Enhancing Community Resilience and Local Governance Project

IOM UN MIGRATION

SOUTH SUDAN ENHANCING COMMUNITY RESILIENCE AND LOCAL GOVERNANCE PROJECT (ECRP)

ECRP IOM Project Health and Safety Management Plan

March 2021

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1. Introduction

1.1. Introduction and scope of the Project HS Management Plan

ECRP endeavors, in all its projects and operations, to prevent personal injuries, ill health and damage to property.

This Project Health and Safety (H&S) Management Plan (hereafter "the Plan") has been designed to assist the management of activities and support a risk-based approach to preventing dangerous acts that could lead to injuries or illnesses or serious incidents in the workplace and damage or loss of assets.

This Plan has also been designed to support construction of single storey community infrastructure buildings including health, education and recreational facilities in 10 counties of South Sudan.

During the project implementation phase, the following construction activities are anticipated:

1. Site mobilization
2. Site and bush clearing
1. Excavation works
2. Structural works (shuttering, steel, and concrete works)
3. Roof works (work at heights)
4. Mechanical work
5. Electrical work (hot works)
6. Plumbing works
7. Movement of construction equipment/trucks on project site
8. Decommissioning and facility handover

This Plan is a live document that will be reviewed on a regular basis and updated if necessary.

1.2. Project description and key dates

Table 1 - Project Details

Project Title	South Sudan Enhancing Community Resilience and Local Governance project
Project Location	Multiple (Wau, Raja, Pariang, Rubkona, Leer, Baliet, Fashoda, Renk and Maban Counties, and Pibor Administrative Area)
Project Duration	Ending July 2023

2. Main compliance requirements

Main health and safety legislation and other relevant compliance requirements in South Sudan are described in the South Sudan legal register using Form HSE03.

A copy of the legal register is available in the Annex. ECRP Project Manager will review these laws and regulations every 12 months to make sure that there are no changes which may affect this plan.

3. Operational planning

3.1. Risk assessment for critical tasks

A staged approach to project/site hazard identification and risk control is a requirement of this plan. Hazard identification and subsequent risk assessment must be carried out for safety critical tasks throughout the life of the project (up to defects notification period, if part of the contract).

The Contractor receives a schedule of key risks/hazards identified during design (form HS07, Schedule of Key Tasks, can be used for this purpose). These tasks should be carefully considered during the development of detailed Risk Assessments.

3.2. Hazard identification and activities risk assessment

The Contractor must developed Risk Assessments using Form HS05 / another form that was accepted by IOM as adequate that are reviewed by the IOM ECRP Project Engineer and accepted prior to works commencing. The IOM Project Manager ensures that the risk assessments developed by the Contractor(s) are aligned with the requirements of Form HS05, including as a minimum:

- Contractor(s) has identified critical hazards within the assessed activity;
- Hazards have been prioritized by their magnitude (high, medium or low);
- Adequate control/mitigation measures have been documented for each hazard;
- Both routine and non-routine conditions and special conditions have been taken into account.

The requirement to produce Risk Assessments applies to safety-critical activities performed by sub-contractors as well.

The workforce shall be briefed on the contents of appropriate Risk Assessment(s) prior to works commencing.

The Risk Assessment(s) will be amended as necessary to ensure that the works progress in a safe manner.

All IOM personnel have the authority to stop any activity that has the potential to cause injury or damage property until such times as the works are managed in a safe manner.

3.3. Management of contractors and sub-contractors

The Contractor will receive during the tender phase key documentation outlining the requirements of ECRP IOM Health and Safety Management Plan. It is expected that the Contractor and any sub-contractors align with ECRP standards.

Procedures for selection and management of sub-contractors will be discussed during the Progress/HS Management Meetings; the following criteria will be addressed:

- It is expected that the sub-contractors appointed by the main Contractor(s) will fully comply with the ECRP IOM Health and Safety Management Plan.
- Contractors and subcontractor(s) to inform the IOM Project Manager or most senior representatives on the project if any planned activity entails an unforeseen risk to health and safety.
- Contractor should ensure that all sub-contractor's personnel have received proper induction and awareness arising as necessary on health and safety management practices, and are aware of relevant site rules.
- It is the Contractor(s) responsibility to keep the health and safety records of their subcontractors or partners in a joint venture, and to keep those records available for IOM inspection at any time.
- The Contractor must submit for approval from the IOM Project Manager an Emergency Preparedness and Response plan, and Waste Management Plan
- Contractor will prepare a detailed construction Environmental and Social Management Plan ESMP (C-ESMP) that is costed, with sufficient budget to mitigate E&S risks
- Contractor shall have a Labor Management Plan (LMP), which conforms to the requirements of the LMP and Environmental Social Standards 2. ESS2
- Contractor will include environmental and social requirements in the procurement and contracting process including bidding documents, for potential civil works. Relevant requirements are included in contracts and subcontracts consistent with the requirements of Environment and Social Standards (ESSs);
- Contractor's commitment and compliance will be monitored in accordance to ESSs
- Contractor will be trained by ECRP on grievance redress mechanisms and their subcontractors are expected to do the same to the affected communities and other stakeholders. The Contractor must set up and maintain a functional grievance redress mechanism (GRM) at all subproject locations. This includes identifying a reliable person from the community for GRM, installation of suggestion boxes at subproject sites, training of community members on channels for reporting project related grievances, and ensuring queries from project beneficiaries are responded to within a timely manner.

4. Health and safety management at project sites

4.1. Management of hazardous materials

Occupational diseases may occur as a result of exposure to hazardous substances in the form of inhaled particulates, ingested materials or skin contact with substances. Such possibilities have been identified in the Risk Assessment(s) and appropriate controls put in place.

Hazardous materials/chemicals used at the site shall have Material Safety Data Sheets (MSDS). The MSDS are obtained from the manufacturer/supplier of the materials and should be requested with each purchase of products.

This information will be made available to any employee or subcontractor or visitor who may interact with the materials/chemical substances on site.

The main types of hazardous materials that have been identified are:

Table 2 - Hazardous Materials

Hazardous material	Risk rating	Control method	Responsible person
Termiticide	Medium	Use of less poisonous chemicals, proper storage and handling of chemicals, proper disposal of used tins and cans, Chemical application will only be handled by a trained chemical technician, use of PPE. Follow Instructions stated in the Material safety Data sheet.	Contractor
Solvents (Paints, adhesive materials)	Medium	Substitution of lead based paints with paints without lead content, proper disposal of used tins and cans, proper storage and handling of solvents, Follow Instructions stated in the Material safety Data sheet. Use of PPE	Contractor
Oil contaminated waste: oily rags	Medium	Proper storage and handling of Oil contaminated waste, Oil contaminated waste should be stored at designated waste containers, Use of PPE when handling Oil contaminated waste	Contractor
Oil waste: used oil, recovered oil from accidental pillages	Medium	Proper storage and handling of Oil, Oil materials should be handled by trained personnel, No disposal of oils waste into the environment, restriction of access to oil storage areas, Use of PPE when handling Oil waste	Contractor

4.2. Access and site security

ECRP Engineers will ensure that the Contractor(s) have put in place all measures to establish the site according to ECRP guidance (GHS12 – Site Establishment).

It is the Site Engineer's responsibility to ensure that all site security requirements identified in the Risk Assessment for this activity are fully implemented.

4.3. Site Induction briefings

Site inductions will be carried out by the contractor. Arrangements for site inductions for this project shall be:

- A Site Induction briefing for personnel working on the site has been developed in English as GHS01 – Site Rules
- Any new worker coming to the work site will be briefed on the site safety rules including the site logistics plan, hazards, evacuation procedures, emergency and first aid procedures, and the duties and responsibilities of all persons on site.
- Visitors will be given a brief site induction (based on an either oral or written Visitor's induction) and will be accompanied at all times during their visit to the site.
- IOM ECRP personnel at Site should ensure that workers carrying out safety critical tasks have the necessary induction, and/or on the job training for the tasks they carry out.

4.4. Site inspections

IOM plans to implement weekly health and safety inspections as part of this project. Contractor(s) will undertake weekly inspections of the whole work site using form HSE05 and/or the Contractor(s) forms where approved by IOM.

When carrying out the site weekly inspection, all aspects contained in the Health, Safety, Social and Environmental inspection site report (form HSE05 or equivalent) should be reviewed and Form HSE05 should be used to record the findings. IOM personnel at site will be responsible for the assurance of these inspections, as well as for ensuring findings and recommendations are closed out in a timely manner.

4.5. Site induction and HS awareness

Induction and awareness activities have been planned and consideration given to ensuring that personnel doing H&S critical activities are covered, at the beginning of the project and on a regular basis as needed.

4.6. Emergency and evacuation procedures

As a minimum, the Emergency Plan and procedures shall include:

- emergency contact numbers available on notice and information boards over the project work areas and site offices

- emergency procedures, incorporated in the project site inductions briefing
- evacuation plan

It is highly recommended to test emergency and evacuation procedures through appropriate drills.

Emergency procedures should be periodically reviewed to ensure continued relevance.

The emergency plan, including emergency contacts list MUST be displayed on site and should be described to all staff during induction briefings. Emergency/evacuation procedures shall be developed and incorporated in the project site induction briefings and displayed on the site notice board.

Project Emergency Contact List shall be prepared and displayed on the site notice board – refer to Form HS03.

5. Communication and information sharing

5.1. Internal communication

Internal communication for the Project will include as a minimum:

- Weekly inspections (using form HSE05, that includes Health and Safety items) will be performed by the Contractor(s) team with assurance from the IOM team; the report will be prepared by IOM Project Engineer and shared with the Contractor(s) for necessary actions.
- Site H&S quarterly report (form HSE12[MS1]); the quarterly report is a summary of the site weekly inspection report findings and corrective action. It is prepared by the IOM Project Engineer to be shared with the Contractor(s) and with IOM ECRP Lead Engineer and IOM ECRP Project Management team.
- Information and guidance signage will be present at site in English, with critical information in local language strongly encouraged.
- The Site Notice Board will be used to convey daily updates and information.
- Collection of data on Fulcrum App by IOM staff.

5.2. External communication

IOM ECRP project staff and contractors are not allowed to speak to journalists, business community, neighbours, local representatives, and any other external parties on project related matters, including queries on health and safety management without the approval of the IOM ECRP Project Manager.

5.3. Consultation with the workforce

Arrangements for consulting and coordinating with the workers at site will be as follows:

- All Contractor's and sub-contractor's employees will be encouraged to raise any suggestions and concerns on health and safety management of the project on an ongoing basis and during meetings, briefings, toolbox talks, etc.

5.4. Accident and incident reporting and investigation

All significant accidents or incidents and high potential near misses shall be reported to IOM Project Engineer to the IOM Lead Engineer to ECRP Project Manager/H&S coordinator using form HSE09 [MS2]within 24 hours of occurrence.

They should be thoroughly investigated and action taken to prevent recurrence. For Class 1 incidents, the outcomes of the review shall be reported to IOM using form HSE10. Lessons learned should be captured using HSE11. IOM will forward the information to ECRP PMU in accordance with the ECRP accident and incident reporting process.

IOM and Contractor's personnel have an obligation to report all incidents and near misses to the ECRP Project Manager/H&S coordinator, and will receive proper induction in this sense.

5.5. H&S risks during operation

To prevent/reduce risks at the use and maintenance phase or during the facility/structure operation, the Contractor will train IOM on the use and maintenance of the facility/structure. IOM will provide the project end user with an operation and maintenance manual, which explains how to operate and maintain the asset in a safe manner.

6. Monitoring and records

6.1. Project files and records

ECRP health and safety management electronic files will form the archived component of the records for this project to facilitate internal and external audit and review. As a minimum they will consist of:

- A copy of South Sudan legal register
- The Project Health and Safety Management Plan with its Annexes
- Weekly HSSE site inspection reports
- Quarterly HS management site reports
- Incidents investigation reports and near misses

6.2. Health and Safety performance monitoring

Health and Safety performance at site will be regularly monitored through:

- Weekly site inspections
- Ad hoc site inspections
- Internal peer review if requested by IOM Office
- External audit review if requested by IOM Office

7. Revisions of the Plan

Table 3 Revisions

Revision date	Name and title	Description of main changes
15/10/2021	Margaret SUEN	Drafting and customizing the HSSE Plan for ECRP IOM use Approved by PMU 27/10/2021

8. Table of references to Templates and Guidance documents

Table 4 References

TOPICS	TEMPLATES	GUIDANCE
Legal review	HSE03 Legal register	
Risk Assessment	HS05 Risk Assessment HS07 Schedule of Key Tasks	
Site induction and training		GHS01 General Site Rules GHS02 Lifting Operations GHS03 Electrical Isolations GHS04 Excavation GHS05 Fire Safety GHS06 Noise GHS07 Scaffold GHS09 Working at Heights GHS15 Site Rules Poster
Site weekly inspections	HSE05 HSE inspection report – site	GHS07 Scaffold
Management of contractors and sub-contractors		See Section 3.3 above

Emergency and evacuation procedures	Site emergency and evacuation plan HS03 Emergency contact numbers	GHS10 Accident response
Accident/incident reporting	HSE09 Incident report form HSE10 Incident review form HSE11 Incident highlight form	
Communication and reporting	HSE12 Quarterly HSE report – site	
Environmental	Construction Environmental and Social Management Plan (C-ESMP)	GEM02 Waste Management & Hazardous Substances GEM03 Protection of Water GEM05 Borrow Pit Management GEM06 Preservation of Historical, Archaeological and Cultural Remains

= IOM responsibility (usual set-up in assurance position)

= Contractor responsibility (usual set-up in assurance position)

Annex Guidance

Annexes

1. GHS01 – General Site Rules
2. GHS02 – Lifting Operations
3. GHS03 – Electrical Isolations
4. GHS04 – Excavation
5. GHS05 – Fire Safety
6. GHS06 – Noise
7. GHS07 – Scaffold
8. GHS09 – Working at Heights
9. GHS10 – Significant Accident or Incident Response
10. GHS12 – Site Establishment
11. GHS15 - Site Rules Poster
12. GEM02 – Waste Management and Hazardous Substances
13. GEM03 – Protection of Water
14. GEM05 – Borrow Pit Management
15. GEM06 –Preservation of Historical, Archaeological and Cultural Remains
16. HS03 - Project Emergency Contact Numbers
17. HS05 - Hazard and Risk Assessment
18. HS07 - Schedule of Key Tasks
19. HS14 – Scaffold Inspection Checklist
20. HSE03 - Legal Register for Health, Safety and Environment
21. HSE05 - Health, Safety, Social & Environmental Inspection Report – Site

GHS01 – General Site Rules

Introduction

- No-one is permitted to carry out work on this site, or enter the site before being inducted and briefed on the H&S Site Rules by the appointed IOM ECRP site representative.

- The H&S Site Rules apply to all personnel employed on site to carry out work; this will include but not be exclusive to: IOM ECRP Staff, Contractor's Personnel, Subcontractors, Suppliers and Visitors.

- In addition to the H&S Site Rules, Contractor and Subcontractor Managers are responsible for briefing their own workforce in their own Risk Assessments and Method Statements regarding Health and Safety for their works. Records of these briefings must be kept and made available on site at all times for inspection by the IOM representative.

- The H&S Sites Rules are there to reinforce good practice in Construction Safety, they do not substitute nor dissolve any individual or Employer of their obligation or responsibility under the relevant laws of governance in the place of the work. Neither do they replace any obligations Contractors are subject to in the relevant Conditions of Contract for the project.

Project Description

- For project description including Donor, Beneficiary and project team details, refer to the project documents.

- For the project emergency arrangements – refer to the project establishment/emergency plan, project emergency/evacuation procedures and site emergency contact (Form HS03).

Health and Safety

1. Purpose

1.1. The purpose of this briefing and the issuing of H&S Site Rules is to help prevent accidents, improve health and safety in the workplace through standard procedures, awareness and education, and actively seek reporting of accidents and near misses to improve future practice and behavior to improve health and safety.

2. Employees Responsibilities

2.1. Under general Health and Safety at Work practices, your responsibilities are to:

- Take reasonable care for the health and safety of yourself and others who may be affected by your acts or omissions at work.

- Co-operate with your employer and IOM Site Management, as far as may be necessary, to enable them to carry out their duties in regard to health and safety matters relating to these rules.

- Not intentionally or recklessly interfere with anything provided for the health, safety and welfare of yourself and others.

3. General

3.1. The following articles are prohibited and must not be brought to site:

- Alcohol
- Non-prescribed drugs
- Animal/Pets
- Children

3.2. Anyone who has a medical condition that may give rise to difficulties for themselves or others on site should report the matter in confidence to IOM staff. Examples would be: heart condition, vertigo, asthma, epilepsy etc.

3.3. All visitors must be directed to the site office prior to entry to site.

3.4. Anyone who acts in an aggressive or offensive manner towards a member of the public or anyone else will be excluded from the site.

3.5. Alcohol and Drugs – ECRP has a policy of zero tolerance in respect of any person carrying out duties or work on this site having consumed. Hence Random screening for alcohol and drugs may be carried out and specific testing may be undertaken on reasonable suspicion or following a work related accident or incident.

3.6. Mobile phones must not be used whilst driving or operating a plant, personnel on foot must ensure that they are in a safe area before taking or making calls, any calls made or received on a mobile phone should be essential calls only, social calls should be made outside the working site and out with working hours.

4. Personal Protective Equipment

4.1. High visibility jacket/vests, safety helmets and safety footwear (incorporating steel toe-caps and mid-sole) must be worn at all times.

4.2. Other P.P.E. must be worn during operations with specific health and safety risks, e.g.

- Safety goggles for protection during all cutting, grinding and drilling operations or where there is risk from impact, dust, chemicals or hot metal.
- Dust masks for protection from dust.
- Ear protection during all operations which produce noise above the level at which you need to raise your voice to be heard.
- Gloves during concreting work.

4.3. Stocks of all necessary PPE should be held on site and be made available by your Employer. It is your Employer's responsibility to provide you with the relevant PPE for your task.

5. Reporting Of Accidents, Incidents And Near Misses

5.1. All accidents must be recorded in the Accident Book, which is held by the IOM Staff

5.2. IOM staff must immediately be informed of "near misses" or any unsafe conditions, including tools, plant and equipment.

5.3. Hazard/Near Miss Reports should be completed on site to record any concerns you may have with any aspect of site operations. IOM staff will assist with this task. Serious or imminent risks should be brought to the attention of a supervisor immediately.

6. Plant

6.1. Vehicles with restricted rear view vision must have a trained and authorized plant and vehicle banksman in attendance when reversing.

6.2. Items of plant such as dumpers, rollers, aerial platforms etc, must only be operated by persons who are trained and competent.

6.3. Under health and safety at work practices, there is a general requirement to be trained to use or carry out adjustments to most power tools e.g. wood working machinery, cartridge tools, cut off saws etc, such operations are required to be authorized by the appropriate site management.

6.4. Plant and vehicle operators must not carry passengers unless the vehicle is specifically designed for that purpose with fixed seating and seat belts. Other personnel must not request a lift, nor travel as a passenger on a site vehicle unless it is designed for that purpose. Failure to comply with these instructions will render all individuals involved liable to disciplinary action and removal from site.

6.5. All site personnel are requested to follow designated pedestrian routes. Do not walk in the vicinity of a mobile plant unless this is directly relevant to the task you have been instructed to carry out, e.g. banksman.

6.6. Plant and vehicle operators must produce a copy of their Driving License (including the endorsements page) prior to driving a vehicle on site.

6.7. Towing of plant and equipment on site must not take place unless the plant or vehicle has been fitted for this purpose. Towing arrangements must be assessed; manufacturers towing information must have been briefed to personnel and site management have approved it.

7. The Golden Safety Rules are supported by Standards which provide the mandatory requirements. including management aspects of work such as planning, competency, documentation and record requirements.

8. Golden Safety Rules

8.1. No work shall be undertaken without implementing these fundamental requirements, which are the foundation for the Safety Rules

8.2. Work will not be conducted without a pre·job risk assessment and a safety discussion appropriate to that level of risk

8.3. Contract will be trained, competent and fit to conduct the activity

8.4. Personal Protection Equipment will be worn as detailed in the risk assessment and minimum site requirements

8.5. All equipment to be utilized is proven to be fit for purpose. Equipment found to be damaged or defective is removed from service

8.6. Rescue and recovery plans and specified equipment, developed from a review of potential emergency scenarios. Is in place before commencement of the activity

8.7. Everyone has an obligation to stop work that is unsafe

Pre-job Checklist:	
Are the following in place?	**Y / N**
• Have you completed a pre-job risk assessment?	
• Is everyone involved in the task trained, competent and fit to conduct the activity?	
• Is appropriate Personal Protective Equipment (PPE) available for the activity?	
• Is all equipment to be utilized fit for the purpose and conditions? If not. has it been removed from service?	
• Have you reviewed the potential emergency situations?	
• Have you put in place appropriate rescue and recovery plans and required equipment before work commences?	
• Have the people involved been informed they are required to stop work if they think it is unsafe?	

9. Hazardous Substances (COSHH- Control of Substances Hazardous to Health)

9.1. It is essential that proper procedures, as laid down by the manufacturers, are used when handling hazardous substances.

9.2. You must be briefed by your Supervisor on the risks from the material and be issued with all necessary PPE required.

9.3. If you are in any doubt seek the advice of your Supervisor.

10. Material/Heavy Load Handling

10.1. Do not sling loads unless you have received proper training as a Slinger/Signaller

10.2. Do not manually handle loads in excess of what you can safely and comfortably handle.

10.3. If there is a requirement to lift a load greater than what you can safely and comfortably handle then consult with your Supervisor to ensure that the necessary assistance is available.

10.4. Do not use any item of lifting equipment unless it has been confirmed that it is properly certified and satisfactory for the task in hand. The use of "unauthorized" slings, chains, shackles etc., is strictly forbidden.

11. Welfare Facilities

11.1. Canteens, toilets and drying rooms are provided by your Employer for your welfare and comfort. Anyone found defacing or abusing these facilities will be liable to be removed from site.

11.2. Care should be taken to ensure that heating appliances are used safely. Items of clothing must not be hung directly above heaters.

11.3. Smoking is not permitted within any construction buildings on site, in the working vehicles and nearby material (particularly flammable) storage.

11.4. Eating and drinking is expressly forbidden in all areas, other than those designated welfare facilities.

12. Housekeeping

12.1. Your workplace must be kept tidy during and after work. Rubbish must be placed in the bins or skips provided and not discarded on the site.

12.2. Site fencing and pedestrian fencing must remain in place. If there is a requirement to open it for access purposes then ensure it is immediately reinstated.

12.3. Ensure that openings such as manholes and gully pots are securely covered at all times. If the cover must be removed temporarily, then physical barriers must be provided around the opening.

13. Further Briefings And Instructions

13.1. There are detailed Risk Assessments, Works Procedures and/or Method Statements for all of the operations involved in this project. Your Employer and Supervisor must give you any necessary briefings and instructions for the operations you take part in prior to a work activity commencing.

14. Access to Site

14.1. No contractor, subcontractor, visitor or any other individual must commence works without notifying the IOM site staff that they are on site and ready to start work. All

personnel must be inducted, signed in and receive this briefing, failure to follow this procedure will render the individual to be removed from site.

15. Emergency Arrangements

15.1. The Site Emergency and Evacuation Information (**Form HS03**) gives details of the locations of key equipment and telephone numbers for the organizations to be contacted in the event of an emergency. The form also gives clear instruction regarding required response during an emergency and evacuation; please make yourself familiar with its contents. Copies are posted on the site notice board.

16. First Aid

16.1. The First Aiders on this site are identified in the **Form HS03**.

17. Workforce Consultation

17.1. This site operates an "Open door" policy which actively encourages employees to raise concerns they may have regarding health, safety or welfare with the site management. Anyone raising such a concern shall receive a fair hearing and be spoken to in a civilized and reasonable manner. Safety issues can be raised with the site team verbally and in writing.

18. Environmental

I. Prevent oil/petrol leaks into the ground - Drip trays to be placed under static plants.

II. All barrels to be stored in areas provided - No barrels or containers containing oil, fuel or chemicals to be left on site unattended.

III. Only nominated and trained personnel shall carry out fueling operations.

IV. Minimize emissions - switch off all plant when not in use.

V. Segregate waste; ensure that they are stored in designated place.

VI. Disposal of waste material by burning on site is **not** permitted, unless permission is obtained from Project Engineer.

VII. Discharge of untreated sewage (including silted water) to the water bodies is not permitted.

VIII. In the event of a spill or other environmental incident or complaint, report it to the site supervisor and IOM representative.

IX. Do not carry out any work outside the site boundaries.

19. Quality

It is essential that work is carried out in line with the contract requirements and the ECRP systems. Therefore, please follow instructions and if work appears to be carried out incorrectly, please inform your supervisor before you go too far and it is covered up. ***If in doubt, please ask!***

FINALLY

If, at any time, you are unsure of the way in which a task should be carried out, or of the safety precautions to be taken, then you should IMMEDIATELY stop work and seek guidance from ECRP staff.

GHS02 – Lifting Operations

1. General

Lifting shall be undertaken by trained and competent personnel only.

Specific site induction and safety rules should include instruction regarding safe site working operations associated with the tower crane if applicable to site.

A specific Hazard and Risk Assessment review (Form HS05) should be carried out with identified hazards relating to an operational tower crane identified and control measures in place.

Lifting Plan shall be prepared for all lifting activities on site using cranes.

2. Mobile Cranes

The following items are for consideration when operating a mobile crane.

- Only trained and or certified operators can operate the mobile crane
- Ensure the planned regular inspections have been carried out.
- Ensure outriggers are used and are on suitable load bearing ground.
- Confirm signals between driver and slinger/dogman.
- Check minimum of 600mm slewing clearance.
- Check for overhead cables, services and structures.
- Ensure load is correctly fixed, balanced and secure.
- Never exceed the SWL
- Slew the load gently to minimize load swing.
- Ensure the vehicle driver is out of the cab before lifting.
- All proposed tandem lifting must be fully planned with a full briefing prior to any operation.
- Never leave a load suspended
- Very few cranes can lift and travel with loads, confirm operation design and ability of the machine prior to any operation to carry.

3. Excavator, forklifts and Hiabs

In some instances excavators, forklifts and Hiabs can be used on site for lifting. Following rules shall apply for such lifts:

- A machine operator is responsible for controlling each lift. If something cannot be lifted safely, then shall not be lifted at all.
- Only machines that are designed for lifting and have the proper lifting attachment fitted for securing and lifting the load shall be used.
- Safe Working Load (SWL) capacity of the equipment shall be never exceeded.
- The SWL should be marked in the cab or on the boom. It should also be found in the instruction handbook that is supplied with the machine in the form of lifting or load charts or tables.
- The lifting chart gives information about the lifting capacity of the machine at different distances from the cab (the lifting radius), different height or depths and whether the lift is parallel to the tracks or across the tracks.
- Machines that are permitted to lift shall be clearly marked.
- Ensure load is correctly fixed, balanced and secure.
- Lifts can be only undertaken following communication with the slinger/signaller and on his signal.
- Weight of the load must be established/estimated prior to lifting.
- Lifting shall be only carried out in areas clear of people.
- Only properly checked lifting equipment (such as chains, strops and shackles) may be used for lifting.
- Good lifting practice is to position the machine to carry out the lift most effectively. Where possible, keep the load:
    - between the tracks;
    - reasonably close to the machine (not at full stretch);
    - low to the ground.
- Keep to level ground and avoid side slopes. If lifting takes place on a slope, position the tracks should be up (or down) the slope (and not sideways).
- If lifting includes travel with a load, the load shall be positioned between the tracks, reasonably close to the cab and not too high off the ground. Travel should be slowly and carefully, ensuring the route is clear of obstructions and personnel at all times.
- The lifting operation shall be stopped at any time if events dictate (such as if someone is walking towards or into the lifting area)

GHS03 – Electrical Isolations

The main dangers to be prevented from electrical work are the risk of electric shock, fire, burns and explosions. Risk of shock can come from voltages in excess of 50V ac and 120V documents. The electrical current is dangerous, not the applied voltage and even a small shock can prove dangerous if received by a person working at height or operating plant and equipment as any loss of control in these situations could lead to more significant accidents.

Procedures and basic operating principles for safely working with electricity are listed below for consideration when identifying and controlling project specific electrical risk.

- Whenever possible work carried out on electrical equipment, plant and wiring systems should be done with power shut off. Where work has to be carried out on live electrical systems with high voltages then only trained, experienced, competent personnel with specific task safety procedures in place should execute the works.

- Local, Government, State or Supply Company electrical supply boards, lines, plant and equipment should not be tampered with. Only the relevant authorized electrical supply authority employees should carry out work in this area.

- To assist in preventing danger, carefully planning the electrical works before it starts is essential. This can be done using a task analysis or method statement and is particularly important when carryout infrequently performed tasks.

- All electrical isolation work should be carried out by an authorized person. This can be complex depending on the specific electrical system and may require numerous isolation actions. Confirmatory voltage detection tests should be carried out on the system to ensure that the system is safe to work on. A “Warning” notice system should be used to ensure the electrical system is not reactivated by other parties while being worked on.

- Voltage detection testing needs to be performed in a safe manner. Make sure there is adequate space, sufficient lighting, secure footing for the worker, the space is clear of explosive gases or vapours, no signs of overheating or fault of the lines and equipment. The use of “homemade” testing equipment (i.e. lamps and neon testers) is forbidden. Testing equipment should be regularly checked.

- All electrical equipment, tools, appliances, boards and leads require regular testing and inspection. An inspection and testing schedule should be compiled for the specific project, recording inspection dates and findings.

As a guide, generally portable hand held tools, extension leads, lighting and RCD’s should be checked by the user daily and formally inspected and tested every 1 to 3 months.

- Electrical distribution

    - Prior to any site occupation, all overhead electrical services should be identified in conjunction with the Services Authority and an assessment made regarding interface/impact of the services on the proposed project works.

  - Treat all overhead cables as live.
  - Consider diverting or isolating overhead services adjacent to the work area (work to be carried out by the Services Authority). No work, office, storage or fabrication areas should be located beneath or adjacent to overhead electrical services or within the vicinity of temporary works like scaffold and carnage.
  - Existing overhead lines may require protection and regular inspection throughout the duration of the works on site. Electrical poles may have an earth mat below which may carry current. Never disturb or damage the earth mats.

- Underground Electrical Services
  - Prior to any site occupation, all underground electrical services should be identified and marked in conjunction with the Services Authority.
  - Permit system must be in place for excavation and digging works to ensure all precautions are taken to ensure safe works.
  - When digging assume all cables are live and if available use cable locators.
  - Make sure exposed cables are protected and supported to protect from damage.
  - When backfilling, ensure that marker tape or tiles are used to identify the cable location

- Temporary electrical installations should be designed, installed, commissioned, tested, maintained and decommissioned by competent persons. All systems will include appropriate earthing and protection.
- Fire can result from overloading, arcing or faulty conditions of electrical plant, equipment and material. Non conducting carbon dioxide or dry powder fire extinguishers should be provided at suitable locations.
- Working with Overhead Electrical Services
  - Overhead systems, installed plant and equipment, fixed lighting, lifts, hoists and alike should be checked before first use, then by the user weekly and formally inspected and tested every 3 months.

Electrical Isolation Checklist	
Are the following in place?	**Y / N**
• Are the people completing the isolations authorized and competent?	
• Have the isolations been clearly identified. tagged and, K practical, secured with an approved locking device?	
• Are the people carrying out the electrical work competent?	
• Has a test for dead been carried out prior to work commencing on the electrical equipment?	
• Is everyone aware that they are required to re-test for dead after any break or change in conditions?	
• Are at least two people in attendance when working close to exposed live conductors?	

Welding Equipment

1. Safety Site Welding

No welding shall be carried out in the site without prior approval from the IOM Project Engineer.

Contractors shall give reasonable notice of their requirements to carry out welding on the site. Contractors shall ensure that any welding operations are screened or carried out in such a way as to prevent flashes from the process which may affect any persons immediately adjacent to the operation.

Welding operations pose great hazards to the workers in the construction sector. To prevent accidents, it is important that work is performed safely by contractors ensuring that equipment is operated correctly and maintained in a safe working order.

Faulty or unsafe welding equipment has the ability to cause harm in various ways and the extent of any damage or injury depends on a wide range of contributing factors including:

- The type of equipment being used.
- Where the equipment is being used e.g. potential hazards tend to be more serious in confined spaces.
- What the nature of the fault with the equipment is.
- Hazards that result from faulty welding equipment may include: Fire and explosion; electrocution; burns; formation of toxic atmospheres; excessive noise (from escaping gases) and Ultra Violet radiation.
- These hazards, if allowed to occur, have the potential to result in serious injuries, property damage or death.

- To prevent accidents from occurring, it is important to plan each job and inspect equipment to identify any faults. Planning each task and inspecting equipment before use, helps prevent accidents.

2. Safe work practices with welding equipment

- Electric Welding Machines
    - Check for signs of obvious damage. Make sure all covers and guards are correctly fitted. Keep equipment away from water and avoid excessive amounts of dust.
    - When gasses such as argon are used, make sure the cylinder is adequately secured to the machine.
    - Cables, plug and couplings Use only the correct type of cable for a specific task. Check all cables regularly for damage to protective sheathing, such as cuts, burns, cracking and excessive wear.
    - Avoid dragging or running cables over sharp edges, rough surfaces and areas where they are likely to be damaged.
    - Check all plugs and couplings for physical damage to insulating materials. Cables need to be adequately supported against their own weight to prevent damage to the plugs.
- Electrode Holders/Torches and Guns
    - Check for any loose metallic screws. Check for any damage to insulation materials such as cracks, burns and signs overheating.
    - Treat electrodes holders, torches and guns with care as rough handling or dropping may result in damage
    - Electrodes should always be removed from the electrode holder when not in use to prevent stray arc strikes and overloading of the welding machine.
- Gas Cylinders/Manifolds
    - Handle cylinders with care. All cylinders must be secured and stored in an upright position. Unsecured cylinders may fall resulting in damage to the cylinder and valves.
    - Trolleys used to transport cylinders should be in good condition and fitted with chains to secure the cylinders.
    - Check cylinders and manifolds for any obvious leaks or signs of damage.
    - Make sure only correct fittings are used on cylinders and manifold outlets.

- Regulators
    - Use a correct regulator for the gas being used for welding. Before regulators are fitted, valves should be opened to remove any dust and stop from entering the regulator. Once regulators have been fitted, open the gas valve slowly to prevent damaging the gauges. Check for any obvious signs of leaks or damage.
- Flashback Arrestors
    - Make sure that flashback arrestors are fitted at all times to both fuel gas and oxygen lines. It is equally important to fit flashback arrestors on both cylinder and manifolds. Flashback arrestors may also be fitted at the hand piece.
- Gas Hoses
    - All hoses should be regularly checked for cuts, burns, worn patches and signs of cracking
    - Gas hoses need to be protected against sharp edges, excessive heat and other physical hazards. Hoses should run in a neat and safe manner, and rise from the floor/deck whenever possible
- Torches/Blow Pipes
    - Check torches/blow pipes for leakage or faulty valves. Check for any signs of damage. Purge both lines prior to lighting to help avoid flashbacks. Light torches should have proper friction lighters.
    - Torches/blow pipes should be disconnected at their quick release fittings when not in use and turned off at the cylinder/manifold during breaks and at the completion of each shift.

Process / Mechanical Isolations
● The sequence of isolation and de-isolation has been planned and the method of removal / restoration of stored energy and/or hazardous materials is risk assessed, and authorized by a competent person
● All isolation/de-isolation steps have been completed by a competent and authorized person
● All isolation points have been clearly identified. proven, tagged and controlled to prevent inadvertent movement
● Prior to breaking containment, a test for hazardous material/stored energy has been performed and risk controls are in place
● A retest for hazardous material/stored energy is performed as defined by the permit conditions
● On unexpected change of circumstances or conditions the full isolation/de-isolation is revalidated

Process / Mechanical Isolations Checklist:	
Are the following in place?	**Y / N**
• Is there a plan for the sequence of isolation and de-isolation that has been authorized by a competent person?	
• Has a risk assessment been conducted and has it identified all potential hazardous materials?	
• Has the isolation/de-isolation been completed by a competent and authorized person?	
• Have the isolation points been clearly identified, tagged and controlled using an appropriate system?	
• Prior to breaking containment, has a test been conducted for hazardous material/stored energy and are appropriate controls in place?	
• Is everyone aware of the requirement to retest for hazardous material/stored energy as per the permit conditions or after any break or unexpected change in conditions?	

GHS04 – Excavation

This Excavation procedure applies to both types of soil common in South Sudan especially the black cotton soil (Unstable, clay) and loam type of soil (good and stable).

Excavation presents significant safety issues with excavation collapse, striking of underground services and machinery accidents potentially causing serious injury.

Procedures and basic operating principles for safely carrying out excavation works are listed below for consideration when identifying and controlling project specific excavation risk.

- Appropriate controls and protection measures will be required to be put in place before excavation works are carried out.

- Excavations are required to be supported or battered back where necessary to prevent collapse. Ongoing review and inspection of supports is required to ensure unauthorized removal and alterations of supports and braces are identified and rectified. Careful excavator operation is required in and around supports to prevent striking damage.

- Locate excavated spoil/stockpile heaps well back from the edge of the excavation works. A general rule is to keep the spoil back from the edge of the excavation at least the distance that the excavation is deep. Don't store materials close to the edge of excavated areas.

- Excavated areas require edge protection to prevent falls. Secured ladders should be used for excavation access, do not climb on excavation supports.

- When vehicles are operating in the vicinity of the excavation, i.e. trucks tipping for backfilling, use stop blocks or create berms/kerbing to prevent vehicles driving into excavations.

- Excavations should be checked daily before entering for any change in condition which may make the excavation unsafe, i.e. after heavy rainfall, changes in support and shoring etc.

- Working in and around excavations workers should always wear the correct PPE, never jump across excavations, and never throw tools or materials down to someone into an excavated area.

- Excavation machinery should be checked regularly before use. Items to be considered include

    - Coupler assembly, free of debris and material, check for any damaged or cracked components

    - Generally check for any missing parts or components, oil leaks, distressed welds, etc.

    - Check safety, lynch and mounting pins, locks and nuts. Are they in good condition, not bent, or worn and functioning correctly?

  - Check blocking arm and bar components and operation
  - Check all the hydraulic hoses, couplings, fittings
  - Check all grease points; ensure maintenance scheduling is carried out
  - Check lights, flasher beacons, mirrors etc.

- In operating excavation machinery the following should be considered
  - Never carry passengers
  - Keep watch for potential hazards, overhead cables, people and machines
  - If outriggers and supports are available they are to be used
  - Ensure safety pins are always fitted with quick hitch buckets
  - Always ground bucket before leaving the machine
  - Do not leave the machine unattended unless switched off, parked and fully locked.

GHS05 – Fire Safety

The risk of fire is a significant issue on construction sites, with fire potentially causing damage to materials and property as well as serious injury and even death to workers.

It is important that all practicable steps are taken to prevent fire on site and that adequate detection and prevention measures are devised, communicated and implemented on the project.

Procedures and basic operating principles for fire safety on site are listed below for consideration when identifying and controlling project specific fire risk.

- Where possible consideration should be given to planning and executing the construction works in a sequence that facilitates as early as possible the installation and operation of the permanent fire protection elements of the project. Examples include installation of protective material to steel elements, lightning conductors, fire detection systems, water supply, etc.
- Fire safety considerations relating to the projects temporary buildings include:
    - Where possible, temporary buildings and accommodation should be located away from the main building works to provide a fire break
    - Where temporary buildings have been constructed raised above the ground, the space beneath should be enclosed to prevent the accumulation of rubbish and combustible material
    - Consider a no smoking policy
    - Establish fire escape routes for temporary accommodation, include within the project wide emergency/evacuation plan
    - Provide adequate and suitable types of fire extinguishers
    - Consideration should be given to the material composition of the temporary accommodation in relation to fire resistance materials
    - Consider security measures and requirements to minimize the risk of arson. Measures could include hoarding and fencing off of the site, security guards, illumination of the site after hours, etc.
- Contact and liaison with the local emergency fire services (where they exist) at the start of the project is important, discussing fire services access, emergency escape routes, location of temporary buildings, storage of hazardous items etc
- An appropriate means of alarm/warning of fire must be established on the project. Clear access and egress to and from the site and buildings must be maintained at all times

- Fire extinguishers, buckets, sand and other fire protection equipment should be located in conspicuous locations, well labelled and regularly inspected and maintained

- Mechanical plants and vehicles on site should be equipped with suitable fire extinguishers. Vehicles should be refueled in the designated areas with engines switched off. Exhaust pipes and gases must be kept clear of combustible materials

- Remove waste and rubbish from the site regularly. Prohibit fires on site

- All electrical supply installations, both permanent and temporary must be installed by competent and qualified electricians. Do not overload electrical sockets

- All gas, LPG and flammable liquids must be stored in secured areas/compounds, well ventilated, shaded and secure. The area should be well signed and “no smoking” signage very important. Storage of highly flammable liquids should be kept to a minimum.

GHS06 – Noise

Noise induced hearing loss is a common health hazard on construction sites.

It is important that all practicable steps are taken to prevent excessive noise on site and that adequate prevention measures are devised, communicated and implemented on the project.

- Hearing protection must be worn when working in and around excessive noise. If you have to raise your voice to be heard at 1 metre distance, then the noise level is excessive (80 decibels and above)
- Wherever possible review loud noise activities and adopt less noisy processes or introduce plant/equipment that are a quieter option.
- Keep all equipment, plant and machinery covers, casings and housing fixed and closed when in operation.
- Where possible baffles, covers and noise suppressants should be used on noisy equipment.
- Do not keep noisy machinery, plants or equipment running unnecessarily.
- Where possible locate noisy plants, equipment and machinery away from general working areas to reduce the number of people exposed to the excessive noise generated.

GHS07 – Scaffold

Falls from height account of over 50% of the deaths associated with the construction industry. The correct design, installation and use of scaffold are extremely important to ensure people working at height are as safe as possible.

The people involved in the design, installation and inspection of the scaffolding system for the project must be competent in the type and complexity of the scaffold system to be used.

Any scaffold system should be officially inspected at least once a week to ensure it remains in safe condition. Each scaffolding shall be marked with the appropriate scaff tag, indicating inspection dates and whether scaffolding is safe for use. It is suggested that scaffolds that are not completed or not safe to be used shall have a red tag with a clear 'No Entry' sign.

Key issues for consideration at design, installation and ongoing use stages are outlined on the below:

- Foundations/Base
    - Scaffolding must be on suitable foundations and stable against subsidence (level, compacted, cable of all loads)
    - Each supporting standard should be supported by a base plate and then a sole board (guide on sizing, base plate 15 x 15 x 0.6 cm, sole boards 50 x 200 x 3.8 cm)
    - Ensure each supporting standard is centred on the base plate and sole board.
- Geometry
    - All standards shall be vertical
    - All ledgers and guardrails shall be horizontal
    - All transoms shall be horizontal
    - All standards, ledgers and guardrails shall be staggered
- Bracing
    - Braces start from ground and extend to top platform at 45 degrees
- Platforms/decking
    - All platforms shall have an appropriate width (70 cm minimal)
    - All platforms shall be secured against uplift or horizontal movement
    - Platforms shall have toe/kick boards, at a minimum height of 15 cm, fixed to the scaffold

  - All lap planks shall be tied/cleated
  - Gaps in the platforms shall not be more than 5 cm
  - The platforms should be no more than 30cm away from the work face. If so an internal guardrail is required

- Access to Platforms
  - Appropriate access shall be provided to every working platform
  - Ladders shall be secured top and bottom
  - Ladders shall be positioned at a 4 to 1 ratio
  - Ladders above the second lift shall be located within the scaffold frame
- Ties
  - Ties shall be placed every 4 to 5 m horizontal and vertically
  - Ties shall be staggered every second floor lift
- Guardrails
  - Guardrails are required on all platforms
  - Height of guard rails shall be between 90 – 110 cm
  - Platforms shall have a mid-rail
  - Internal guard rail required if platform is further than 30 cm away from work face
- Raking Members
  - Raking members shall be connected to the standards
  - Raking members shall have a horizontal tube connected back to the scaffolding
- Erection and Dismantling
  - Working procedure for scaffolders working at height shall be prepared, Risk Assessment shall be completed
  - Scaffolders shall install guard rails, decking and ties as soon as possible when erecting
  - PPE must be worn by scaffolders
- General

- Screening may be required to protect the surrounding areas
- Screening material shall be suitable for the conditions and fixed correctly (will not become a “sail” in windy conditions)
- Scaffold shall be adequately protected against vehicle collision
- Scaffolding shall not be overloaded - material loads shall be distributed around the support standard bearing members
- Walking space shall be allowed on platform where materials are also stacked

GHS09 – Working at Heights

Falls from height are the largest single cause of serious injuries and deaths in infrastructure/construction. Working at height must be treated as a high risk activity for those at height and those working below

Planning is vital before you begin working at height. Anywhere you are at risk from a fall then a hazard and risk identification should be carried out

General issues for consideration when working at heights:

- Ensure safe access and egress to work face
- Installation of guardrails to perimeters and penetrations
- Use of setting up fall protection barriers (safety mesh and edge protection)
- Consider the risks involved from objects falling from above
- Review and implement suitable means to prevent fall
- Walking and working surfaces are strong enough to support workers
- Do some areas require isolation and barricading?

Safe Ladder Use:

- Extended use of ladders in lieu of working platforms is prohibited.
- Check equipment before use, no splits or cracks in stiles and rungs, none missing or loose
- Remove defective ladders from site
- Do not position ladder in the place where it can be struck by passing vehicle or where it can be knocked by a door or window,
- Ladders should only be used when other platforms have been explored but not able to be used. Work on ladders should only be used in short durations
- Ladders need to be set on a firm base and leaning at the correct angle. One (out) to Four (up) ratio acceptable
- Ladders should be tied at the top and extend a safe distance (1 m or 3 rungs) above the landing height
- The base of the ladder should be staked to prevent slipping
- Clean footwear from excessive mud/soil before climbing the ladder

- Always face the ladder when climbing; always have three points of contact on the ladder at all times
- Do not overreach from the ladder; always move the ladder to the new work face
- As much as possible avoid carrying out loads up ladders – hoist it up.
- For step ladders: all four feet must be in contact with the ground, rungs shall be facing the work activity, never work higher than three steps down from the top of the ladder

Use of Harnesses Safely:

- Harnesses should only be considered as a last option after platforms, mobile towers, scaffolding, and where no other fall restraint is available
- Harness equipment must be fully inspected before use. Include wedding, leather, checking for cuts, cracks, tears, tears, abrasions and damage. Check hooks and carabiners and all stitching
- Wet equipment and harnesses should be hung to dry naturally
- Confirm a firm and secure anchorage points and lines (best above head height). All anchorages should be installed by a competent person, design by an Engineer and checked
- Do not tie, loop or place the harness lanyard near small or sharp items during use, this could mean the lanyard fails in the event of a fall situation
- Users should be trained in harness use by a competent person
- Never work alone while using a harness, if you fall you may need assistance to be rescued
- Have established rescue/emergency procedures in place

General.

- Ladders/Trestles must be stored correctly.
- Ladders must not be painted - paint can hide damaged parts.
- Any defective Ladders / Trestles should be removed from site immediately.
- Ladders/trestles shall be weekly inspected

GHS10 – Significant Accident or Incident Response

A Significant Accident or Incident is an event with serious or extreme consequences. Such events would include multiple major injuries, a fatality, a major environmental incident or an extreme failure of a product, structure, element or service.

This guide does not replace relevant ECRP Organizational Directives and Administration Instructions relating to communications, reporting lines and responsibility with regard to safety, security, risk and continuity planning. The aim of this document is to assist in the site team's immediate response to a significant event on a construction project with the aim to attend to immediate physical needs of any injured parties and contain and control the overall situation to minimize further loss, injury or damage.

Immediate Action

ECRP's most senior members of the site team at the scene of the Accident/Incident should seek to respond in the following way.

- Immediately take control of the situation and implement the relevant steps outlined below.
- Contact relevant emergency services (local, government, UN, if available)
- Ensure that injured persons are attended to by first aiders and secondly that appropriate steps are taken to facilitate further critical medical treatment (i.e. stabilize and wait for ambulance/emergency services, or facilitate emergency transport of injured to nearest clinic/doctor/hospital facility)
- Make the site and surrounding area safe, this may require emergency barriers and cordons depending on the nature of the incident. The evacuation of the site and neighbouring properties may also be necessary.
- Notify your IOM line manager of the situation
- Leave the accident location as undisturbed as possible. However it may be required to disturb the location to affect a rescue or stabilize an area to make it safer where a dangerous situation still exists.
- Endeavour to ensure that injured workers or employee's next of kin receive the earliest notification of the accident (this may be in association with the local police and ECRP senior management where appropriate).

Secondary Actions

Once the situation has stabilized with injured persons off the site and receiving treatment and/or the dangerous incident is controlled, situation stable with little or no risk of further injury or damage, then the following actions can be considered.

- Begin to gather evidence regarding the Accident/Incident. Take photos, video and sketches as required. Identify witnesses to the event and record statements.
- Begin to fill out the Accident/Incident report for significant events – Form HS16.
- ECRP senior management should meet as soon as possible to plan and establish roles and responsibilities for managing the incident. Tasks which may be required include:
    - Establishing ongoing contact, support and relationship with injury parties and their families
    - Establish a project/site recovery plan to allow resumption of works
    - Establish an appropriate internal communications plan for communicating with the donor, donor community, and beneficiary, local media/press, police and general public
    - Insurance and or legal considerations to be reviewed
    - Possibility of external investigation. Plan to manage and cooperate with investigators if applicable
    - Consider the need to establish an ECRP Accident/Incident investigation team
- Maintain all records of evidence and any materials or documents relating specially to the incident.

The aim of any report or investigation has to be to understand the causes of the incident in order to prevent recurrence. Ensure clear actions and tasks are identified and undertaken to eliminate the causes of the incident before operations on the project/site resume.

GHS12 – Site Establishment

1. Preparation works

Prior to work commencement on site, a survey of the site and site surroundings including condition of the existing access roads shall be carried out. The survey should be documented with the photography records.

It is recommended that, before work starts, any parties who will be affected by the works are notified of intention to commence work.

Particular attention shall be given to the landowners, where work has a potential to interface with the livestock. Appropriate measures shall be put in place to separate livestock from construction site and site facilities.

2. Protection to existing structures, materials and items

Any structures which cannot be removed for the duration of the works and which may be affected by the works i.e. buildings, trees, overhead cables must be protected to avoid accidental damage.

Any items or materials which may be re-used on the site, or which may be contaminated or damaged as a consequence of the works, should be removed and stored in a safe area, so that it may be replaced upon completion of the works.

3. Site boundaries

The site boundaries shall be established. They shall be clearly marked and preferably fenced off to prevent unauthorised access and minimise potential for theft and vandalism.

Additionally, provision of the security guards can be considered.

Site boundary and fence shall be properly maintained and regularly checked throughout the duration of the project. Any damage to the fence shall be fixed as soon as possible.

4. Information board

Access to site shall be clearly marked and information boards shall be displayed at the site entry. The board should contain information regarding project and safety rules on site. The sign shall be made of a durable material and maintained in good condition throughout project life. Any damage to the sign that makes the information posted on it unreadable shall be promptly repaired.

The information board shall be a minimum of 1.2mx1.5m or size that allows for easy reading of the posted information. It should be securely fastened and prevented from fall.

All descriptions shall be made in English, and strongly recommended that critical information be made in the local language.

Depending on the local conditions and regulatory requirements, additional information may be required to be displayed on the notice board. Required information should be therefore incorporated for compliance purposes.

Following format is recommended to be used:

Project Name:					
Project Duration:					
Implemented by: Enhancing Community Resilience and Local Governance Project; IOM UN MIGRATION					
					
WARNING **Construction Site**	**No unauthorised access**	**Safety helmet must be worn**	**High visibility clothing must be worn**	**Protective footwear must be worn**	**All visitors must report to the office**
[in local language]	[in local language]	[in local language]	[in local language]	[in local language]	[in local language]

5. Site clearance

The site clearance shall prepare the site for the construction activities. Depending on the scope of work defined in the contract, it may involve:

- demolition of the existing structures,
- removal of waste and vegetation,
- stripping the surface layer of soil (topsoil).

Any areas identified as areas of environmental, archaeological or cultural protection shall be fenced off or protected in accordance with the recommendations of the Environmental Management Plan.

Trees removal (only if necessary) shall be undertaken in accordance with the agreements with the relevant authorities, and loss of vegetation must be compensated by final landscaping design i.e. trees' planting.

If topsoil or other excavated material are stored on site, it should be stored in a way that minimises the dust nuisance (stockpiles covered or sprinkled with water) and prevents washing out of stored material and siltation of the adjacent area (particularly roads and water bodies).

As much as possible, site clearance shall be limited to the area needed for construction and site facilities, to minimise ground erosion. If that is not possible, erosion control measures shall be implemented.

6. Site planning

Following elements should be considered and included in the site planning:

- Office accommodation
- Welfare facilities – refer to Guideline GHS01 for details
- First aid – provision of the first aid facilities in accordance with the national laws and regulations, as a minimum first aid kits and boxes should contain individually wrapped sterile plasters (assorted sizes), sterile eye pads; triangular bandages, preferably sterile; safety pins; large and medium sterile, unmedicated wound dressings; disposable gloves, eye wash.
- Fire prevention measures - refer to Guideline GHS05 for details
- Storage for materials, tools, plants, waste etc. incl.

Site accommodation (office, welfare facilities) shall be regularly cleaned and maintained throughout project duration.

7. Storage

Appropriate storage shall be provided for all materials, tools and plants.

All materials delivered to site shall be stored in a secure location and prevented from damage. The materials shall not be stored in areas prone to flooding.

Any hazardous materials (incl. fuel, oil and chemical) shall be kept in the location that will prevent unnecessary exposure to staff and public (as much as possible away from neighbours) and minimise risk of contamination i.e. in one place, if possible away from watercourses, drainage, on impermeable surface, in bunded area or on trays. It is recommended that the distance from the houses and human houses should be 50m.

It is recommended to store a small amount of the materials that may contaminate ground or water.

Positioning of the equipment and equipment parking should consider potential nuisance: dust, noise, to the staff and neighbourhood.

Servicing of the plant, equipment and vehicles shall, whenever possible, be carried out at a designated area, which is constructed in a way to allow for containment of any spillages.

8. Generator

If generators are used on site to produce energy, where possible they should be set up on an impermeable surface (hard standing, drip tray) away from drains and watercourse. If the generator has built-in bund, ensure that the bund does not contain holes drilled in.

Where a generator is supplied from an external fuel tank, hoses and couplings shall be protected from damage. The generator and connections shall be regularly checked and properly maintained. It will make the generator operate more efficiently and can reduce the level of the noise and emissions.

It is recommended to use generators that pull fuel in from the external tank rather than fuel being pumped into the generator. This will stop the flow of fuel if the generator breaks down.

9. Site notice board

It is important that the critical information related to the site operation and health and safety is visible. Each site shall display as a minimum the following information:

- Site plan, including emergency arrangements,
- Emergency contacts,
- Site rules,
- H&S and environmental alerts,
- Notes of the safety and environmental Task Force meetings,
- Permits applicable to the work undertaken.

The following layout may be used:

<table>
<tr><td colspan="4">Project Name:</td></tr>
<tr><td>Information about Donor/

Beneficiary

Contractor

Key personnel</td><td colspan="2" rowspan="2">Site Plan incl. emergency arrangements, traffic routes etc.</td><td>Emergency Contacts</td></tr>
<tr><td>Site Rules</td><td></td></tr>
<tr><td>H&S, Env alerts</td><td>Notes of the Task Force meetings</td><td>Permits for the day</td><td></td></tr>
</table>

Depending on the local regulations and other requirements, additional information such as insurance certificates, relevant policies may be required to be displayed. Such information should be also included in the information notice board.

10. Site Reinstatement

Unless the contract specification states otherwise, the site should be reinstated to its original condition. The area should be left in a condition that will facilitate vegetation growth and provide for a proper surface drainage and prevent erosion.

Site accommodation (offices, welfare facilities) shall be dismantled and removed from site.

Any damage arising as a consequence of the works shall be repaired.

If ground has been contaminated, it shall be removed from site into the authorised disposal facility if possible. Removed material shall be replaced with uncontaminated materials.

Any services connected to the site shall be disconnected, relevant authorities shall be notified.

Any temporary fencing shall be removed and properly disposed, provided that is not required to be left in place by the contract. All post holes must be filled in. All warning and information signs shall be also removed from site.

Prior to leaving the site adjacent roads and footpaths that may have been affected by the construction shall be checked for cleanliness and fitness for use. If possible, photos shall be taken to document their condition.

11. Driving Safety

Contractor personnel travelling to and from work shall use proper means of transport. Such transport shall comply with the regulatory requirements. Transportation of personnel in open trucks is prohibited unless fitted with seats and approved by authority to carry passengers. Contractor shall be responsible to provide safe access and egress to the work site for green field projects. Contractor shall set allowable speed limits and place suitable road signs at the work site.

Contractor shall enhance the awareness of safe driving amongst its employees and Subcontractors through provision of defensive driving training. This training shall include wearing of seat belt, observing speed limit, maintain good vehicle condition, driving defensively and possess valid driving license.

12. Transportation

Whether the travel is by land, sea or air, Contractor is obliged to follow both ECRP and established industry guidelines for the safe transport of personnel and equipment. In the event that IOM is providing a means of transport for either personnel or equipment, then Contractor and Sub-Contractor's personnel should adhere to the instructions and requirements of IOM.

13. Use of Public Road

The Contractor shall keep public roads free from its debris due to vehicle movement to and from the work site. The Contractor shall provide washing facilities at site to clean vehicle tires. In the event of spillage onto the road, the Contractor shall undertake the cleaning at their own cost.

14. Toolbox Safety Meeting

The Contractor shall ensure that his appointed site supervisor hold 'tool box' safety meeting for about 5-10 minutes daily or prior to each shift. Specific topics shall include hazards relevant to current work, review of accidents, near misses and deficiencies and any new equipment or machinery.

15. Drugs and Alcohol

The use, sale, dispensing or possession of drugs, narcotics and alcoholic beverages is prohibited on the sites and at any place where the work is performed. The Contractor shall ensure that its personnel do not at any time, during the performance of the work, partake, bring onto the work site, or be under the influence of any alcoholic liquor, drug or other intoxicating substance. This prohibition shall also cover all legal or prescription drugs which may impair an employee's ability to

perform their job safely. Employees who are found using or in possession of drugs at the work site shall be terminated. IOM reserves the right to randomly require the Contractor's employees to undergo drug and alcohol tests at any time. Drugs and alcohol tests shall be conducted immediately after an incident. The Contractor shall ensure that each and every person engaged by it or on its behalf to perform any element of the work (including Subcontractors) are advised on the local laws relating to the importation and/or possession of drugs.

16. Security

The Contractor shall provide adequate number of security personnel and security measures to safeguard the work site from any threat, damage or theft of properties. The Contractor's security personnel shall be equipped with communication equipment and able to contact police and other emergency units as and when required. The Contractor shall provide shelter, facilities and amenities to enable security functions or duties to be performed satisfactorily to the requirements of ECRP.

17. Demobilization

Upon completion of the task at the project sites, Contractors shall demobilize all Contractor's personnel and material within the site facilities to Contractor's own temporary facilities, which shall include but not limited to commissioned facilities to a clean and tidy condition to the satisfaction of IOM.

Site Rules

1. Always wear PPE.

2. No site induction - no work.

3. No work for people under influence of alcohol or drugs.

4. Our site is tidy and organized – keep good housekeeping.

5. Always check ladders and scaffolds before use.

6. All excavations must be secured/fenced off.

7. Notice risk, hazards, unsafe conditions – report them to your supervisor

GEM02 – Waste Management and Hazardous Substances

The word '**SHALL**' in upper caps and bolded indicates **a mandatory requirement**.

1. Emphasis on hazardous waste

Hazardous waste is waste that is likely to cause substantial harm to the environment or to human beings. For ECRP infrastructure operations, examples include, used oil, spillages of fuels and oils, asbestos waste, concrete/cement washings and fluorescent light fittings (containing mercury residues). These substances must be separated from other wastes and disposed of carefully to avoid release into the environment. Releases could be through leachates seeping into soil and/or water bodies, or vapours escaping into the atmosphere.

2. General

The main principles of effective management of waste are:

- efficient use of resources to eliminate or reduce the generation of waste,
- diversion of waste from landfill by reuse or recycling,
- disposal of remaining waste.

In majority cases waste management in construction is governed by legislation which can be summarised as ensuring that disposal of waste is regulated (and traceable) and that the cost of waste disposal is borne by the waste producer (in-line with the Polluter Pays Principle).

Generally waste can be subdivided into the following categories:

- organic waste
- inactive waste - materials that do not cause environmental pollution or harm to human health or endanger the quality of any surface water or groundwater when deposited in a landfill under normal conditions. These include rocks, ceramics, concrete, masonry, and brick rubble.
- non-hazardous waste - include timber and bitumen
- hazardous waste - waste that is deemed to be dangerous to life and/or damaging to the environment. It may be corrosive, reactive, explosive, oxidising, carcinogenic or flammable i.e. asbestos, acids, alkaline solutions, oily sludges, waste oils and wood preservative.

3. Planning stage

Waste management should start with resource efficiency by using the raw materials wisely. To manage waste effectively, focus should be directed on ways to prevent materials becoming waste:

- If possible, developing standardised sizes or pre-cut materials to reduce off cuts (i.e. timber)

- If possible, arranging for the return of unused construction materials to suppliers,
- Control of purchasing of the materials – do not purchase unnecessary items, that would have to be disposed later on,
- Specifying/negotiating reduction in the amount of packaging used by suppliers, or packaging return schemes,
- Specifying precast units (i.e. concrete panels rather than on-site pours),
- Employing selective demolition - dismantling, often for recovery, selected parts of buildings to be demolished before the wrecking process is initiated,
- Storing materials delivered to site carefully to minimise potential damage and creation of waste (off-ground storage, maintain original packaging, covered protection from the weather and protection from collision by plant and vehicles).

Measures to minimize volume of waste generated **SHALL** be recorded in the Project Environmental Management Plan.

The planning stage can also consider opportunities for reuse and recycle waste generated on site.

4. Waste Reuse/Recycle

As much as possible construction and demolition debris should be prevented from disposal into the landfills. This can be achieved by reuse and recycling materials on site. Following examples present how materials can be re-used on the project:

- concrete from demolition of existing structures can be crushed and then used as general fill material – i.e. concrete can be used on haul roads and when these are removed, it can be used as a capping layer for the new footpaths.
- trees removed as part of construction can be shredded and reused as mulch, which is used for landscaping and promoting the growth of new habitats
- excavated material can be reused for backfilling, this eliminates the need to import other material onto site saving time and money.
- Excavated material (gravel, stone, sand) or other suitable construction waste (brick, concrete) can be used as cover material at the landfill, backfill at new construction sites, for the reclamation of wetlands, for the filling of low-lying areas subject to regular flooding or can be sold to other engineering contractors.
- Scrap metal - has a residual value and can be sold to the scrap metal dealers

The local waste market should be investigated - there may be potential for recovery and reuse of materials from the waste such as recycling of paper, metals, glass, and plastic.

5. Site Waste Management Plan

Each construction project **SHALL** prepare a Waste Management Plan **(Form EM 02).** [MS3]The Plan **SHALL**:

- identify each type of waste that is expected to be produced, including identifying wastes that are inactive, non-hazardous, hazardous and organic,
- estimate the quantities of waste that are expected to be generated,
- for each waste stream consider how the waste will be disposed – take into account availability of facilities in the area of the site,
- demonstrate how reductions in overall waste expected to be generated and the reductions in waste to be sent to landfill can be achieved,
- define facilities on site and outline an action plan: i.e. construction of waste storage area, liaison with local government, communication plans, training,
- identify the person responsible for waste management on site.

The plan **SHALL** be regularly reviewed to evaluate performance against the action plan including targets and records shall be updated.

The waste management should consider the most suitable (practical, financial, technical) solutions.

6. Storage of hazardous substances and wastes

<u>Storage and handling of hazardous substances</u>

Substances that may harm people or the environment shall be handled and stored in a way that prevents accidental release.

- Drip trays shall be placed under leaking under generators, vehicles and other equipment to prevent spills of hydrocarbons reaching the soil or watercourses.
- Storage tanks shall have secondary containment, so that leaking liquids may be collected in the event of a failure. Secondary containment should ideally have a capacity of at least 110% of the holding capacity of the tank it is protecting.
- To avoid leaks, proper funnels should be used when decanting to other containers. It is recommended to use a hand pump rather than a funnel and smaller containers for frequent/routine transfers from one container to another (or to a vehicle tank).

Waste storage areas **SHALL** be provided on site:

- Sufficient space should be allocated on site for the waste expected to be generated,
- Storage areas SHALL be indicated on site plans for communication purposes,

- Storage areas SHALL have clear signage to ensure different wastes are stored in the correct place,
- Storage area SHALL be enclosed to prevent waste escaping – i.e. spread of waste by wind-blown; if possible covered skips are suggested to be used,
- If possible waste should be protected from the rain fall/water ingress,
- Waste storage SHALL not be located in the area prone to flooding or on the slope,
- Location of the waste storage should be away (min 30 m) from human settlements, animal pastures, water bodies, water sources etc
- Hazardous wastes SHALL not be mixed with non-hazardous waste,
- Organic waste SHALL not be mixed and stored with non-organic waste,
- Hazardous wastes **SHALL** be stored in suitable containment, on impermeable surface

Practical advice:

Store waste in one place and segregate immediately. In such a way you will avoid piles of waste scattered throughout the site, which is dangerous and double-handling waste.

7. Waste Segregation

As much as possible waste on site should be segregated - that will help recovery of reusable or recyclable materials:

- Make segregation easy to do by providing separate areas (containers) in a designated impermeable waste storage area
- Brief staff on the segregation requirements
- Organic waste SHALL be segregated from non-organic waste
- Hazardous waste SHALL be segregated from non-hazardous waste

8. Waste Disposal

Disposal of waste from site must only be carried out by a registered waste carrier who should be able to provide a copy of their waste carriers' licence – check local government/authorities requirements. Waste materials removed from the construction area **SHALL** be disposed at the approved landfill site.

It is recommended to carry out a review of the local waste practices - what waste facilities are available in the country/region. If no facilities are available nearby the site, this may be an opportunity for joint action with the local community to explore options to create a local disposal site – controlled dump site.

Unauthorised and uncontrolled dumping of the waste generated on construction site is strictly forbidden.

9. Burial of waste

If there are no waste collection facilities in the area, disposal of construction waste should be by burying. Burial **SHALL** be in pits. Following conditions **SHALL** be followed for pits location and construction:

- located downstream of any water sources (30m away),
- away from human settlements (at least 50m distance),
- only inactive or non-hazardous waste, which do not have potential for leaking can be buried,
- bottom of the pit should be min 1.5m above water table,
- sides of the pit need to be stable and should be at 45 degrees unless a geotechnical expert advises otherwise,
- a small fence SHALL be constructed around the pit to avoid accidents and scavenging,
- pit SHALL be protected from the rain water ingress and from the wind (prevent spreading waste in the area),
- location of the pit SHALL be agreed with the IOM representative and local authorities, if necessary.
- pit SHALL be covered by at least 600mm of earth material prior to abandonment.

No hazardous waste (medical waste, batteries) should be disposed of in these pits.

Wherever possible the organic waste should be composted.

10. Burning of waste

Burning of waste on site is the last option for disposal of waste, allowed only if all other options are exhausted. If this form of the waste disposal is necessary, it will require permission of the IOM Site Engineer.

Uncontrolled and unauthorised burning of the waste generated by the project is strictly forbidden.

Burning of the hazardous waste is strictly forbidden.

If burning of the waste is authorised by the IOM Site Engineer, it **SHALL** follow following rules:

- be undertaken in the pits, located downwind of the construction site and dwellings – as a minimum 50m away,

- treated wood should be removed from the waste stream before burning,
- fire prevention measures shall be implemented to reduce fire hazard.

GEM03 – Protection of Water

1. General

Waters, including rivers, streams, ditches, ponds, lakes/lochs/loughs, groundwater and coastal waters should be protected from harm and pollution.

Pollution can result from any of the following entering a body of surface or groundwater: any poisonous, noxious or polluting matter or any waste matter (including silt, cement, concrete, oil, petroleum spirit, chemicals, solvents, sewage).

Common pollutants of water are: Garbage, Silt, Cement or concrete wash water (highly alkaline), Detergents, and Hydrocarbons, e.g. oil, diesel.

It is vital to manage sites properly to protect the water environment and water supplies. A site does not need to be next to a river or other water body to cause a problem. Any pollutants getting into subsoil surface water drain or groundwater can end up in a river even if it is miles away.

Controls **SHALL** prevent the entry, or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources. Controls should be applied in a hierarchical manner i.e. applying control measures at source, if not possible at pathway, if not possible at receptor.

2. Consents and permits

Discharges to drains (foul sewer) or surface water drains or water bodies may require a formal approval (licence or consent/permit) from the relevant body/regulator.

It is therefore crucial to identify any discharge and abstract consents requirements from the local authorities and obtain them if necessary, before any work commences. Prior to works commencement all drainage on site (and around site) should be identified.

3. To avoiding spillages on site:

- store liquids, solids and powders away from drains and waters,
- use of secondary containment, i.e. bunds around oil storage tanks, double skin tanks,
- use of drip trays around mobile plant,
- preferably only equipment in good condition (not leaking) should be used on site,
- designate area for refuelling – ideally on impermeable surface, away from water bodies and surface water drains; supervise deliveries,
- create designated wash out for concrete lorries – ideally it should have located at least 10 m away from drains and waters,

- provide spill kits on site, ideally in vicinity of the areas where they may be used,
- place interceptors in drains to catch oils.

4. Managing effluent from vehicles, boot and tools washing

Vehicle wheels may need to be washed on site to avoid mud on public roads. Facilities should be provided for site workers to wash their boots to remove mud. Cleaning should be carried out in a bunded area and if possible water should be recycled (provided that is not contaminated).

If tools and equipment need to be washed, this should be undertaken well away from any waters or surface water drains on an area of hardstanding to avoid infiltration of potential pollutants into soils.

5. Surface water run off

Surface water run off should be managed so that it does not run into excavations, over disturbed ground or onto haul roads. Following actions should be considered for preventing and managing runoff and silty water:

- Endeavour to minimise land clearing and land shaping
- Allow a permanent stabilisation of disturbed areas as soon as land shaping is complete
- If possible and appropriate, use undisturbed areas as sediment buffer zones either during construction or on a long-term basis
- If possible endeavour to locate imported material and soil stockpiles in areas that minimise on-site traffic movement
- If possible, Plan works that cause ground disturbance outside of rain periods
- When undertaking earthworks ensure there is a buffer strip left to protect surface water
- If necessary, erect silt fences along the downslope or side slope of disturbed areas
- Placing bunding or silt traps or cover around drains to prevent silt runoff

Areas of standing water **SHALL** be not allowed on site, as they may potentially create health and safety hazard for site staff and neighbourhood.

6. Discharge from site

- Silty or discoloured water SHALL not be discharged from the site
- Surface water runoff SHALL not be directly entering waters
- Water containing detergents SHALL not be allowed to enter either surface water drains or other surface or groundwater bodies

7. Monitoring

- Undertake regular (daily) visual inspections of waters at or near the site for signs of harm - look for any visible signs of discolouration in waters,
- If a settlement tank is used, ensure that water is not moving too fast and/or overflowing (other than at the discharge point)
- Check outfalls and pipework daily to ensure they are clean and clear of litter

8. Dealing with the water pollution

- Pump to grassland or other soakaway – well away from excavations to avoid recirculation through the ground. The silty water should contain no chemical pollutants. This option is only suitable for water that is unpolluted aside from its silt content.
- Pump to settlement tank/constructed ponds/lagoons
    - A settlement lagoon (pond or tank) works by retaining water in an undisturbed state long enough for suspended solids to settle out. The clean water then either flows out at the discharge point or is pumped out.
    - The size of the tank/lagoon should be adequate for the settlement time required and the rate at which water flows or is pumped into it. A long, narrow, shallow settlement lagoon can help to maximise retention time of all water in the lagoon.
    - The tank should be periodically cleaned out to prevent a build-up of silt.
    - Regular inspect/monitoring of the outflow quality should be undertaken
    - Depending on the legal requirements, a consent/licence to pump clean water from the surface of settlement lagoons into waters or a designated discharge point should be sought from the local authorities
- Pass through a filtration system
- Discharges with fairly coarse particles (but no other pollutants) and relatively small flows may be treated easily and cheaply by passing them through steel tanks or even skips filled with a suitable filter, such as fine single size aggregates (5 to 10 mm), geotextiles or straw bales.
- Pump into a tanker and dispose of offsite (most expensive).

9. Use water on site

It is good practice on site to consider water use needs and to seek to reduce these wherever possible, to reduce the need to use potable water from taps. Some construction activities, for example concrete batching or dust suppression, require water to be abstracted from surface water

or groundwater. Water abstraction cases need to be carefully managed, as they can potentially lead to:

- shortages in water supply
- increased pollution due to reduced dilution of pollutants
- damage to habitats

For each abstraction case an impact assessment must be prepared and agreement from the relevant authority obtained.

10. Working over or near to water

- Ensure that a comprehensive risk assessment is completed for activities that involve working near or over the water,
- Preferably no site works should occur within 10 m of the edge of waters,
- Avoid storing fuel near water,
- Spray, dust or other airborne materials should be prevented from entering waters (i.e. erecting dust screens on bridges, use of decking/barges below the works - acting as a bund in case of spillage)
- Check if the banks or bed of waters outside the area of the works are not being affected by site operations (discharges or vehicle movements etc)
- Regularly check waters downstream of the works to see if these are silted or discoloured or if there is an oily sheen visible on the water
- Plan for emergency – ensure that spill kits (or booms across the river to contain pollutants) are available, ensure that site staff is aware of the location of spill kits and knows how to use them.

11. Dealing with water in excavations

- Prevent water from entering excavations,
- Manage groundwater flowing into excavations - install cut off ditches, walls or well point dewatering.
- Make sure that water pump out from the excavation is passing through the settlement tank

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GEM05 – Borrow Pit Management

This document provides guidance on management of borrow pits. The Contractor should remain responsible for managing borrow pit operations.

Borrow pit site reclamation (also called reinstatement) must be completed prior to handover of the road section to which the borrow site was used.

1. Site assessment and selection

A preliminary site assessment prior to undertaking excavation works should be undertaken. Such assessment shall include as a minimum the following:

1.1. Land tenure and approval for use

- A written approval for use of the proposed site shall be obtained from the local authorities. It is recommended to commence discussion with relevant authorities as soon as possible to understand requirements and potential limitations of the process. Negotiation may require preparation of the narrative that describes borrow pit operations, outlines potential risk to the community, proposes mitigation measures to control and minimise such risks and presents restoration plans.

1.2. Geotechnical site investigation

- Borehole drilling and/or excavation of test pits shall be carried out to confirm the extent and quality of the materials within the proposed site. Test pits and boreholes shall be decommissioned unless used as a borrow site.

- Hydrogeological information shall be obtained to determine the presence and depth of any groundwater table.

1.3. Site property lines and location

- Borrow pits should be preferably located in the areas with minimal volume of vegetation or existing/decommissioned pits can be used.

- The borrow pit site shall have clearly defined property lines which will be surveyed and clearly marked to limit excavation within the approved area of the site.

- The size of the area to be excavated shall be a maximum of 10,000 m2 (or 1 ha). Larger areas may be excavated upon written approval from the IOM representative.

- The borrow pit operational site must have an undisturbed buffer area of natural vegetation of a minimum of 25 meters in width around the perimeter of the site – excluding entry roadway with a maximum width of 5 meters.

- The property line of the site shall be a minimum of 100 meters from the nearest households and 100 meters away from the nearest watercourse.

- Location of the borrowed pit place shall be well documented. Documentation should include: a map showing the location and a plan-view of the site, a photographic record of the site in its undisturbed state (photographs should be taken from the geographic center of the proposed site in 8 directions: north, northeast, east, southeast, south, southwest, west, and northwest).

2. Borrow pit operations

During borrow pit operations as a minimum good management practices shall be followed:

2.1. Operational area

- Site area shall include: area of extraction, a buffer zone, perimeter berm, stockpiles (i.e. top soil and overburden) and area for general operations.

2.2. Stockpiles

- Topsoil depth ranges between 150 mm and 500 mm. The exact depth shall be determined from the geotechnical site assessment. Topsoil shall be stripped and stockpiled away from other materials. Topsoil shall be only used for reclamation purposes when pit operation is complete.

- Overburden soil (i.e. the layer of soil below the topsoil and above the material of interest) shall be used as a perimeter berm to direct drainage on the site or stockpiled separately from topsoil and later used to landscape and backfill exhausted areas of the borrow pit.

2.3. Excavation slopes

- Pit excavations shall be a maximum of 6 meters in depth with a maximum allowable horizontal to vertical slope (H:V) of 2:1 or 50% grade.

- One side of the excavation shall have a maximum horizontal to vertical slope (H:V) of 2.5:1 or 40% grade for efficient operation of heavy equipment and to allow for ease of access.

- Pit excavations greater than 6 meters must be fenced all round.

2.4. Duration of operations

- An estimated lifespan of site should be given based on the geotechnical assessment, anticipated rate of extraction and planned site reclamation.

3. Environmental and safety management

The Contractor must undertake the following environmental protection and public safety measures:

3.1. Site Access/Safety

- The extraction site should have a barrier such as yellow warning tape and/or perimeter berms to control or discourage public access. Alternatively, the Contractor can post a local full-time guard until the site is reinstated.

- Any deep excavation site that has standing water greater than 0.75 meters deep must be protected from public access by installing a fence and/or posting a full-time guard before the water level goes down.

- Entrances to the site should be gated so as to block ease of access and shall be designed to provide vehicles with adequate sight distance to avoid a safety hazard.

- Durable warning signs shall be posted around the perimeter of the borrow site not more than 50 meters apart which will provide symbols of danger and no trespassing (e.g. skull and crossbones).

- Liaison with the local community should be undertaken, which includes information on dangers within borrow pit operational sites and that trespassing is not permitted.

3.2. Visual

- Ensure that existing vegetation within the minimum 25-meter buffer area is not disturbed, as it should provide some visual screening of pit operations from the road and nearby residents.

3.3. Noise

- Ensure that existing vegetation within the minimum 25-meter buffer area is not disturbed, as it should screen noise of pit operations from nearby residents.

3.4. Water

- If water is needed for borrow pit operations, a water extraction point such as a borehole, shall be established within the site, ideally located near the perimeter of the property for use by the local community once the site is reinstated.

- Borrow pits shall not be located within a wetland area.

- Excavation below the water table is not permitted.

- Standing water in the borrow pit is not permitted and shall be removed either through drainage structures and/or pumping. Alternatively, any pits with deep (greater than 0.75 meter) pools of water must be secured by a fence and/or full-time guards to prevent public access.

- Under no circumstances shall community members be allowed to use water at an active borrow pit site for any purpose (e.g. watering their animals, washing clothes, etc.).

3.5. Water discharge

- Overburden soil can be used as a perimeter berm to direct drainage away from the site.
- Efforts shall be made to reduce the amount of runoff into the borrow pit.

3.6. Erosion

- Erosion control measures must be undertaken in all aspects of pit operations including stockpiles and access roads. These measures include reduced slopes, seeding, and stockpile covers to protect stockpiles and the adjacent land.
- Topsoil stockpiles shall be protected from wind and water erosion by reducing slopes (i.e. less than 50% grade), using a covering, and/or spraying with water.

3.7. Dust

- In all operations of the borrow pits, measures shall be undertaken to minimise dust emission and spreading (water sprinklers, covering stockpiles, introducing speed limit, etc).
- If a rock crusher is used, the dust control measures shall be undertaken by using a water truck or fixed sprinklers on crushing equipment.

4. Site reclamation

Site reclamation (reinstatement) should be completed prior to handover of completed road section.

4.1. Stockpile reuse

- Overburden stockpiles and perimeter berms shall be placed on the excavated site and graded to the desired slopes and drainage paths.
- Reserved topsoil shall be spread on top of the overburden with more topsoil focused on sloping land (minimum depth on slopes: 150 mm).

4.2. Final slope and drainage

- Suitable surface slopes together with drainage ditches and conduits – as needed – shall be constructed to prevent water from collecting at the site.
- Final slopes within the site shall be a maximum horizontal to vertical slope (H:V) of 3:1 or 33% grade.

4.3. Final cover

- The borrow pit operational site including access roads shall be thoroughly scarified as needed to help establish adequate vegetative cover.
- A minimum of 75% of vegetative cover should be established and maintained following the first rains after reclamation.

- Particular focus shall be given to vegetation cover on the side slopes of the excavated area to minimize erosion. Any required seeding used shall be of local plant varieties.

4.4. Interim reclamation

- When excavation activities are going to cease for longer than 60 days, interim reclamation measures should be undertaken to protect the environment and public safety.

- Interim reclamation measures include a minimum of seeding of topsoil stockpiles and grading the site to reduce erosion potential.

GEM06 –Preservation of Historical, Archaeological and Cultural Remains

Protection of the historical, scientific, geological and archaeological findings is an important part of the process of preservation of the world's cultural heritage.

Known sites of historical, scientific, geological and archaeological importance **SHALL** not be considered for location of the project, unless the aim of the project is preservation of the site.

Potential for the presence of the areas of historical, scientific, geological and archaeological importance **SHALL** be identified at the project initiation stage, through the Environmental Assessment process. Consultation with the relevant authorities and local communities will be necessary.

If areas as described above are located in the vicinity of the project site, they **SHALL** be suitably protected, depending on the intrusiveness of the site activities, by fencing, screening, sheet piling etc.

In locations, where there is a potential for discovering items of historical, scientific, geological and archaeological importance, it is recommended to undertake the trial pits, prior to commencement of any substantial excavation.

If evidence of possible scientific, historical, geological, archaeological or cultural interest or value during the execution of the works is discovered, work in this area must be stopped immediately. The IOM representative shall be notified on the nature and location of findings.

A reasonable precaution and care must be exercised so that artefacts or fossils uncovered during excavation operations are not damaged. The area shall be isolated/fenced off.

The relevant authority must be informed on the findings as soon as possible, furthermore assistance and cooperation with the Authorities and experts shall be assured.

Project Emergency Contact Numbers

Project Title	South Sudan Enhancing Community Resilience and Local Governance Project -ECRP		
Project Location			
Contractor			
Date of issue		**Revision**	

Service	**Telephone Number**	**Name/Details/Address**
IOM Site Engineer		
Contractor Contact		
Site First Aid givers		
Nearest Doctor		
Nearest Medical Clinic /Hospital		
Ambulance Service		
Nearest Fire Service		
Nearest Police Service		
Other		

Hazard and Risk Assessment

Location/Project/Office	South Sudan Enhancing Community Resilience and Local Governance Project -ECRP		
Details of what is being assessed **(activity, functional area)**			
Document prepared by **(name & signature)**		**Reviewed and approved by** **(name & signature)**	
Date		**Date**	

Revision	Date	Author	Description of main changes

Follow the guidance given in the Health and Safety handbook under the title "Hazards and their control" in order to get a full understanding of the hazard identification and risk assessment process.

Likelihood

Consequence	Unlikely	Slightly likely	Likely	Very likely
Negligible	**1**	**2**	**3**	**4**
Minor	**2**	**4**	**6**	**8**
Moderate	**3**	**6**	**9**	**12**
Major	**4**	**8**	**12**	**16**

Step-by-Step Guidance:

Stage One: Using the matrix above to carry out an initial assessment to determine the risk rating of each hazard(s) of the activity. To calculate the risk rating of a hazard, multiply the value of its consequence with the value for likelihood (note: here the hazard should be assessed without any control measures). Make sure relevant stakeholders (e.g. local UNDSS focal points) are consulted and involved in the risk assessment.

Stage Two: Use the results from the assessment in Stage One to prioritize control activities. As a general rule, if the risk is High, then the hazard must be eliminated and/or work activity prohibited or mitigation measures put in place to reduce the risk. If the risk is Medium, then additional safety controls are required to eliminate/isolate/minimise the risk. If the risk is Low, then the work can proceed with the current standard site controls in place.

The hierarchy of controls (elimination, substitution, engineering controls, administrative controls, personal protective equipment) should be applied when choosing controls, with more effective ones to be applied first. See the H&S handbook for more guidance.

Stage Three: Using the matrix to review again the hazards, this time with the safety controls proposed. If the risk rating remains Medium or High, then provide alternative or additional safety controls until the risk is assessed as Low.

Stage Four: Review the risk assessment periodically in order to take account of changes in the environment. In each revision, make sure new and modified content is easily identifiable (by text highlighting, use of a different font, use of a different font colour, and similar techniques).

When identifying hazards, consider among other things the following:

Routine and non-routine activities	Any planned changes	All people involved	Human factors	Design of work processes or work areas that may generate a hazard	Legal obligations

The frequency of the task and the number of people that could be potentially affected should be considered.

For the identification of hazards to be effective, a variety of sources should be investigated, as for example:

Observations	Benchmarking	Safety tours, inspections	Incident reviews	Monitoring	Workflow and process analysis

Note that more detailed assessments might be necessary for the risk assessment to evaluate the harm from exposure to chemical, biological and physical agents.

Identification and ranking of natural hazards may be done by using the country specific information found on http://www.thinkhazard.org/.

Note on Safety and Security: *Threats directly resulting from or related to terrorism, civil unrest, armed conflicts and crime falls under the responsibility of the UN Security Management System. An assessment of these should not be included in this document.*
Fire, aviation safety and road transport safety are also the responsibility of the UN Security Management System; those should not be included in the risk assessment for UN office facilities.

Item	Task/Activity	Potential Hazards/Risks for each task	Risk Rating (1-16)	Hazard Control Method	Control Risk Rating (1-16)	Person to implement and monitor implementation

Appendix: The following is a list of possible hazards.

Physical hazards	Chemical hazards	Biological hazards	Psychosocial hazards	General environment hazards
○ slippery or uneven ground, ○ working at height, ○ objects falling from height, ○ inadequate space to work, ○ poor ergonomics (e.g. workplace design that does not take account of human factors), ○ manual handling, ○ repetitive work, ○ trappings, entanglement, burns and other hazards arising from equipment, ○ transport hazards, either on the road or on premises/sites, while travelling or as a pedestrian (linked to the speed and external features of vehicles and the road environment), ○ fire and explosion (linked to the amount and nature of flammable material), ○ harmful energy sources such as electricity, radiation, noise or vibration (linked to the amount of energy involved), ○ stored energy, which can be released quickly and cause physical harm to the body (linked to the amount of energy), ○ frequently repeated tasks, which can lead to upper limb disorders (linked to the duration of the tasks), ○ unsuitable thermal environment, which can lead to hypothermia or heat stress, ○ violence to staff, leading to physical harm (linked to the nature of the perpetrators), ○ ionizing radiation (from x- or gamma-ray machines or radioactive substances), ○ non-ionizing radiation (e.g. light, magnetic, radio-waves)	Substances hazardous to health or safety due to: ○ inhalation of vapours, gases, or particles, ○ contact with, or being absorbed through, the body, ○ ingestion, ○ the storage, incompatibility, or degradation of materials.	Biological agents, allergens, or pathogens (such as bacteria or viruses), that might be: ○ inhaled, ○ transmitted via contact, including by bodily fluids (e.g. needle-stick injuries), insect bites, etc. ○ ingested (e.g. via contaminated food products)	Situations that can lead to negative psychosocial (including psychological) conditions, such as stress (including post-traumatic stress), anxiety, fatigue, depression, from e.g.: ○ excessive workload, ○ lack of communication or management control, ○ workplace physical environment, ○ physical violence, ○ bullying or intimidation.	○ Environmental risks ○ Endemic diseases ○ Disease Outbreaks ○ Pandemics ○ Quality and availability of health care ○ Natural Disasters ○ Nuclear Disaster ○ Security conditions, Crime, Social Unrest, Political violence fall under the responsibility of the UN Security Management System

Source: OHSAS 18002:2008

In order to manage and control change, this template should be reviewed each time a change happens in the organization (e.g. in the structure, personnel, management system). The results of the risk assessment should be communicated with the staff as appropriate.

Schedule of Key Tasks

Item	Activity	H&S Risk Assessment	Env. Plan	Hazardous substances	Method Stat.	Date Req.	Date of 1st issue	Revised	Responsibility	Approved
1	Mobilization									
2	Excavation/Backfilling									
3	Demolish existing walls									
4	Concrete/Masonry works									
5	Septic tank works									
6	Electrical works									
7	Mechanical works									
8	Finishing works									
9	Landscaping works									
10	*Others to be specified during construction*									

Scaffold Inspection Checklist

Project Title	South Sudan Enhancing Community Resilience and Local Governance Project -ECRP	**Site**	
Scaffold ID number and location			
Inspection date			

FOOTINGS		**BRACING**		**PLATFORMS**	
Soft and uneven		Façade and ledger		Bad boards	
No base plates		Some missing		Trap boards	
No sole boards		Loose		Incomplete boarding	
Undermined		Wrong fittings		Insufficient supports	
SATISFACTORY		SATISFACTORY		SATISFACTORY	
STANDARDS		**COUPLINGS**		**GUARD RAIL & TOE BOARDS**	
Not plumb		Wrong fittings		Wrong height	
Joined at same height		Loose		Some missing	
Wrong spacing		Damaged		Loose	
Damaged		No check couplers		Damaged	
SATISFACTORY		SATISFACTORY		SATISFACTORY	
LEDGERS		**TIES**		**LADDERS**	
Not level		Some missing		Insufficient length	
Joined in same bays		Loose		Not tied	
Loose		Damaged		Damaged	
Damaged		Other		Other	
SATISFACTORY		SATISFACTORY		SATISFACTORY	

Other comments	**Action required/Responsible**	**Action Completed**

Name of Person carrying inspection		**Signature**	

Legal Register for Health, Safety and Environment

Office/Project	IOM South Sudan Office, South Sudan Enhancing Community Resilience and Local Governance Project -ECRP
Location	Multiple
Revision and date	23/03/2021

1. Introduction

IOM premises are protected by the Immunities and Privileges of the United Nations. These immunities also apply to IOM staff. It is the intention of IOM to ensure that operations do not operate below the standard of local legislation. Contractors and construction sites have an even higher obligation to meet legal and other obligations as they are incorporated under local laws. The contractors are assumed to have control over their ability to meet local legislation at ECRP construction sites. IOM ECRP has the role of enforcing legal and other requirements in line with the ECRP policy commitment.

When researching for applicable national legal HSE requirements, it is recommended that existing legislation in the following areas be explored:

Access/ Egress	Small tools
Fire/Emergency Prevention and Response	Work over water
Ergonomics	Work interactions (e.g. stress, psychosocial)
Occupational Health Stressors	Use of Lifting Machinery
Pressurised equipment	PPE
Electrical equipment	Other general H&S requirements
Hazardous substances	Water quality and management
Preparation of food	Air quality
Structures	Waste
Transportation	Resources conservation
Working at heights	Pollution control
Excavation	Other general environmental requirements

2. Legal Register

No	Legislation/Requirement	Source	Requirements
1	United Nations, Occupational Safety and Health Management System	ST/SGB/2018/5	The occupational safety and health management system shall be implemented in a phased manner at the central and departmental levels and shall integrate, harmonize and update existing occupational safety and health-related policies and programmes
2	A system-wide road map for United Nations climate neutrality by 2020 and of the related goals towards enhancing the environmental sustainability of United Nations operations	CEB/2015/HLCM/7 of 31 March 2015	United Nations climate neutrality by 2020 and enhancement of environmental sustainability
3	Environmental Sustainability Management in the UN System	CEB/2013/HLCM/5 of 7-8 March 2013	Development and implementation of environmental sustainability management systems in each UN organization
4	A framework for advancing environmental and social sustainability in the United Nations system	UN Environmental Management Group, 2012	Moving UN organizations towards strengthening environmental and social sustainability in our activities
5	EOD 3 “Health & Safety and Social & Environmental Policy”	ECRP	Establish ECRP Social, Environmental and H&S policies
6	EOI.CSG.2017.01 on Implementation of HSSE levels	ECRP	Establishes the Health & Safety, and Social & Environmental requirements at ECRP locations
7	EOI.CSG.2017.02 on Incident reporting	ECRP	Establishes the requirements for reporting incidents
8	OI.PCG.2017.01 “Personnel Management Framework” on work-life balance	ECRP	Supports personnel in balancing the demands of work and personal life
9	United Nations Security Management System, Security Policy Manual, Chapter VII Provisions on Safety Matters, Section D. Road Safety. 31 October 2011	UNDSS	Promotes the safe operation of United Nations vehicles world-wide, to ensure road safety and to describe the roles and responsibilities of relevant United Nations Security Management System (UNSMS) actors in improving awareness and compliance with requirements and provisions for road safety
10	OD.PCG.2017.01 “Human Resources, Ethics and Culture” on discrimination, harassment and abuse of authority	ECRP	Ensures the workplace is free of any form of discrimination and harassment

11	ECRP Environment and Social commitment Plan	ECRP-World Bank	ECRP will implement material measures and actions so that the Project is implemented in accordance with the World Bank Environmental and Social Standards (ESSs) as outlined in the Environmental and Social Framework (ESF).
12	UN Agency to UN Agency financial contribution agreement	UNOPS-IOM	Financial contribution agreement to IOM by UNOPS (PMU)
13	Memorandum of Understanding among Ministry of Finance and Economic Planning, Local Governance Board, UNOPS and IOM-13th October 2020	Government of South Sudan, UNOPS and IOM	Set out the scope of the Project as agreed in the Financing Agreement, elaborate on the responsibilities of each of the Participants (IOM, UNOPS, the Ministry and the Board), and to provide a framework for cooperation among the Participants for the implementation of the Project with due diligence and efficiency.]

3. References

1. Convention Immunities and Privileges of the United Nations https://treaties.un.org/doc/Treaties/1946/12/19461214%2010-17%20PM/Ch_III_1p.pdf
2. http://www.un.org/en/ecosoc/docs/2010/res%202010-23.pdf
3. ILO: Safety and Health in Construction Convention no. 167 (Dec. 2014) http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312312
4. ECOLEX, the gateway to environmental law, operated jointly by FAO, IUCN and UNEP http://www.ecolex.org/start.php
5. NATLEX, the ILO database of national labour, social security and related human rights legislation http://www.ilo.org/dyn/natlex/natlex4.home?p_lang=en
6. LEGOSH, the ILO global database on occupational safety and health legislation http://www.ilo.org/dyn/legosh/en/f?p=LEGPOL:1000
7. United Nations Security Management System, Security Policy Manual, Chapter VII Provisions on Safety Matters, D. Road Safety. 31 October 2011, https://www.un.org/undss/sites/www.un.org.undss/files/docs/security_policy_manual_spm_e-book_as_of_29_nov_2017_0.pdf
8. ST/SGB/2018/5 United Nations, Occupational Safety and Health management System

Health, Safety, Social & Environmental Inspection Report – Site

Project			
Person carrying out inspection			
Location		**Date**	

Number of Toolbox talks held since last inspection		**Number of personnel on site**		**Incidents since last inspection**	

NOTE: It is mandatory to document at least one HSSE inspection per week. Daily HSSE inspections are highly recommended.

1. **MARK THE ITEMS THAT HAVE BEEN INSPECTED**
2. **INCLUDE INSPECTION FINDINGS AND PRIORITY* FOR CLOSING THEM (you can also highlight best practices)**

*** Priority:** (A1) – Immediately (A2) – Within 24 Hrs (B3) – Within 3 Days (C) – Other (state)

Category		√	Observation(s) – add rows if necessary	Responsible	Date closed
1. General site layout & welfare (incl. housekeeping)					
Consider:	Site accommodation (toilets, canteen, water, dry clothing, cleanness) Sanitary conveniences (culturally acceptable, lockable, safe and well-lit access, gender sensitive) General appearance of the worksite (clean/untidy, fencing) Materials storage (protected, tidy, stored correctly), slip, trip and fall risks (protruding bars, cable management) Security, site boundaries (clearly marked/defined, safety signage displayed, security arrangements), lighting				

2. Emergency arrangements and response				
Consider:	Fire (evacuation plan, extinguishers, fire warning) First Aid (first aiders, first aid kit – location availability), spill kits (availability, location) Information display (emergency plan, contacts, site rules, policies)			
3. Work at height				
Consider:	Scaffolding (foundation, bracings, access, handrails, toe boards, tagging) Mobile platforms, ladders (locking, securing, tagging) Fall protection (edge protection in place, fall arrest systems, openings fenced off or covered)			
4. Equipment/Portable tools/Electrical appliances				
Consider:	Tools and equipment (condition, regular checking, maintenance, storage, guards in place) Transformers & Power Supply (security, connection, labelling, inspections)			
5. Excavations				
Consider:	Excavation, trench protection (shoring, placement of excavated material, fencing, railing) Dewatering arrangements			
6. Personal Protection Equipment (PPE)				
Consider:	Use, suitability for the task (i.e. dust masks or hearing protection), condition, storage Manual Handling			

7. Hazardous materials				
Consider:	Clear identification, labelling, storage, no smoking sign, asbestos Gas Cutting/welding (welding screens, flashback arresters, condition of the gas bottles and hoses)			
8. Traffic management				
Consider:	Planning, Routing, Turning areas, Delivery Management, Unloading area, Pedestrian Segregation, Access, Signage and traffic control, plan display, banksman Segregation of pedestrians and workers from vehicles			
9. Mobile plant equipment				
Consider:	Equipment safe and well-functioning (brakes, horn, reverse alarm, indicators, headlights and mirrors, tires, hydraulic systems) Radio communication procedures Maintenance and daily checks Segregation from pedestrians			
10. Risk Assessment and Method Statement (RAMS)				
Consider:	Work carried out according to RAMS, communication to workers			
11. Waste management and segregation				
Consider:	Waste segregation, availability of bins/skips/containers properly labelled, secured and protected i.e. from rain, animals Frequency of emptying bins, waste disposal/recycling according to plan			

	Separate, secure storage of hazardous waste in sealed, non-leaking, bunded area			
12. Fuel/oil/chemical storage				
Consider:	Fuels/chemicals/oils storage in bunded areas, use of drip trays, good condition of the drums and bund Designated refuelling area on site, located away from watercourse, bunded or on hard surface Gas storage in secure/lockable area; labelling and signage			
13. Drainage, dewatering, spillage control				
Consider:	Uncontrolled discharges to watercourses/drainages; storm water drainage; control of dewatering or overpumping activities; use of settlement tanks and/or oil separators Check for leaking equipment; use of drip trays; concrete wash out site; designated vehicles wash-down area (connected to drainage and oil separator) Sewage system from site/canteen/office discharge			
14. Ecology, archaeology and heritage				
Consider:	Ecological, archaeological or sensitive areas, protection from site activities; affected trees or vegetation			
15. Dust and mud				
Consider:	Dust control measures, excavated material stock piles covered, dust suppression system (sprinklers), traffic control around the site controlled (speed limited) Mud spreading prevention - wheel wash, dust suppression systems on the equipment i.e. on the chain saw			

16. Odour and air emissions				
Consider:	Burnings on site, waste burning prohibited on site Odour emissions Emissions from equipment/machinery/vehicles, related maintenance			
17. Noise and vibration				
Consider:	'Noisy' equipment, maintenance, noise mitigation measures i.e. is the equipment fitted with mufflers, screens, noise monitoring			
18. Labour relations; Community interface				
Consider:	Complaints from the neighbourhood, liaison with community/authorities Indications of child or very young workers presence, retaining salaries, other labour rights violations			
19. Prevention of gender based violence, sexual exploitation, abuse and harassment				
Consider:	Posters on prevention of GBV, SH and SEA Visible and accessible reporting channels for GBV, SH and SEA Evidence of GBV, SH and SEA training/awareness			

Name/Signature of Person carrying out Inspection:			
Approved by IOM Site Engineer		**Date**	