released from the reinforcement, and pulling out by force from the pile is not allowed. The load must be removed from the top layers.
Reinforcement on pulley (diameter up to 12 mm) can be connected to the crane hook carrier ropes.
When installing or placing of reinforcements, workers must have safe path for the work. The free ends of the wire for tying must be bent or folded.
Electric cables under voltage must not be placed over fittings, or placed so that there may be contact with the armature.

The sequence of works which will be done to realize the horizontal slabs is:

- Mounting of the formworks
- Assembling of steel bars
- Concrete casting by means of by a charging bucket moved by the crane or by the concrete pump

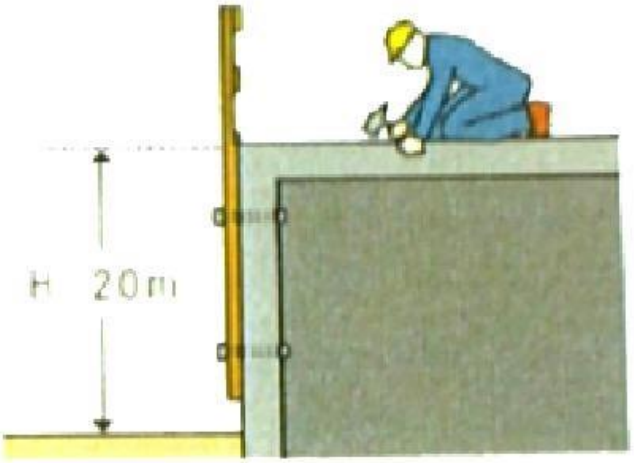
- Dismantling of the formworks, keeping the necessary vertical supports
- Complete dismantling of the supports after the concrete maturation

Formworks type Skydeck system or equivalent

CONCRETE REINFORCEMENTS

Employees shall work on the preparation of planking, construction, transport and installation of concrete. The hazard in these works are sharp or pointed objects, objects falling from height, workers falling from height.

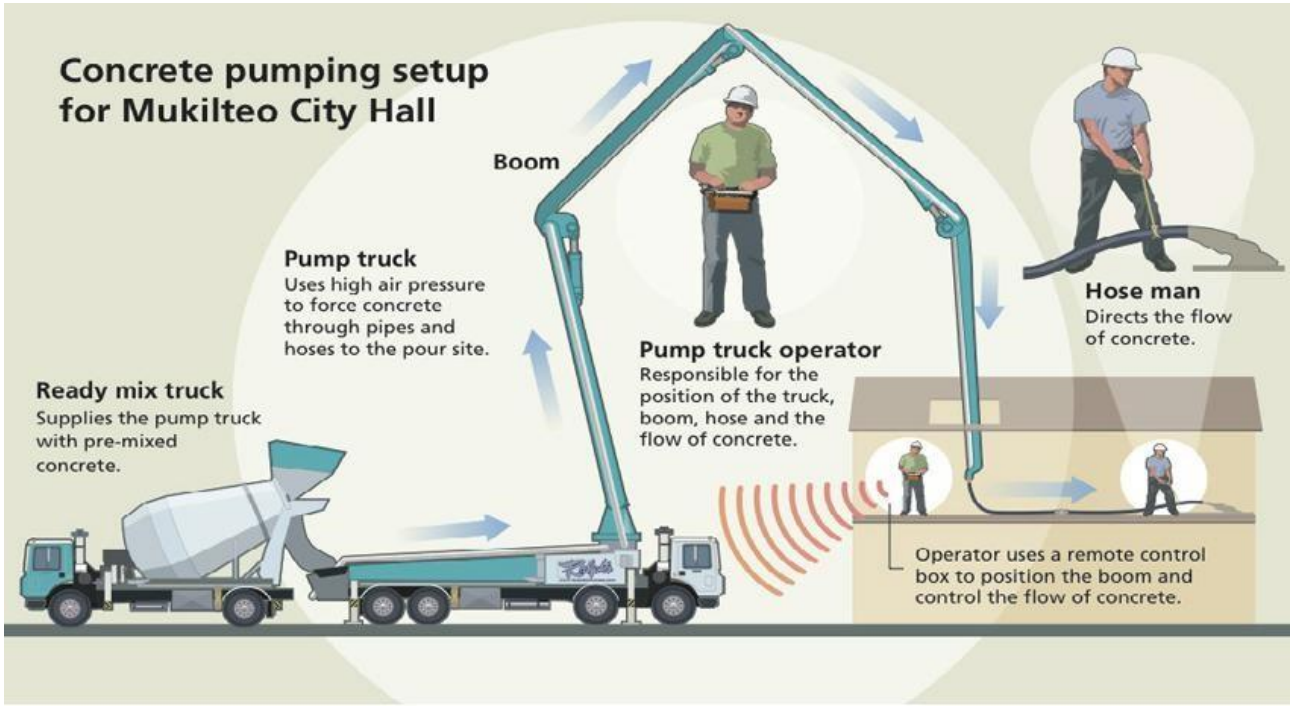
PROTECTING WORKERS FROM FALLING FROM HEIGHT



Big concrete works at heights and depths can only be done under the supervision of trained and experienced person on the site. Works on concreting must be done only after the examination of the proper work of the supporting scaffold, so there is no risk of accident.

Applying mass concrete

Vertical and horizontal transport of concrete by using concrete pumps set in the place from which the concrete is transported. Depending on the technology of vertical transport, the operation can be done with the help of tower cranes.

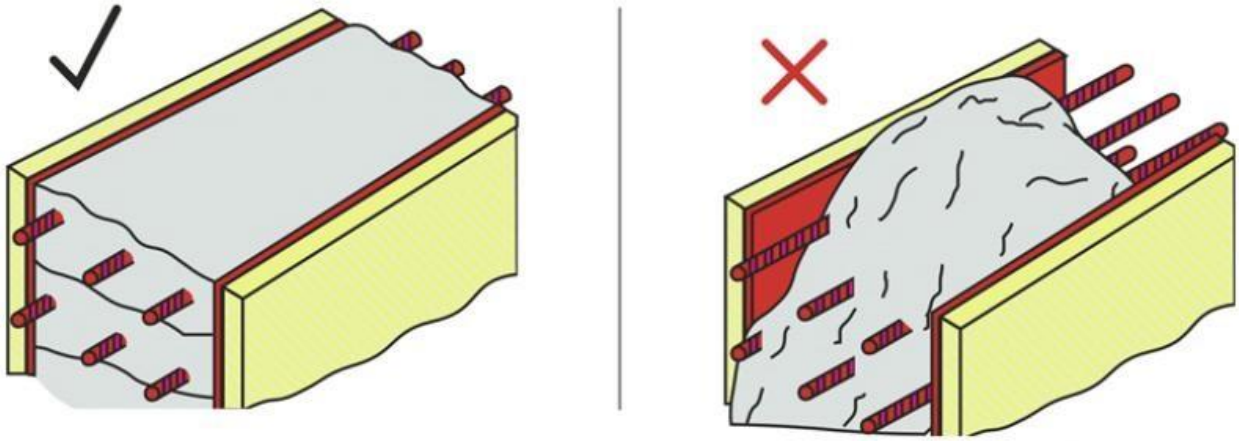


Concrete pour with pump

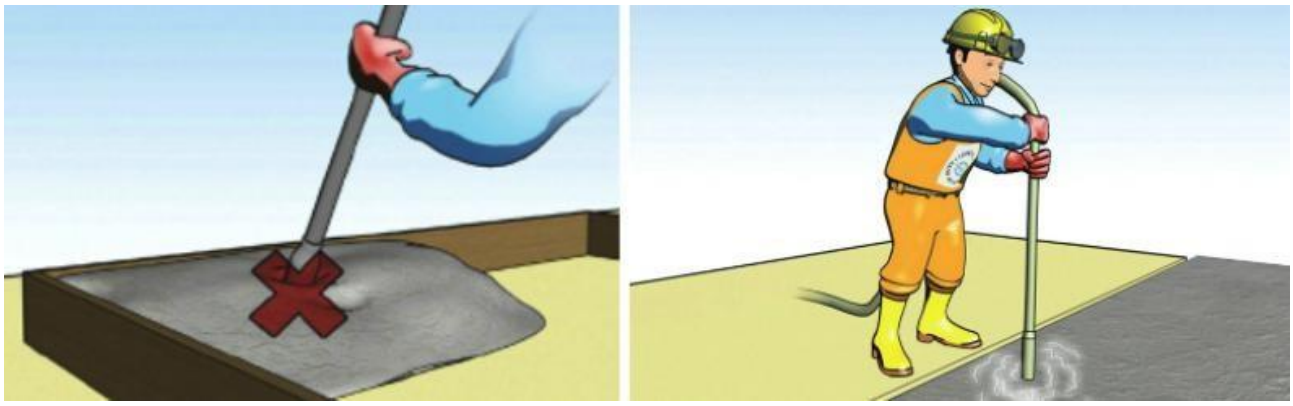
Placing concrete on site using vibrators. When transporting and placing concrete special safety measures shall be applied.

In particular, attention must be paid to the operation of transport by concrete pumps, because concrete mass is transported under big pressure. It is very important to take care when handling the flexible hose which spreads the concrete mass. When the concrete mass is transported with

concrete containers, it takes special caution, and also synchronization of the crane operator and the workers building the concrete mass.



In case of mass concrete works, the concrete should be poured asequal layers. Otherwise, it will be harder to compress the concrete



Concrete is not carried horizontally with the tip of the vibration. The type of vibrator used for the vibration should be selected depending on the thickness of the concrete layer

Workers with concrete must use appropriate personal protective equipment. Workplace should be protected from falls from height. The proper work of vibrator handled by the workers is checked and controlled before use. If concreting is done using scaffolds, scaffolding must be properly done.

The following safety measures are necessary for concrete works:

1. Containers for transporting fresh concrete from crane must not be transmitted over the heads of workers;
2. Reception of containers with concrete mass hanging on crane hook is done by safety ropes to guide, and when the manager is not able to fully monitor the movement of cargo, the supervision and directing is being performed by a signalman (supervisor);
3. Lowering the load on the operating floor must be carried out without hitting and swinging, and unfastening from hooks of the crane can be done only after the container is stable;
4. The container must not be overloaded with concrete mass;

5. When placing the concrete mass using vibrator, the worker must be in a solid body posture so that they wouldn't lose balance;
6. When the fresh concrete mass is transported to the place of installation with the concrete pump, the flexible hose and piping must be controlled;
7. Flexible hose must not be sharply bent, the carrier of pipeline must not be moved during handling, since it can hurt workers by its reverse motion;
8. When concreting and washing, flexible hose must not be faced to the workers;
9. When receiving concrete mixture trucks, the concrete mass must not be emptied out the mix drum if metal funnel is not secured from the sudden movement;
10. Before proceeding with washing the concrete mass,the electrical system, must be switched off;
11. Planking stripping from the concrete surface by crane using force is prohibited.

CARPENTRY WORKS

Carpenter's works include the manual preparation and processing of timber, manufacturing, assembly and disassembly of scaffolding, planking and various other carpentry works.
Structure and elements of materials used for carpentry works after each use must be properly cleaned from dirt, nails, metal parts and other items that may be the cause of worker injury, Timber planking elements stored in the place specified in the study on the building site. Lumber, paneling and parts must not be left:

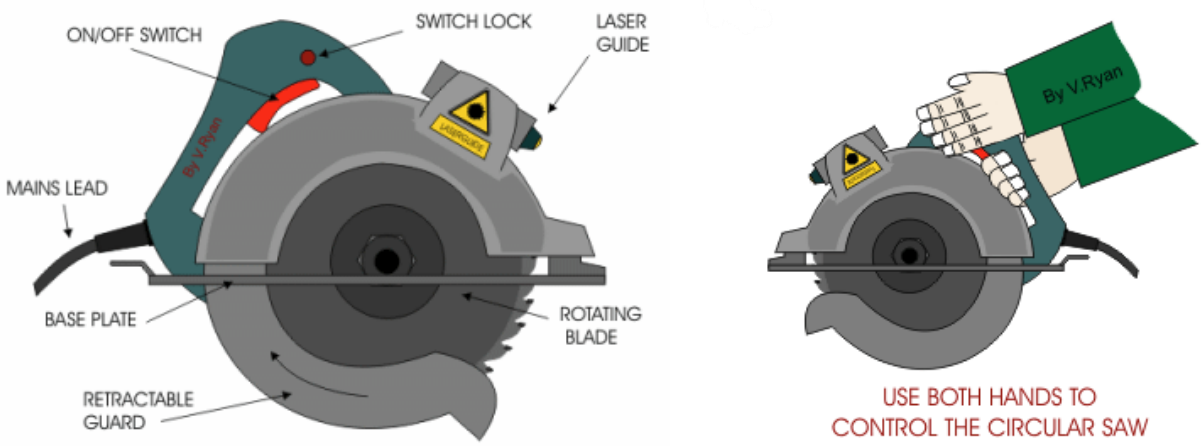
1. Partially assembled or partially disassembled with loose or unstable remaining part;
2. Near unprotected edges of buildings, scaffolding or planking;
3. On the work platform at the entrances, passages or scaffolding, unless it is defined otherwise in the project documentation or manuals.

CANOPY

Canopy over the entrance, corridors and entrances ensure protection of employees from the injuries of falling object and materials.

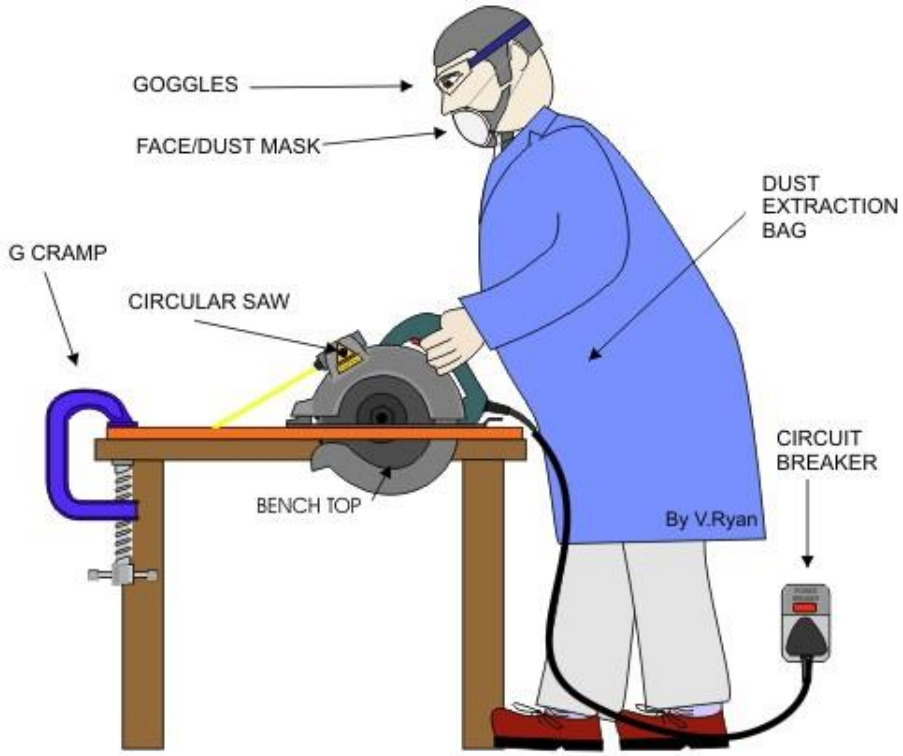
HAND TOOLS

Hand-held electric tools (chainsaw, electric saw with a guard-hand circular), can be used only by professionally trained workers who own a certificate.



Saw with Guard-hand circular

List of the names of employees trained for safe work must be signed by the manager, certified and posted in a prominent place near the machine.



Circular saw

Circular saws must be placed under the canopy for protection from the weather. Only trained carpenters with appropriate certificate who are over 18 years old can work on the circular saw.

Aluminum and locksmith works

Locksmith works on the site can be divided into the works carried out in the workshop and on-site works. Hazards during locksmith works are various cuts caused by sharp objects or tools and equipment, trapping body parts during assembly and falls from height, electric shock (direct contact with parts under voltage, unprotected or damaged cables, bad switches, and other elements, if tools under voltage are not covered and when the hedge is removed or damaged.

Welding works

Electric welding works in many cases are taking place in the open area, with locksmiths and welders exposed to weather influences (rain, wind, drafts, low or high temperature, etc.). Areas in which movement is limited require special security measures. The hazard of welding in limited spaces occur as a result of difficulty of entry and exit, and poor ventilation.
Security measures must be taken to protect the welders, the use of prescribed personal protective equipment, removal of all flammable items from the welding places, necessary requirements to prevent fire. Employees working in the welding places shall meet the specific requirements and must be trained and qualified to work in a safe manner.

Safety valves and switches must be placed outside the limited space.
Before working with the hand grinder, examination of the hand grinder must be carried out, the tightness of grinding wheels should be checked. Only the grinding wheels whose characteristics

(speed of rotation and purpose) correspond to the characteristics of the workpiece and grinding should be used.

Steel construction

Steel construction of the fence of the staircase, balconies and other outdoor objects and air condition will be prepared in a workshop, and the installation will be done according the technology of the Contractor, and according to the safety measures for working with prefabricated elements and work at height. Corrosion protection is going to be applied as well as the final coat paint for metal. Appropriate hand tools, electric powered equipment, and welding equipment will be used. The Contractor will provide appropriate conditions to protect the employees and other persons on site.

Ceramic works

The employees who work on floor coverings and wall tiles use the manual and electric tools for cutting and drilling, must use personal protective equipment to use these tools, protective masks, goggles and gloves.

Ground setting works

Employees who work on floor coverings must use personal protective equipment: a protective mask, goggles and gloves. In the phase of flooring, it is necessary to provide the proper conditions of storage and use of flammable adhesives and coatings, good ventilation of the spaces where the work is performed, for protection from high concentrations of vapor explosion, and appropriate personal protection for employees.

Dry wall work

Dust generated during construction works will be promptly removed and the respiratory protection staff will provide appropriate personal equipment.

Painting works

Painting works including painting the ceiling and walls using water based paint and dispersive paint. Works are carried out by standard methods of coating by brush or roller. For work in the rooms of standard heights, there must provide proper ladder. For work in the rooms of greater heights a proper working platform must be installed.

Plumbing works

Setting the roof of galvanized aluminum sheet will be performed on the roof surface and partly on scaffolds, and to transport the material, cranes and other equipment will be used.
The downpipes, roof and other sheet metals will be installed with the workshop operations, the implementation of security measures according the defined technology of the contractor.
Installation will be done mainly using the scaffold, and the employees must use the appropriate equipment for work at height.

Facade work

Facade work includes setting up the facade by traditional technology with predominant use of manual labor, granite tiles, plastering silicone-silicate coatings.
Work must be performed from scaffolds, and transport of the material by cranes and other equipment. Cleaning process will be performed continuously, at the end of each work operation. Availability of cleaning machines will be provided by working platforms, ladders and tools, using all necessary measures to ensure the safety of employees in all phases of the work.

Electrical works

Electrical installations at the site may be executed only by the professionals, aware of the hazards that can occur during these works.
Based on documents obtained from the electrical distribution company registry for underground installations, before any work is started, the identification of underground utilities is carried out. All the places are marked with warning tape.
On the distance of not more than 10 m the transverse excavation is made depending on the direction of cables placed to determine the exact position and depth of the deposited lines.
Protective measures against hazardous effects of electric currents in electrical installations and equipment installation, ensure that the installation of materials and equipment is in accordance with the standards which define the scope of protection (the presence of water, the ambient temperature, the absence of foreign solids, corrosive material, method of use, etc.).

Electrical installations on this site are performed and divided into:

1. Electrical installations for machinery and equipment.
2. Electrical installations for lighting.

The installations are constantly controlled and the examination issued by the authorized institution must be carried out.
In all places where it is necessary according to the law, there must be a lightning conductor (applies to all machines that are fixed to the crane tracks or stands).
Distribution box should be locked and the key is in the room of the person who is responsible for the installations on site. All cubicles are protected by canopy -protection from the weather.

Mechanical installations of the elevator

Before beginning the installation elements the following risks of safety must be removed:

- Hazard during the installation of rails for the elevator shaft, hazards when installing the elevator cabin, hazard when installing the door of the elevator shaft, hazards when installing the operating equipment;
- Hazard caused by an unsafe access to the pit of the elevator shaft, hazard of falling from the roof of the elevator cabin.

Works on landscaping

Horticulture works include delivery of new trees and low height vegetation, planting and insurance for the works to be carried out by experts under the rules and safety measures at work.

9. Definitions of Health and Safety Procedures

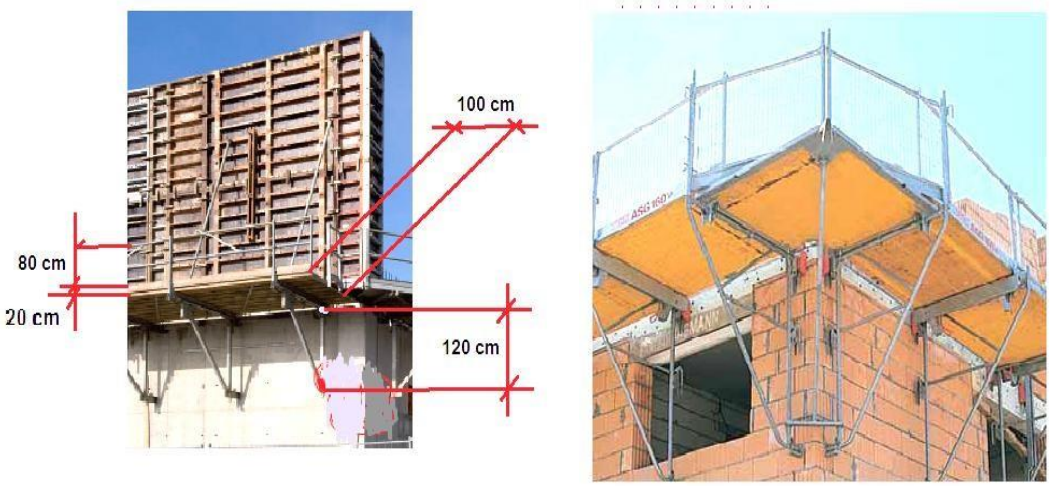
Herein we define such a measure of safety and health at work that guarantee the correct awareness of employees and adequate coordination of work within the Building in order to avoid any possible threat to the relevant activities and defining the measures that guarantee the safety and health of employees and third parties.
Measures for eliminating, reducing or preventing risks on construction site. Employees on this site work at heights, for which the employee must possess special health, mental and physical abilities.

Work or work operations, shall be limited to:

1. Work at height;
2. Works where there is a risk of falling objects on workers;

3. Works on vertical and horizontal transport of building materials equipment.

Since this is a very hazardous work at height, special preventive measures for working at height with an emphasis on scaffolding and fencing are given:



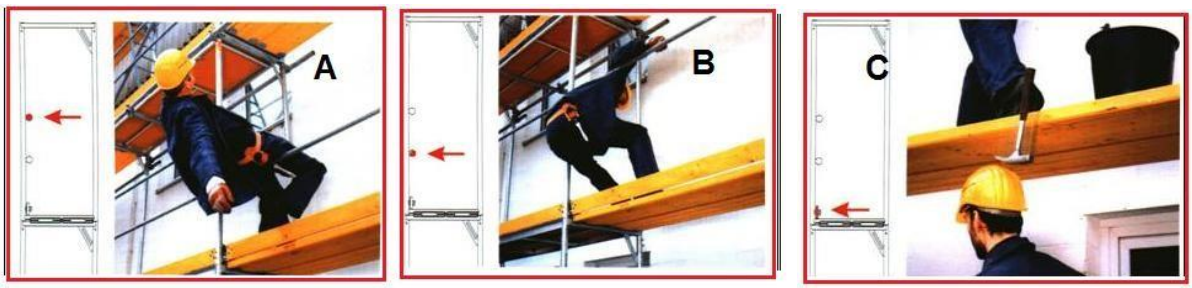
Protective fences for carpentry works

Security measures provided by scaffolds

The scaffold must be performed in the following way:

- Security fence height must be at least 110 cm;
- Space between elements must not be greater than 35 cm;
- The bottom guardrails edge protection must be at least 20 cm;
- Elements of the floor must fulfill the space between the bearing elements;
- Distance from the scaffold floor and the wall of the building shall not be bigger than 20 cm;
- The width of the floor scaffolding must not be less than 80 cm;
- The scaffolding on each floor must provide safe access and descent.

Fixing the scaffold to the building (construction, superstructure)



Cases of improper use of scaffolding:

A. No upper (thoracic) part of guardrails;
B. No knee high guardrails;
C. No edge protection boards.

The construction works on the building, must have scaffolding. It is important to emphasize that these scaffolds can be used strictly according to the manufacturer's instructions.

Labor inspectors recorded a number of deaths due to improper use of such scaffolding or its overload.

10. Site Rules and Regulations

INSO provides and applies the following safety precautions in order to prevent hazards that can occur during the construction and works on the site:

1. Site boundaries are provided in relation to the environment and neighbors;
2. Construction site must have a construction site fence;
3. Around the construction site a wire fence must be set up , or the firm fence of the height of 1.80m with a gate width of 4.00m for the transport of motor vehicles and special doors for workers width of 1.00m;
4. Personal security is provided by the security services;
5. Internal roads properly maintained;
6. Providing the connection vehicle traffic with the main road. Plant managers have to comply with regulations on traffic safety, ie. set up appropriate traffic signs, in cooperation with the approval of the Ministry of Capital Investments;
7. Storage places provided for construction materials;
8. Material, is transported to the place of work in the following areas:
    - Sand and gravel are stored in the place of building;
    - Water supplies are stored in the warehouse;
    - Cement shall be stored in the warehouse to maximum height of 1.50 m;
    - Concrete blocks, bricks are stored at the construction site at the determined place;
    - The reinforcement elements on the determined space;
    - The required materials are stored on the storage space.
9. Transporting, loading and depositing various types of construction materials and heavy objects on this site;

10. Vehicles heavily burdened within the allowed registered capacity. Loading and unloading is performed under the supervision of the driver. For the transport of bulk materials, pay attention to properly and equally load distribution. Crates on trucks are simultaneously opened by two workers. In public transport vehicles shall move according to the regulations on traffic safety;
11. Identify the places with harmful gases, dust, or where fire may occur;
12. In the workplace where dust occurs, use the water, when working with cement use respirator. Where the fire may occur, set fire extinguisher and equipment;
13. Chart of site is provided for installation of electrical equipment and lighting installation in some places on the site;
14. Storage of units and systems in some places is defined by chart;
15. Machines are parked in warehouse after use;
16. Provide all types and quantities of required personal protective equipment for the identified hazardous work positions;
17. Identify the Hazardous work positions in the Rulebook on Occupational Safety and Risk Assessment;
18. All work positions are subject to periodic review once a year, if necessary, several times;
19. Personal protective equipment at the construction site will be provided according to the Regulations;
20. Measures and means of fire protection are provided on the site;
21. All workers on the site are obliged to respect the rules against fire. Fire extinguisher shall be placed in warehouse. Types of fire extinguishers and equipment (S6 and S9 dry powder), box of sand, water barrel, hook, pick and shovel. Fire extinguishers shall be clearly marked ,accessible at all times in the event of fast intervention;
22. Sanitary facilities at the site are designed in the chart of site;
23. Wardrobes and toilet will be arranged on the site. Maintaining hygiene on the site is provided by personnel on the site;
24. First aid is being executed by the employees who have completed a course in first aid. There is a box of medical supplies for first aid located on the site;
25. In case of injuries, the person for safety and health at work shall be advised, to fulfill necessary documents for accident at work.

The list of the following telephone numbers should be on prominent place:

- The nearest health care center;
- Police Station;
- Fire brigade;
- People for Safety and Health at Work;
- Inspection of work.

For Sint Maarten the list of Emergency Numbers is the follow

EMERGENCY NUMBERS SINT MAARTEN

St. Maarten Medical Center	910 or +1 (721)543 1111
Police Department	911 or +1 (721)542 2222
Ambulance Services	912 or +1 (721) 542 2111
AIR AMBULANCE (Melmik Aviation)	+1 (721)545 744
AIR AMBULANCE (JetBudget 24/24)	+1 (721)545 4506
Coast Guard	913
Fire / Disaster Department	919
Fire Department (Airport)	+1 (721)545 4222
GEBE Hotline	+1 (721) 544 3100

26. Other necessary measures to protect persons at work:

Before starting works, the positions of all underground utilities must be identified and appropriate measures should be taken to avoid damages.

11. First Aid Management – Organization of First Aid on the Site, Rescue and Evacuation in Case Of Emergency

Organization of first aid and transport to the nearest medical institution - are provided by the main contractor.

Workers must be trained and instructed on the measure to eliminate, reduce and prevent risk of use of explosive (unloading, storage, loading, transportation, disposal on site and use of explosive) as well as measures for their removal.

Workers must be trained and instructed on the measure to eliminate, reduce or prevent risk during prefabricated construction, handling, storage installation, raising elements setting in projected position and insurance against overturning or falling in the raised

Measure to protect workers from transport vehicles (trucks) and measures to maintain smooth the traffic internally to the work site (public and/or private road does not permit to pass through the site) has to be put in place. Internal road must be draw and highlighted in the site plan and the maximum speed limit must be maintained within 5 km/h and all employees are required to wear high visibility vests (markers).

Special measures must be taken for some common personal physical hazards like:

- Struck by falling objects
- Eyes endangered by sharp objects, particles, chemicals
- Skin damaged by sharp objects, chemicals
- Limbs or body crushed by heavy objects
- Struck by moving plant and equipment
- Hearing damaged by excessive noise
- Respiration impaired by poor air supply, particles, chemicals
- Physical damage caused by heat, cold, weather
- Physical damage caused by falls, trips, slips

It is safer and in most cases cheaper to eliminate hazards rather than to provide personal protective equipment.
Where adequate protection against the risk of accident or injury to health, including exposure to adverse conditions, cannot be ensured by other means, suitable personal protective equipment and protective clothing, having regard to the type of work and risks, should be provided and maintained by the employer, without cost to the workers, as may be prescribed by national laws or regulations.

Personal protective equipment and protective clothing should comply with standards set by the competent authority, taking into account, as far as possible, ergonomic principles.
Employers should provide the workers with the appropriate means to enable them to use the individual protective equipment and should require and ensure its proper use.
A competent person having a full understanding of the nature of the hazard and the type, range and performance of the protection required should:

- select suitable items of personal protective equipment and protective clothing;
- arrange that they are properly stored, maintained, cleaned and, if necessary for health reasons, disinfected or sterilized at suitable intervals.

Workers should be required to make proper use of and to take good care of the personal protective equipment and protective clothing provided for their use.
Workers should be instructed in the use of personal protective equipment and protective clothing.
Workers working alone on construction sites in confined spaces, enclosed premises or in remote or inaccessible places should be provided with an appropriate alarm and the means of rapidly summoning assistance in an emergency.
Where necessary, workers should be provided with and wear the following personal protective equipment and protective clothing:
Safety helmets or hard hats to protect the head from injury due to falling or flying objects, or due to striking against objects or structures
Falling objects, overhead loads and sharp projections are to be found everywhere on construction sites. A small tool or bolt falling from 10 or 20m high can cause serious injuries or even death if it strikes an unprotected head.
Head injuries often occur when moving and working in a bent position, or when arising from such a position.
Safety helmets protect the head effectively against most of these hazards, and should be worn whenever a person is on site and particularly when in an area where overhead work is going on.
These areas, known as “hard-hat areas”, should be clearly marked with safety signs at entrances and other suitable places.
The rule applies to all: managers, supervisors, workers and visitors.

The main personal protective clothing & equipment (PPE) are:

a) Helmets for head protection
b) Eyes glass protection and face protection
c) Gloves for hands protection
d) Hear protection, earmuffs or hear plugs to protect hears for continuous noise higher that 85-90 decibels
e) Special boots and shoes for feet protection to avoid penetration and/or crush due for falling material
f) waterproof clothing during storms and light clothing
g) Jacket with reflective tape to be visible
h) respiratory musk to protect against smoke, pollution and dust
i) harness and its lanyard to limit the fall

12. Environmental Management

12.1 Work Environment

The analysis of the compliance of work environments to environmental and safety requirements is respectively contained in the documents entitled “Initial environmental analyses” and “Risk evaluation documents”. For mobile job site this analysis is also carried out during the job planning stage and is contained in the document “Quality and job management plan”.
The managers appointed by the employer, ensure that the conditions of the work environment where the various company activities are performed: comply with current, applicable legislative requirements.

12.2 Main environmental problems on the job site

The aim of this present instruction is that of describing the tasks and procedures which detects environmental aspects correlated to the carrying out of its activities, that can be held under control and on which the company has an influence, with the scope of determining aspects that can have significant impacts on the environment.
The HSE manager identifies the significant aspects related to the environmental impact resulting from the company’s operations, quantifies the measurable data and evaluates conformance with legal norms and eventual voluntary agreements. In particular, he/she refers to the process entitled “Planning of the integrated management system” and the instructions “Planning and programming environmental aspects”. The identification of significant aspects may also originate from recommendations made by various department heads.

The HSE manager identifies the environmental aspects of activities and services that influence or may influence the environment.
For this reason The HSE manager breaks down the processes into elementary steps and analyzes the real or potential effects (during normal operations, under reasonably predictable anomalous circumstances or in the event of an emergency).

The environmental impacts are considered to be significant if they exceed a previously established point threshold established in the procedures, which take various aspects into consideration including:

- Risk factors, intended as a product of the frequency of occurrence and the gravity of the event;
- The existence of a specific norm;
- The interest of third parties.

The instructions entitled “Planning and programming environmental aspects” defines the methods for quantifying environmental aspects, distinguishing them into significant, fairly significant and insignificant aspects.
The significant aspects are subject to specific improvement goals to be reached within an established timeframe.
The environmental impacts, classified as significant, somewhat significant and insignificant are listed in the special Environmental Impact Evaluation Register.

The environmental aspects are generally reviewed and updated on an annual basis by the HSE manager or in response to events or situations that make such changes necessary, such as:

- Legislative modifications;

- Variations of the activities performed and the introduction of new ones;
- Audit results;
- The installation of new or modified plants or machinery.

The documentation is managed and filed by the HSE manager. The product registration documents are managed in accordance with the methods and responsibilities indicated in the aforementioned instructions.

12.3 Main activities and assessment of the possible environmental impact

Definition of observation methods and valuation: - Analysis of the environmental aspects.

The HSE manager proceeds to an initial analysis of environmental problems inherent to activities, with the aim of:

- Supplying a base for the organization of an Environmental Management System according to regulation ISO 14001
- Verify the presence of authorization;
- Verify the suitability of the premises with particular reference to the accordant laws on security and fire prevention as well as installation.
- Acquire useful elements and detect relevant environmental aspects connected to the company's activities.
- Study the relation between relevant environmental aspects and technical organization and the way the company carries out its activities.
- Collect used information and individualize areas of environmental work improvement.
- Individuate regulations and environments applicable to the work done for the relative verification of accordance;
- Constitute an objective point of departure to point out subsequent improvements.

The activities are considered in a normal exercise context as well as in emergency conditions; for each phase/activity done by the company, the HSE manager carries out a qualitative and quantitative valuation of the following environmental aspects:

- Use of energetic resources and raw materials, as defined in the "Introduction" of the present instruction;
- Atmospheric emissions;
- Water drainers;
- Dangerous substances and dust;
- Waste products;
- Land and underground contamination;
- Acoustic emissions and vibrations;
- Visual impact;
- Temporary deterioration of landscape;
- Temporary inconvenience to things and people.

Analysis of company activities:

- Analysis and valuation of environmental aspects based on the initial environmental self-valuation emphasized, the HSE manager carries out a valuation on the level of significance of each environmental aspect and formalizes this in the “Environmental Impacts Valuation Register”.
- In the register, the Index of Priority IPR Risk is calculated by the product of 3 factors (G, P and R) that indicate the gravity', the probability of occurrence and the detection of environmental impacts associated to environmental aspects.

12.4 Instructions to manage waste

Description of aspects and instructions related to managing waste (kind of wastes and estimated critical details of the situation, the place for the temporary storage and disposal of waste).

For the Operating Procedures for Responsibility is the HSE manager responsible to sign the waste loading and unloading registers.
For the construction sites:

- On starting the work order and/or when subsequently necessary, distribute to PM/PE, if requested by them, the signed registers, making sure that they are signed for on receiving “*Delivery of loading and unloading registers*” ;
- Update the list “*General summary of waste loading and unloading registers*”;
- If necessary teach the workers about waste collection and transfer work and register the training on the normal running form;
- Check every three months, with whoever is in charge of registers, that the loading registers at the sites are correctly filled in.

12.5 Storage of hazardous materials

Hazardous and combustible materials used on the sites: technical gases (acetylene and oxygen) oil and motor oil.
For storage of cryogenic gases a separate warehouse from Incombustible materials with a lightweight noncombustible roof will be built. Full and empty bottles must be separated in the warehouse.
Oil for the machines will be placed inside a reservoir. Oil is stored in barrels in a small volume. Oil and colors do not need to be stored together.
The area around the reservoir will be protected by wire, with a warning sign against approaching with the open flames.

The storage of hazardous, explosive and inflammable materials

The combustible materials used on this site will be oil, paint, and paint thinners. Paint may be temporarily stored in special separate containers in smaller quantities. The space must be marked with a warning sign - danger of fire.
The room and space prohibited for smoking, open fire, use of damaged electrical installations, etc. The room must have adequate ventilation. Fire extinguishers must be placed at the entrance. The roof of the container should not be of light material.

Site facilities such as ablution blocks (toilets etc.), and offices have the potential to generate nonconstruction related traffic movements, dust, litter etc. which may result in adverse environmental effects. Requirements for site facilities are as follows:

- Waste bins for the collection of non-construction related wastes shall be covered to minimize windblown debris.
- Site facilities should be located inside of the construction storage area.
- Sanitary wastes will be collected and disposed of offsite in an appropriate manner. If retention tanks are to be used, these shall be cleaned out regularly to prevent overflows. Portable units shall be protected from traffic movement.
- A general disposal area for site waste is located in the site plan and regularly disposed in compliance with the local laws.
- All hazardous substances will be stored, used and disposed of in a manner appropriate to their Hazardous Goods Classification. All hazardous substances will be locked away during night time and public holidays to deter theft and vandalism.
- Non-compliant materials will be stored in an adequate area, to prevent their improper use.

12.6 Spillage of waste fluid

Source of risk to human health and the environment is damaging packaging and oil leakage during transport, unloading / loading, receiving, storage and preparation for treatment. Possible accident is local. In case of an accident it is advised to spread dry absorbent material that can be:

- The spongy synthetic substances;
- Of wood shavings;
- Of natural mineral porous material (sand, zeolite, tuffs, etc..).

Hazardous waste obtained in this manner shall be forwarded to an accredited laboratory for analysis to determine its composition. Based on the received report dangerous waste is properly packed, labeled and delivered to the authorized operator.

Types of waste are:

- 01 waste hydraulic oils;
- 13 02 motor oils, gear oils and lubricants; - others.

12.7 Noise and pollution

The noise causes fatigue, reduced work capacity, and concentration, depending on the level and frequency, can cause permanent hearing damage.

During the set up phase of the construction site, if the assessment of the noise aspect brings up particular criticality, the following types of passive noise mitigation interventions could be considered corrective actions (with passive interventions):

- For permanent construction sites: positioning sound barriers (for example New Jersey type sounds barriers) along the construction site fencing on the side where the buildings are, moving excavated earth so as to create sound barrier dunes that protect the buildings (both the barriers and the dunes should be high enough) and long enough to shield the source from the sensing receptor present in the area;
- Mobile construction sites: fencing on the side facing the buildings which are near to the site in PVC Phono isolating layers (superficial density of 4/5 kg/sm and the height is variable from 2 to 4 m);

- For specific jobs (for example drilling with an auger): positioning modular, mobile and self-standing sound barriers (for example New Jersey type sound barriers plus panels) near the source of the noise at a distance that is nevertheless able to allow the vehicles to manoeuvre and access the work area. The barrier must be at a variable height of 2 to 4 m and a length that is able to shield the source of the noise sensor receptors present in the area.

12.8 Contamination of water and soil

Contamination of soil and water

Waste water can occur as:

- Atmospheric water;
- Sanitary water;
- Process waste water.

Atmospheric water

From the roofs goes into system of gutters and channels in the protective rain drains. It does not come into contact with the materials in the process. For the purpose of purification of waste waters from atmospheric manipulative space, built-in multi-stage separator is discharged into the sewer. Sanitary water generated from daily activities of the plant are taken to the sewage network.

Process waste water

Waste oil treatment in order to obtain a product by process of decantation, oil phase is separated for further treatment. Waste water is discharged into the sewage system after the treatment through the oil separator.

Appendix 4:
The INSO Site Preparation Environment Management Plan

PROJECT: NEW SINT MAARTEN GENERAL HOSPITAL PROJECT CODE: 126194

S I N T M A A R T E N G E N E R A L H O S P I T A L

Site Preparation Environment Management Plan Rev. 00

CONSTRUCTION PHASES (3 months Site Preparation)

EMPLOYER:

SINT MAARTEN MEDICAL CENTER

KPMG ADVISORY SERVICES

ROYAL HASKONING DHV