Document Transmittal Form (DT)

Project Name:	**Harrow School-Abu Dhabi**	**Project No:**	**2419 / AD353**
Client:	**Taaleem Management LLC**	**Location:**	**Abu Dhabi**
Consultant:	**Al Suweidi Engineering Consultants LLC**	**Reference No:**	**AS-AD353-DT-106-R0**
Contractor:	**Al Hikma Building Contracting LLC**	**Date :**	**30-Oct-25**

Subject: **Construction Environmental Management Plan (CEMP)**

Detail of Clarification/ Information Required:

Type: (Tick Applicable**)**	☐ Technical Data	☐ Guarantee	☒ Certificate	☐ Test Result
	☐ Schedules/ Programmes	☒ Report	☐ Statutory Issues (NOC)	☒ Others
Attachment	☐ Samples	☐ Drawings	☐ Catalogue	☐ CD's
Purpose of Issue	☒ For information	☐ For further Action	☐ For Record	☒ For Review

Detail : Construction Environmental Management Plan (CEMI

Issued By & Signature : (Project Manager)	**Issued To :**	**Action Required By :**
Mr. Jiries Hani		
Reference Document : (Attach if any relevant documents)	**Work Location : (**if applicable**)**	

Received By :		**Date :**	

Comments (if any) :

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

Eng. Ali
03/11/2025

Eng. Mohammad Al Kubba
03/11/2025

Note: This document provides information or clarification only. If the Contractor considers the provided information as change to the original Contract, then the Contractor has to obtain the required approval as established in the Condition of Contract.

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Construction Environmental Management Plan (CEMP)

For Harrow School-Abu Dhabi

Plot No: P13 Sector: SDW4

Al Saadiyat Island-Abu Dhabi

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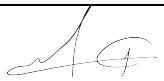
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Revision History

REV. No.	DATE	DESCRIPTION
00	29/10/2025	Construction Environmental Management Plan

Approvals

Printed initials in the boxes confirms that the document has been reviewed and approved.

AUTHOR	Yumaima Naeem / Reem Al Kayyali		29/10/2025
CHECKED BY	Iyad Al Khaldi		29/10/2025
REVIEWED BY	Said Qallud		29/10/2025
APPROVED BY	Said Qallud		29/10/2025
NAME		**SIGNATURE**	**DATE**

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1 Project Tile Page

The Harrow School-Abu Dhabi development is an initiative by M/s. Taaleem Management LLC, UAE .

Project Title:	Harrow School– Abu Dhabi
Project Start Date	14-05-2025
Project Finish Date	30-01-2027
Employer	M/S Taaleem Management L.LC Century Plaza, 1st Floor, Jumeirah Road, Dubai, United Arab Emirates, PO Box 76691. Phone: +971-4-349 8806.
Supervision Consultant	Al Suweidi Engineering Consultants Al Zahiyah - E16 01 - Abu Dhabi, UAE Phone: +971-2-644 4000
Principal Contractor	M/s. Al Hikma Building Contracting LLC P.O. Box 86609, Dubai, UAE Phone: +971-50-406 1077
CEMP Consultant	M/s Oxygen Consultancy Limited FD - Ground Floor Accelerator Building Masdar City P.O 135129 - Abu Dhabi +971-2-563-3986

2 Distribution List

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Oxygen Consultancy Limited has been appointed by Al Hikma Bldg. Contracting LLC fo

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The custodian of the final approved copy of this document will be the HSE Manager/Advisor of Al Hikma Bldg. Contracting LLC and copies of approved CEMP will be distributed to the following mentioned in Table: 2-1 and 2-2.

CEMP Custodian: HSE Manager of Al Hikma Bldg. Contracting LLC is the custodian of final approved copy. His roles and responsibilities have been described in section 5.3 of this document. A copy of approved document will be supplied to all concerned stakeholders to monitor the implementation of the CEMP to ensure regulatory compliance.

The Table 2-1 lists all the organization and parties that will receive a copy of the CEMP and the role of the Organization to the CEMP for the construction of Headquarters Building Project. The list will help to establish effective communication between the parties and stakeholders for the purpose of management of the environmental issues.

Table 2-1: CEMP Distribution List for External Stakeholders & Role of Organization.

Organizations to receive a copy of the approved CEMP	Description	Role of Organization
Taaleem	Project Employer	• Employer of the project and will be approving the CEMP. the client will need to have a copy of the final approved CEMP. • Taaleem will ensure that the Project contractors, sub-contractors, etc. are implementing and enforcing the approved CEMP requirements. • Ultimate responsibility for complying with environmental regulations and avoiding pollution during enabling works. • Maintains control over contractor activities during enabling works. • Designs project to minimize impact upon the environment.
		• Taaleem is responsible for establishment of project communication and reporting system.
		• Collect, review, and maintain al contractors' daily progress rep

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Al Suweidi Consultants	Project Consultant	• Will review the final CEMP and will ensure that Al Hikma Bldg. Contracting LLC implements all the requirements stated in the CEMP. • Reports on environmental performance to Project Owner • Develops Project EMS & sustainability framework (Environment & Sustainability Manager) • Develops and controls overall EHS framework (EHS Manager) • Managing environmental incidents and liaison with stakeholders
Al Hikma Bldg. Contracting LLC	Project Main Contractor	• Al Hikma Bldg. Contracting LLC is the project's main contractor who will be the custodian and will be responsible for the implementation for this CEMP. • Responsible for complying with contractual terms and conditions relating to environmental performance. • Comply with environmental regulations and avoid pollution during the performance of their scope of work. • Submits environmental data required by Project Owner. • Enforces contractual terms and reporting requirements upon subcontractors to ensure own compliance. • Regularly update CEMP during Project Executions. • Carries out environmental monitoring as per CEMP requirements.

Table 2-2: Internal CEMP Distribution List

Al Hikma Bldg. Contracting LLC Internal CEMP Distribution	Description of Roles & Responsibilities
	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution. 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities. effectiveness, and implementation.

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Corporate HSE Manager /HSE Advisor	The onsite HSE Manager will be responsible for the ensuring over all construction activities comply with pertinent to Health, Safety and Environment regulations and CEMP requirements.
Onsite Project Engineer	The onsite project engineer will be responsible for the supervision of implementation of the CEMP onsite.
HSE Officer	The HSE officer will be responsible for training of different team members on the requirements of the CEMP and report any incidents to the onsite HSE manager.

3 Introduction

Al Hikma Bldg. Contracting LLC, that extends the success and strength. It holds “A class” contracting license in different Engineering Fields and construction activities in the United Arab Emirates. Current project is related to the construction of Harrow School– Abu Dhabi.

This Construction Environmental Management Plan (CEMP) has been prepared by Oxygen Consultancy Limited (Environmental Consultant) on behalf of Al Hikma Bldg. Contracting LLC for the project “Harrow School-Abu Dhabi” (hereinafter referred to as ‘the Project’). The scope of this project is an Educational building including support services. This project scope also includes Outdoor Spaces, Landscaping, Pedestrian Ways, Roads, Staff and Visitors Parking. Al Hikma Bldg. Contracting LLC hereafter referred to as Al Hikma Bldg. Contracting LLC has been assigned by Taaleem to undertake the project construction work. This CEMP outlines the general principles to be adopted to minimize the impacts of the Project construction works on the surrounding environment.

This CEMP has been prepared to ensure that the construction program complies with all relevant Abu Dhabi environmental laws, regulations, and standards. It further aids all Contractors, subcontractors/suppliers, and project key stakeholders/interested parties to understand and comply with federal and local environmental laws, regulations and standards and other environmental compliance requirements of the project. It is the responsibility of the contractors and its subcontractors under the guidance and supervision of project proponent/employer & engineering consultant to ensure compliance with & fulfilment of all projects environmental requirements including all applicable environmental legal & regulatory requirements, CEMP and other project or contractual commitments.

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3.1 List of Abbreviations

AAQ	Ambient Air Quality
ADDC	Abu Dhabi Distribution Company
ADM	Abu Dhabi Municipality
CEMP	Construction Environmental Management Plan
CWM	Centre for Waste Management
COSHH	Control of Substances Hazardous to Health
EAD	Environmental Agency Abu Dhabi
EC	Environmental Clearance
EHS	Environmental Health Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management System
ESP	Environmental Service Provider
ESMA	Emirates Authority for Standardization & Metrology
ERP	Emergency Response Plan
GRP	Glass Reinforced Pipes
HDPE	High density Polyethylene
HSE	Health Safety & Environment
JRC	Joint Reinforced Concrete
Km	Kilometer
Kph	Kilometer per hour
LAeq	Equivalent Levels
SCBA	Self-Contained Breathing Equipment
UAE	United Arab Emirates

UNITS

ºC	Degree Celsius
mm	millimeter
m/s	meter per second
mg	
Db	

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3.2 Definition of Terms

Assessment Area—the physical area identified by the consultant and proponent for assessment of potential environmental impacts.

Bund—an impermeable enclosure or structure to contain spillage under or around an area where hazardous substances are stored or managed. Bunds should typically be provided at refueling stations, under any container with hazardous substances (oil, fuel, paints, solvents etc.) or any piece of machinery (i.e., generators) which may leak fuel, lubricants, or hydraulic fluids. It is good practice to provide drip trays for under construction vehicles prone to leaking lubricants. Bunds vary in complexity depending on the level of risks for spillage and the quantities of hazardous substances involved but should typically have a capacity equivalent to 100% of the largest storage tank contained within the bund.

Construction—the time that corresponds to any event, process, or activity that occurs during the construction phase (e.g., building of site, buildings, and processing units) of the proposed project or development. The construction phase terminates when the development goes into full operation or use.

Contractor and Subcontractor—Companies employed by the source owner to perform construction or decommissioning activities at the project site. The main contractor and subcontractors are responsible for adhering to the requirements in approved Environmental Management Plans and all applicable environmental regulations.

Construction Staff—The entire workforce, people employed by the project proponent or the contractor, persons involved with activities related to the project, or persons present or visiting the construction area, including permanent, contract or casual labor and informal traders.

Construction Environmental Management Plan (CEMP)—A detailed plan of action to organize and coordinate environmental mitigation, rehabilitation and monitoring so that positive impacts are enhanced, and negative impacts and damage to the environment are avoided, minimized, or rectified where required.

Decommissioning—the time that corresponds to any event, process, or activity that occurs during the decommissioning phase (i.e., destruction or dismantling) of the proposed project or development. The decommissioning phase follows the operation phase.

Emergency—any incident, accident, fire, or situation which endangers or is capable of endangering human life or property.

Environment—the surroundings within which people exist. The environment is made up of the soil, water, and atmosphere; fauna and flora; any part, combination, or interrelationships among these; and all the phy
hea
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environment.

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Hazardous Waste—Waste containing properties that are potentially harmful to human health and the environment, such as toxic, explosive, flammable or radioactive substances.

Incident—unplanned work-related unfavorable event which occurred or could have occurred.

Inspection Procedures—is the procedure which has been established to support the Project Organization regarding Quality Assurance and Quality Control.

Method Statement—A statement that outlines the activities to be performed by the contractor and the methods to be implemented for minimizing environmental impacts and ensuring compliance with environmental regulations.

Project Area—the physical area within which the proposed development—all construction, operations, and decommissioning activities and processes—will take place (the boundary of a project area is defined by a titled property boundary). The project area is equivalent to the project site.

Project Site—Definition is the same as project area.

Proponent—the developer, permit applicant, company, or agency associated with a proposed development.

Quality—Degree to which requirements have been fulfilled (poor, good or excellent).

Solid Waste—Rubbish, debris, garbage, and other discarded solid materials resulting from the activity.

Mitigation Measures—Measures designed to avoid, limit, or rectify undesirable environmental impacts.

Operation—the time that corresponds to any event, process, or activity that occurs during the operational phase (fully functioning) of the proposed project or development. (The operation phase follows the construction phase and then terminates when the project or development goes into the decommissioning phase.)

3.3 Structure of the CEMP

The remainder of this CEMP is structured as follows:

- **Section 4** describes the location of the Project, the scope of construction activities and the Project schedule as well as the existing baseline environmental conditions.
- **Section 5** describes the basis for environmental management of the construction works including policy statement, roles and responsibilities, communication, awareness and training, auditing, and environmental commitments.

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auditing requirements.

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- **Section 9** provides the requirements for updating this CEMP& other documentation requirements during the construction phase; and
- **Section 10** presents appendices including references to this CEMP.

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4 Project Description

This section of the CEMP entails information regarding:

- Project Details
- Location
- Scope
- Overall project planned activities, and
- Project schedule and milestones.

Table 4-1: Project Details

Project Title:	Harrow School– Abu Dhabi
Project Start Date	14-05-2025
Project Finish Date	30-01-2027
Employer	M/S Taaleem Management L.LC Century Plaza, 1st Floor, Jumeirah Road, Dubai, United Arab Emirates, PO Box 76691. Phone: +971-4-349 8806.
Supervision Consultant	Al Suweidi Engineering Consultants Al Zahiyah - E16 01 - Abu Dhabi, UAE Phone: +971-2-644 4000
Principal Contractor	M/s. Al Hikma Building Contracting LLC P.O. Box 86609, Dubai, UAE Phone: +971-50-406 1077
CI	M/s Oxygen Consultancy Limited 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution. 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

4.1 Project Location

The location coordinates are provided in Table: 4-2.

Project Location Coordinates		
Al Saadiyat Island	24.545972 24°32'45.5" N	54.443688 54°26'37.3" E



1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Figure 4-1: Project Location

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4.2 CEMP Scope

CEMP is prepared in accordance with EAD Guidelines [EAD-EQ-PCE-TG-05] to ensure that Construction development considers aspects of environment protection and pollution control, in accordance with requirements outlined in Federal Law No.24 of 1999 for the Protection and Development of the Environment. Its intent is to ensure that effective, site-specific, and implementable procedures and mitigation measures are in place to control and monitor the identified environmental impacts during the construction activities of the Project, in accordance with EAD requirements. Furthermore, it aims to demonstrate the commitment of Al Hikma Building Contracting LLC to comply with the applicable environment regulations of the UAE, local requirements of EAD and applicable international standards. The following provide details of the specific objective of the plan:

- To establish a framework for environmental management ensuring consistent implementation of mitigation measures.
- Establish procedures and work practices that are designed to mitigate environmental impacts.
- Ensure that the project construction activities comply with all UAE/EAD environmental standards set for environmental protection.
- Implement an effective monitoring program in the vicinity of the project to confirm that mitigating measures are being implemented appropriately.
- Regularly evaluate construction activities and environmental monitoring data to identify, where necessary, changes to the construction program to ensure that environmental conditions remain at acceptable levels.
- Undertake an audit program to confirm that all measures stated in the CEMP are being implemented appropriately; and

Maintain an elevated level of environmental awareness amongst all personnel involved in the construction activities.

4.3 Overall Project and Planned Construction Activities

This section includes information on the baseline conditions, identifies sensitive receptors, includes a method statement describing the planned construction activities, and provides information on any required permits or licenses.

4.3.1 Environmental Baseline, Current Conditions and Sensitive Receptors

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General Climatic Conditions

The climate of UAE can be divided into two principal seasons: the cool winter season, which extends from December to March and the hot summer season from June to September. The months of April to May and October to November are transitional months. Table 4.3 shows the monthly temperature, relative humidity, rainfall and wind speed extracted from International Metrological data report Abu Dhabi.

Table 4-2: Monthly Average Meteorological Data for 2020 to 2023

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	19.4 °C (66.9) °F	20.5 °C (68.8) °F	23.1 °C (73.6) °F	27.3 °C (81.1) °F	31.3 °C (88.4) °F	33 °C (91.4) °F	34.9 °C (94.8) °F	35.3 °C (95.5) °F	33 °C (91.5) °F	30 °C (86) °F	25.7 °C (78.3) °F	21.5 °C (70.8) °F
Min. Temperature °C (°F)	15 °C (59) °F	15.7 °C (60.3) °F	17.9 °C (64.3) °F	21.5 °C (70.7) °F	25.2 °C (77.4) °F	27.3 °C (81.1) °F	29.6 °C (85.3) °F	30 °C (86) °F	27.8 °C (82) °F	24.7 °C (76.4) °F	21.1 °C (69.9) °F	17.3 °C (63.1) °F
Max. Temperature °C (°F)	23.4 °C (74.2) °F	25 °C (77) °F	28.2 °C (82.8) °F	32.8 °C (91) °F	36.9 °C (98.5) °F	38.5 °C (101.3) °F	40 °C (104) °F	40.7 °C (105.3) °F	38.4 °C (101.1) °F	35 °C (95.1) °F	29.9 °C (85.9) °F	25.5 °C (77.8) °F
Precipitation / Rainfall mm (in)	8 (0)	10 (0)	11 (0)	3 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	3 (0)	6 (0)
Humidity(%)	63%	60%	55%	50%	49%	55%	54%	52%	57%	58%	59%	64%
Rainy days (d)	1	1	1	0	0	0	0	0	0	0	0	1
avg. Sun hours (hours)	8.4	9.4	10.4	11.3	11.9	12.2	12.1	11.6	10.9	10.1	9.4	8.5

By reviewing the meteorological data for Abu Dhabi 2020-2023. The Maximum average temperature records is ~ 41°C in July–August and the coolest temperature drop to ~ 18-19°C in January & February.

Mean relative humidity for project is more than 50-60+% the whole year so the same applies for the project.

While Rainfall records in overall Abu Dhabi are very limited, ranging up to ~ 8-10 mm during winter season (January, February). This limited precipitation characterizes the general hyper-arid climate in UAE.

4.3.2 General Site Conditions and Sensitive Receptors

Based on the ocular survey and desktop environmental review, existing environmental conditions at the project site were assessed, and background concentrations for key environmental parameters (air, noise, and soil) were compared against relevant UAE Federal and EAD standards.

The Harrow School-Abu Dhabi project site is located within Saadiyat Island, a rapidly developing mixed-use area consisting of residential communities, educational institutions, and cultural landmarks. The surrounding environment is characterized by ongoing infrastructure and construction activities that contribute to

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potential environmental interactions are summarized below:

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1. **Cranleigh British School, Saadiyat Island:**

   An established international school located approximately 1.5 km from the project site. During operational hours, the area experiences moderate vehicular traffic and noise, particularly during student drop-off and pick-up times.

2. **Saadiyat Lagoons Residential Development:**

   A large-scale residential project under active construction within the Saadiyat development zone. Construction activities such as excavation, material handling, and road works generate localized dust and noise, which may have minor, temporary effects on ambient air quality in the vicinity of the Harrow School site.

3. **Saadiyat Cultural District (Museum Area):**

   A major tourism and cultural development located within 3 km of the project site. While not directly adjacent, intermittent construction and logistics traffic associated with the district may contribute to regional emissions and cumulative environmental effects on Saadiyat Island.

Collectively, these nearby projects contribute to moderate cumulative environmental influences, primarily related to dust dispersion, vehicular emissions, and intermittent noise, typical of ongoing mixed-use development in Saadiyat Island.

Sensitive Receptors

Sensitive receptors in the vicinity of the project site were identified based on proximity and environmental sensitivity. The receptors considered for air quality and noise assessments are as follows:

Table 4-3: Identified Sensitive Receptor surrounding at the proposed project site.

Sr. No.	Sensitive Receptor	Sensitivity
1	Residential Communities	Saadiyat Residential Villas and Communities (high sensitivity).
2	Educational Facilities	Cranleigh British School and Nearby Educational Facilities (moderate to high sensitivity)
3	Road Users and Pedestrians	Traffic movement adjacent to project boundaries (medium sensitivity).
4	Construction Activities	Construction Workforce from Adjacent Development Areas (medium sensitivity).

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The existing environment at the project site has been established through the following:

- An initial drive-over through site conducted by environmental consultant.
- Desk based review of information relating to existing environment.
- EAD studies & resources, EAD Enviroportal.
- Original ground level drawing.
- Geotechnical investigation report.

Overall, the Harrow School -Abu Dhabi project site is located within a well-developed and planned mixed-use zone on Saadiyat Island, with moderate and manageable environmental sensitivities. Appropriate mitigation and monitoring measures, including dust suppression, traffic and material movement control, and noise management will be implemented throughout the construction phase to minimize cumulative and site-specific environmental impacts.

4.3.2.1 Air Quality

The project sites are located in Saadiyat Island, Abu Dhabi. Ongoing urban development in these areas contributes to elevated ambient dust levels. Air quality data are referenced from EAD monitoring statistics for nearby residential zones. The key air-sensitive receptors are construction workers and residents near the project sites.

Table 4-4: Ambient Air Quality Baseline Data for Saadiyat Island (2021–2024).

Parameter	2021	2022	2023	2024
SO_2 (Microgram/m^3)	8-10	9-11	8-10	9-10
NO_2 (Microgram/m^3)	25-30	26-32	24-28	25-30
Ozone (Microgram/m^3)	60-68	62-70	64-72	65-74
PM10 (Microgram/m^3)	90-110	100-120	95-115	100-125

Air quality baseline measurements for a period of 4 years from 2021-2024. This data indicates that SO_2 and NO_2 concentrations remain within EAD's permissible limits, while PM10 levels fluctuate moderately due to ong
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4.3.2.2 Noise

Noise level measured near project site is within allowable limits as there is no major potential source of noise, but the construction activities will result in increase of sound level which can be mitigated by different Noise management techniques which are described in section-7.6.

4.3.2.3 Soil & Groundwater

The topsoil of the site is principally sand. The soils of Abu Dhabi can broadly be categorized as sandy, sand dune, sandy calcareous, gypsiferous, saline, saline-gypsiferous, and hard pan soils etc. These soils have been classified under three soil orders (Aridisols, Entisols and Inceptisols) of the Soil Taxonomy (USDANRCS, 1999). Entisols are the most occurring soils, followed by Aridisols to a lesser extent, and the Inceptisols is the least occurring soils in the Emirate.

Dewatering activities will be conducted based on site conditions. If required, a dewatering permit shall be obtained from ADM to conduct dewatering activities.

4.3.2.4 Terrestrial Ecology

A limited range of fauna is present on the project site. As the project area lies in a costal predeveloped land, the impact on terrestrial ecology is not significant.

Wildlife (Fauna)

No significant impacts are anticipated to occur on fauna.

Flora

No significant impacts are anticipated to occur on flora.

4.3.2.5 Marine Water and Marine Ecology

The project is far away from marine water, protective measures of sea water quality and Sea grass beds shall be considered if marine applicable so there will be no direct discharge to marine.

Discharge to Marine Waters

The project is far away from marine water, dewatering activities could be required if needed as per water table If there is a plan to for discharging any water, a proper NOC will be obtained from EAD Authority.

Wildlife (Fauna)

No significant impacts are anticipated to occur on marine fauna.

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geological times, with the exemption of mountainous regions shared with Oman in the

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country relatively low-lying with near surface geology dominated by Quaternary to late Pleistocene age, mobile Aeolian dune Sands & Sabkha evaporates deposits.

Conditions in the Abu Dhabi Emirate consist of a linear coastline dissected by channels or creeks. Superficial deposits consist of the beach Dune Sands together with Marine Sands and silts. In addition, wind erosion, Capillary action and evaporation has led to extensive Sabkha deposits in the certain areas, notably around creeks. These superficial deposits area underlain by alternating beds of Calcarenite, Carbonate, Sandstone Sands sandstone & cemented sand.

The site is situated in Abu Dhabi Emirate where a hot arid climate prevails. A hot arid climate is one where the evaporation exceeds precipitation such as rain, snow, and dewfall. This climate regime produces characteristics of hot dessert terrains. Average annual rainfall may only be a few centimeters which usually occurs seasonally and sometimes only for single cloudburst. Summer shade temperatures are frequently excess 40 °C and humidity is around 100% near the coast. The contrast between maximum night and day temperatures and between night and day humidity is often great. Strong persistent winds are normal in many areas.

4.3.3 Construction Project Description

This section presents the method statement and technical details of the construction processes and equipment to be used for the Harrow School-Abu Dhabi project. The description identifies the construction activities, associated environmental interactions, and operational schedules to evaluate potential impacts during each phase.

Construction activities will generally take place during daytime working hours, with noisy operations restricted to permissible periods in accordance with EAD and Abu Dhabi Municipality regulations. The construction of Harrow school Abu Dhabi in Al Saadiyat Island Abu Dhabi project comprises the infrastructure development, construction, completion and maintenance during the defect's liability period of the Construction of the main works of the. Harrow school the scope of works shall include the following:

Scope of Construction Works

The detailed construction scope includes, but is not limited to, the following activities:

- Earthwork & Structural works
- Blinding
- Pile Head Treatment, waterproofing and protection
- Substructure including removal of props and/or de-stressing of ground anchors

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- Interior fixed fixture and fitting installation

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- Architecture Works includes such as wall finishes, floor finishes, electrical works, mechanical works, firefighting works, HVAC works and all related finishing works.
- External MEP Services includes such as external utility holes for all services, pavers, installing of poles etc.
- Any required onsite adjustments to locations of street lighting and utilities at area of the car park entrance ramp and carpark surface set downs
- Systems commissioning
- Snagging
- Handover and close out documentation

Mobilization, Site Preparation & Site Clearance

Site will be cleared and site offices, site laboratories, rest areas, stores, will be set up. Temporary hoarding will also be constructed around the site boundary to protect the site. All clearances from the statutory authorities will be obtained. During mobilization, site access roads from the existing nearby main roads will also be developed. Transport of materials and equipment to the site during the construction phase will involve a temporary increase in the local traffic volume. Mobilization of construction equipment, materials, plant, machinery, and mobilization of workforce will be conducted. The transport will be via the road network. Existing structures and services like irrigation pipelines etc. within or adjacent to the area if required need to be protected and/or shall be diverted as per directions of the Engineer-in- Charge.

Site staff & workers conveyance, accommodation, lab, mess & other site facilities

All travels between site, site office, head office, various work area, etc. Temporary accommodation, lab, staff accommodation, mess, etc.. Required security arrangements & hard stand or covered parking.

Material Storage and Handling

Establish designated areas for material storage and handling at the site facilities.

Site Works

Site preparation & setting out, Excavation & Leveling, Backfilling & compaction only below footing, Anti-termite application & setting out Substructure Anti-Termite & PCC for footing, Bitumen for PCC for footing, Ext
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Superstructure

Ground floor- Pre-cast wall erection, Water tank wall, H C S erection, Expansion joint filler, structural topping, RC projected elements & Equipment foundations, GRP ladder fixing; Roof floor- HCS erection, HCS structural topping, Pre-cast Parapet, Chiller, AHU, FAHU foundations; Roof water proofing- Metal flashing & drain, Foam concrete, Bitumen application, Membrane application, Leak testing, Geotextile layers & polystyrene thermal insulation, Terrazzo tile laying over roof

Doors & windows

External window & door frame installation, External aluminum door installation, External steel door installation, External window glazing; Internal Doors & Windows- Subframe for wooden door installation, Door frame for wooden door installation, Internal Aluminum windows installation, Internal steel door installation, Internal Aluminum door installation, Door shutter for wooden door installation, Ironmongery for wooden door installation.

Building Services

Mechanical-Chilled water piping in plantroom, Ducting woks along with VAV & CAV Installation, Chilled water piping in roof, Roof ducting, Roof insulation, Dropping of HVAC ducts, Roof cladding & Installation of Louvers, AHU/ FAHU/CHILLER/EF/HRW/Make up Chemical dozing installation on roof, Grilles/diffusers/air Louvers installation, Chiller installation, A/c Machine connections, FCU hanging, Extract Fans, CCU/Air Curtain/Extract Fan Installations; Drainage - Underground Drainage Piping- Internal, Roof rain water outlet fixing, Sanitary Fixtures Installation, Sanitary Accessories Installation; Plumbing - Puddle flange on water tank, Toilet Block Wall chasing, Piping along with ancillary fittings, Water Meter Installation, Water Heater Installation, Roof water supply PPR piping, Emergency water tank fixing on Roof, GRP Tank Installation, Installation of Pumps, Piping of Pumps, Water Conditioning System Installation; Fire Fighting-Piping along with ancillary fittings, Branch piping, Fire cabinet/ Breeching inlet installation, Dropping works, Sprinkler installation, Control Panels and Fire extinguisher installation, Pump installation, Pump room piping, Pump connections; Electrical.

Equipment work

Kitchen equipment installation, Kitchen/ pantry wall & base unit installation, Drinking fountain installation.

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Wood work- GRC panels & projections, GRC copping to parapet, Acrylic vanity top installation, Granite vanity

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top installation, Mirror fixing, Counter installation, Wooden cabinet installation, Shoe rack installation, External signage's.

Finishing work

External finishes- Surface preparation & rush for external plaster, External plaster works, Primer application external, Texture application external, First coat painting external, Final coat painting external; Internal Wall Finishes- Primer application, Wall tiling, GRP lining to water tank walls, Putty application, First coat painting, Final coat painting; Internal Floor Finishes- GRP lining to water tank, Porcelain floor tiling, Non slip ceramic floor tiling, Marble thresholds, Concrete Hardener, Carpet flooring, Vinyl sheet, Epoxy Flooring; Internal Skirting Finishes- Porcelain skirting, Meranti skirting, Epoxy skirting; Internal Ceiling Finishes- wet area waterproofing-bitumen application, Wet area waterproofing-membrane works, Wet area waterproofing-leak testing, GRP lining to water tank. ceiling, suspension for metal ceiling, Suspension for gypsum ceiling, Ceiling plaster and paint, Metal tiles installation, Gypsum board/ tiles installation.

External civil works

Storm water piping, Sewer piping, External water supply works, Storm water manhole works, Sewer manhole works, catch basin & soak away works, Excavation & Mainline laying for irrigation, Fixing of all valves & valve boxes, External electrical Sleeves and Cabling, External Telephone works, Laying of submains & drip lines, Earthing works, Vehicle charging point, External light fixing.

Chemical storage area

All chemicals will be collected in a designated storage area, provided with spill kits and away from sensitive areas.

Concrete washing area

Concrete washing of all concrete trucks will be undertaken in a bunded concrete washout area within the site boundaries, away from storms and ADSSC networks. Wastewater from the concrete washout area will be collected in a tank and allowed to evaporate or will be pumped out by a tanker and disposed of by an approved environmental service provider. In addition, the concrete will be broken and disposed of as

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All waste will be collected at the designated waste storage area and will be disposed of [illegible] requirements. The waste storage area will be compliant with Estidama requirements an [illegible] s

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waste types: paper, concrete, general waste, metal, wood, plastic, and hazardous waste areas. Hazardous waste will be sorted on-site in a designated area with impervious bund for regular collection and appropriate removal to a suitable waste facility. A CWM-AD approved waste contractor shall collect and remove the waste from the Project site.

GRP Tank Installation

1. **Preparation and Civil Works**
    - Excavation and leveling of the tank base area.
    - Application of anti-termite treatment and construction of PCC foundation.
    - Waterproofing of the base slab and walls prior to tank installation.
2. **Tank Installation**
    - Positioning and alignment of GRP tank panels and accessories.
    - Fixing of puddle flanges, inlet/outlet pipes, and overflow connections.
    - Installation of internal baffles, ladders, and access hatches.
    - Leak testing and disinfection of the tank before commissioning.
3. **Connection and Integration**
    - Connection of the GRP tank to pump room pipelines, roof water supply, and drainage systems.
    - Testing of the full water supply and return systems prior to final approval.

External Civil and Infrastructure Works

1. **Earthworks and Utility Trenching**
    - Excavation and trench preparation for stormwater, sewer, water supply, and chilled water lines.
    - Installation of manholes, inspection chambers, and valve chambers.
    - Placement of PVC and HDPE pipes for water, irrigation, and electrical conduits.

2. **Stormwater and Sewerage Network**
    - Laying of stormwater and sewer lines, including manholes and catch basins.
    - Installation of soakaway pits, drainage connections, and road gulleys.
3. **Irrigation and Electrical works**
    - Excavation and backfilling for irrigation sub-mains and drip lines.
    - Installation of control valves, valve boxes, and cable sleeves for electrical utilities.
    - Laying of earthing cables, street lighting, and vehicle charging points.

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All works- final testing & inspection & Commissioning

Upon completion of construction, all systems; mechanical, electrical, and plumbing will undergo testing, commissioning, and inspection to ensure compliance with project specifications and regulatory standards. Final cleaning, site demobilization, and handover will be conducted upon successful completion of all works.

Demobilization, Handover Final site cleaning

4.3.3.1 Resource Consumption

Natural resources will be consumed during these project activities. There will be water consumption during production process, office activities or drinking water. Moreover, fuel will also be consumed at site plants, generators, power tools and site vehicles.

Table 4-4: List of Resources Consumption

Water Consumption	300 m^3 per month
Fuel Consumption	6000 Gal per month
Paper Consumption	12000 no. per month

4.4 Project Schedule And Milestone

The project schedule is given below Table 4-6.

Table 4-5: Project Schedule

S. No	Description	Date
2	Project Start Date	14-05-2025
3	Project Completion Date	30-01-2027

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5 Environmental Management

This section provides the critical analysis of Al Hikma Building Contracting LLC Health, Safety and Environmental (HSE) Policy. As the main contractor of the project, Al Hikma Building Contracting LLC will be responsible for implementing CEMP during the construction phase of the project. The HSE policy provides the guidelines for effective management of environment, health, and safety within the organization by providing a clear statement of intent and an important reference document for staff and third parties at all levels of responsibility. It demonstrates the company's commitment to HSE, and their in-place system ensures compliance with HSE regulations. Al Hikma Building Contracting LLC has in place their corporate Environmental Management System (EMS) comprising of environmental policy, EMS Manual, and procedures. The important components of the EMS applicable to the construction are discussed and described in the following sub section.

5.1 Environmental Policy

Al Hikma Building Contracting LLC project line management is committed to HSE training, which is vital in enhancing project performance, realizing their safety objectives, and achieving total customers' satisfaction in the safety, environmental and project management.

They will conduct training for employees and subcontractors to improve their competence to match performances to international standards using the latest technology in safety, environment, and project management system.

They encourage participation of employees and their presentation in seminars and meetings to upgrade their skills to create continual improvement in their performances, to build Al Hikma Building Contracting LLC as the one of the leading companies in the UAE.

Objectives

Al Hikma Building Contracting LLC recognizes that it has a responsibility to help protect the environment wherever it has an opportunity to do so, be a responsible neighbor and to provide a comfortable environment for its employees to work in.

As such, the Company is committed to:

- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- Complying with all relevant legal, customer, and other third-party requirements.
- Adopting best practices applicable to its activities wherever practicable.

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ENVIRONMENTAL POLICY

AL HIKMA BUILDING CONTRACTING (L.L.C) is committed to protecting and enhancing our natural habitats and building a cultural environment to realize our vision for Dubai as an outstanding and globally recognized sustainable tourism destination.

To this end, we will:

- Allocate adequate resources to achieve our vision.
- As an Entity, we shall comply with the relevant UAE legislation and support our sector to help achieve our common vision.
- Proactively engage with stakeholders and work with them to eliminate and control environmental impacts.
- Protect the environment through continual improvement of our environmental performance and prevention of pollution.
- Drive continual improvement by monitoring and reporting our performance against the best industry practices.
- Review the environmental policies, procedures, and practices to ensure that the system remains relevant and appropriate.

Our Environmental Goals are:

- Improve indoor environmental quality within the company.
- Reduce our ecological footprint in line with the industry's best practices, specifically:
  - Reduce water and energy consumption.
  - Reduce and Manage Waste.
  - Reduce resource consumption and maximize efficiency.
- Avoid, reduce, and control the use of hazardous or toxic substances.
- Protect, maintain, and/or improve the quality of the natural and built environment.

This policy applies to and is required to be implemented by all employees, suppliers, External service providers, and the contractors of **AL HIKMA BUILDING CONTRACTING (L.L.C)**.

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1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Figure 5-1: Environmental Policy

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5.2 Environmental Management System

Al Hikma Building Contracting LLC has the following management system.

- Fire Prevention and Protection Plan
- Emergency Response Plan
- Dust/ Air Pollution Control
- Spill Prevention & Contingency Plan
- Waste Management
- Safety Incentive Program
- Manual Handling Procedure
- Excavation Infrastructure/ Road Work Procedure
- Mobile, Crane, Rigging/Lifting Operation Procedure
- Site Control/Access Control Plan

Al Hikma Building Contracting LLC project specific HSE Plan has been prepared to fulfil the project requirements. It also addresses key elements of EMS as applicable to the project construction including.

- Risk Assessment and Management
- Environmental Impact Analysis.
- Incident Reporting & Investigation

The foregoing Al Hikma Building Contracting LLC-EHS Management System provides some basic guidelines on the health, safety and environment management system and standards which Al Hikma Building Contracting LLC will maintain while working on the site. All employees share the total responsibility of ensuring that all activities are always conducted in the safest manner. Al Hikma Building Contracting LLC will assure us that the time spent onsite will be rewarding and that its aim of zero personnel accidents and zero property and environmental damage is achieved.

Please refer to *Appendix A*- for complete details on Al Hikma Building Contracting LLC Site HSE Management Plan.

5.3 Roles And Responsibilities

The following section summarizes the main EHS roles and responsibilities of the various individuals Al Hikma Building Contracting LLC.

- Corporate HSE Manager
  1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
  2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
  3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- Project Safety Engineer/ Officers
- Project /Site Engineer
- Site Supervisors / Foremen

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- Plant and Equipment In-Charge / Supervisor
- Plant / Equipment Operators
- Site Plumber
- Flagger / Banks Man
- Rigger / Signaler
- Store In-charge / Storekeeper
- Contractor Employees / Ordinary Workers
- Fire Warden
- Security Officer

The contact information and position of each key person who will be involved in the project are provided in Table 5-1 below:

Table 5-1: Management Contact Details

Name	Position	Contact Number
Mr. Jiries Hani Oweis	Senior Project Manager	+971-50 4061077
Damodhar Zamuni	HSE Engineer	+971-56 8287679

5.3.1 Responsibilities

The HSE Department is responsible for defining responsibilities and authorities for HSE Management system and preparation for HSE System manuals & other documents. Specific HSE responsibilities assigned to the key project members are detailed in the following section.

5.3.1.1 Corporate HSE Manager

The Corporate HSE Manager has the responsibility and authority that includes.

- Ensuring that the Environment, Health & Safety Management System processes are implemented and maintained in compliance with Abu Dhabi Occupational Safety and Health System Framework (ADOSH--SF)
- Reporting to higher management on the HSE performance monthly.
- Promote the EHS Management System by personal example and leadership.
- Monitoring, measuring, and analyzing the performance of the implemented management system and
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- Review Company activities and ensure compliance with OSH & E Policy, OHSMS a
- Generating reports regarding the status, progress, and the performance of the or

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- Reporting EHS incidents to the SRA with complete investigation report.
- Implement and execute OHS training plan for Company OHS and other personnel.
- Attending the HSE Committee Monthly and escalating HSE concerns in the Committee meeting, also initiate to make closeout of pending issues.
- Any other OHSE related duties that may be required by Al Hikma Building Contracting LLC Top Management

5.3.1.2 Project Manager

The Project Manager (PM) has the responsibility and authority that includes.

- Responsible for safe, efficient, and profitable operation of the project
- Responsible for the total compliance of this Project HSE plan. Monitoring its implementation and effectiveness. As well as from time to time updating the document.
- The project engineers, site managers and the HSE Personnel will assist him in fulfilling this responsibility.
- Arranging to provide adequate resources to the site management to comply with all the provisions of this Health, Safety and Environment Plan and Corporate HSE Manual as well.
- Coordinating with Client HSE Department for serving their scheduled project site inspections
- Chairing the safety review meetings.
- Chairing the Weekly HSE Meeting with Client.
- Ensuring that JSA is available for the entire critical job of the project and to ensure updating the same at regular intervals whenever needed.
- Attending weekly safety workarounds by accompanying the HSE Personnel, Site Engineers, and Site Supervisors/ Forman
- Conducting Weekly Safety Walk around meetings after site walk around. Determine the following at the planning stage:
    - The most suitable method of performing the job.
    - Allocation of responsibilities for supervision and sub-contractors (if any)
    - Storage area, access, facilities for welfare, first aid, sanitation, transportation, and waste dumping area.
    - Basic precautions for dealing with fire and related work hazards.
    - Availability of trained and competent personnel to do the job.
- Attend the HSE Committee meeting Monthly and evaluate HSE concerns in the Committee meeting and

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5.3.1.3 Construction Manager / Sr. Project Engineer

The CM/ Sr. Project Engineer have the responsibility and authority that includes.

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- To assist Project Manager in managing the project site.
- To conduct the verification of material requisition and taking-off quantities/site measurement. To prepare and maintenance of material requirement schedule.
- To prepare and maintenance of subcontractor award schedule.
- To prepare and maintain budget and cash-flow.
- To Consult with Head Office (Contract/ Purchasing Department) on subcontractor's award and material scheduling.
- Acquisition of Plants and Machinery as required by the construction function.
- Preparation and processing of progress payment claims and variation orders.
- To verify drawings/technical specification for adequacy.
- To monitor progress of construction operation
- To supervise, plan and direct the construction work force daily.
- To control the storage of material and equipment.
- To perform any other duties as and when required.
- Attend the HSE Committee meeting Monthly and evaluate HSE concerns in the Committee meeting and initiate to make closeout of concern issues.

5.3.1.4 Project HSE Manager

The HSE Engineer/ Project HSE Manager has the responsibility and authority that includes.

- Implementing this Project HSE Plan and maintain.
- Set the HSE Procedures and Policies as per this Plan.
- Conducted management meetings, site visits and internal audits.
- Monitor the activities of the Project HSE program.
- Serve as chairperson of the in-house committee to investigate accidents and report findings to the General Manager
- Coordinate with project safety officer regarding day-to-day activities at all project sites
- Research and approve safety campaigns and safety promotions to improve HSEMS awareness.
- Conduct the HSE Committee meeting Monthly and escalate HSE concerns in the Committee meeting and advise to make closeout of concern issues.
- Establish and implement written project Emergency and Fire Protection Plans.
- Conduct incident investigations in conjunction with the appropriate field supervisors, documenting the accident or incident, reviewing, and correcting the problem area(s).
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- Liaison with client to understand expectations.

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- Liaison with local governmental authorities and stay informed of changes to local regulations or standards.
- Advise site management on the following.
- Reasonable means to improve working conditions, existing work methods and practice.
- Way to prevent fire, injury, and property damage.
- Legal/ Contractual requirements affecting HSE.
- Provision and use of specific PPE for all tasks
- Predictable job hazards on site in which affected work force must be cautioned before their work starts.
- Observed deviations from approved procedure/ work methods or non-conformance to the client - approved project specific HSE programs.
- Project Cost control Review subcontractors all documents, e.g., MSRA, PQ etc. prior to submit to SC/PMC
- Ensure the Subcontractors employees are following all HSE requirements.
- Conduct HSE meeting with Subcontractors HSE and Management team continues to ensure the compliance with ADOSH, Approved MSRA and other HSE related concerns.
- Conduct compliance audit on Subcontractor's H&S management system, camp & welfare, Plant & Equipment's, certifications etc.
- Ensure the accident/incident reported by subcontractor timely.
- Ensure all HSE related concerns closeouts submitted timely by subcontractors.
- Providing safety induction to all the staff and workers prior to the start of the project and all newly arriving at the site on time to time. Maintaining record of conducting such programs
- Providing clear awareness of Al Hikma Building Contracting LLC HSE Policy to all workforces in their own language during induction training.
- Conducting induction training, in-house training, and risk assessment training with all Line Management Staff and other staffs
- Making training matrix for the project.
- Conducting refreshment training for workers.
- Providing specific training for different level of people at site
- Conducting all kind of safety trainings to all sub-contractors and supply peoples
- Evaluating the trained workers and staff by conducting test papers or interviews.

5.3.1.5 Project Site Engineers

Site

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Monitor the implementation of this Health, Safety and Environment plan with the r daily.

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- Applying all necessary PTWs as per the PTW Procedure mentioned in this Project HSE Plan
- Being accountable for his behavior and responsible for his own safety and occupational health
- Reporting all accidents/ incidents immediately to the project Safety Officer
- Attending and actively participating in all project safety meetings and daily toolbox talk for the crew.
- Ensure the adequate availability of all necessary PPEs for his crew members and ensure the usage of the same by the crew members during working.
- Execute all project work with adequate attention and care. Take the time necessary to plan the work to avoid time pressure and further dangerous situations which may arise from time pressure.
- Assist the line management in maintaining a safe, clean, and functional working environment. Maintain good housekeeping clean your workplace and tooling after use. Remember - a clean place is a safe place.

5.4 Regulatory Requirements

Al Hikma Building Contracting LLC will comply with all relevant local and international EHS standards. The current legislative framework includes standards and regulations from the following authorities:

- UAE Federal Law No. 24 of 1999 for the Protection and Development of the Environment.
- UAE Federal Law No. 24 of 2009
- Abu Dhabi Municipality Green Building Legislation and Regulations
- Law No. 4 of 1996
- Law No. 16 of June 2005
- EAD Technical Guidance for Construction Environmental Management Plans (EAD-EQ-PCE-TG-05, 2014).
- Regulations for the Assessment of Environmental Effects of Installations (2002).
- Regulation for Handling Hazardous Materials, Hazardous Wastes and Medical Wastes (2002); and
- Regulation for the Protection of Air from Pollution (Ministerial Decree No. 12 of 2006), which contains the following standards:
    - Air Pollutants Emission Limits for Stationary Sources.
    - Maximum Allowable Emission Limits for Air Pollutants Emitted from Hydrocarbon Fuel Combustion Sources.
    - Ambient Air Quality Standards (Air Pollution Limits in the Ambient Air); and
    - Allowable Limits of Noise Levels in Different Areas.
- ISO 45001:2018
- ISO 14001:2015

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Whenever there is variation among the above standards, Al Hikma Building Contracting LLC will adhere to the most stringent requirements to ensure full environmental compliance and best practices in waste management, pollution prevention, and occupational safety.

AE Federal Environmental Regulations

The principal Federal Law covering environmental protection in the UAE is Federal Law No. (24) Of 1999. The administration of Federal Law No. (24) In each Emirate of the UAE is conducted by the designated "Competent Authority", which is responsible for developing environmental regulations that implement the requirements as set out in the Federal Law. In the Emirate of Abu Dhabi, the "Competent Authority" is the EAD.

Federal Law No. (24) Established the framework for environmental protection in the UAE and has the following key objectives:

- Protection and conservation of the quality and natural balance of the environment.
- Control of all forms of pollution and avoidance of any immediate or long-term harmful effects.
- Development of natural resources and conservation of biological diversity.
- Protection of society, human health, and health of other living creatures.
- Protection of the State environment from the harmful effects of activities undertaken outside the region or State; and
- Compliance with international and regional conventions ratified or approved by the State regarding environmental protection, control of pollution and conservation of natural resources.

Federal environmental regulations have been established under Federal Law No.24 and are applicable throughout the UAE. Of relevance to the Project are:

- Regulations for the Assessment of Environmental Effects of Installations (2002).
- Regulation for Handling Hazardous Materials, Hazardous Wastes and Medical Wastes (2002); and
- Regulation for the Protection of Air from Pollution (Ministerial Decree No. 12 of 2006), which contains the following standards:
    - Air Pollutants Emission Limits for Stationary Sources.
    - Maximum Allowable Emission Limits for Air Pollutants Emitted from Hydrocarbon Fuel Combustion Sources.
    - Ambient Air Quality Standards (Air Pollution Limits in the Ambient Air); and
    - Allowable Limits of Noise Levels in Different Areas.

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project is issued by the Competent Authority. The procedures for applying for an Environmental License and the information requirements are specified in the Regulation. This Regulation specifies included in any assessment:

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- A complete description of the project in its preliminary phases.
- A statement of the objectives of the project.
- A description of the current environmental situation that may be affected by the project, if executed.
- A review of the expected interaction between the project and the environment in all phases of the project (preliminary, construction, operation);
- An analysis of the expected environmental consequences of the project, including use of power.
- Details or procedures to be taken to protect the environment and an assessment of their efficiency.
- A review of the consequences of not executing the project; and
- A commitment to the continual observation and control of environmental impacts resulting from the project.

Regulation for Handling Hazardous Materials, Hazardous Wastes and Medical Wastes

This Regulation sets out the requirements for the storage, handling and transport of hazardous materials and hazardous wastes in the UAE. No hazardous material or waste may be managed or transported without a license issued by the Competent Authority. The Regulation prohibits the import of any hazardous chemicals listed in Annex 1 of the Regulations into the UAE, for trade or multi-use purposes, unless prior approval is obtained from the Concerned Authority. Under this Regulation any organization generating hazardous wastes are required to:

- Endeavour to reduce the amount of such waste by developing technologies, adopting production processes, and selecting products or raw materials, which are less damaging to the environment.
- Construct and operate waste treatment units at source, wherever possible, subject to the approval of such units by the Competent Authority.
- Classify and quantify the waste being generated.
- Provide designated, safe storage areas for waste, which prevents any risk to the public.
- Ensure hazardous waste is safely stored in leak proof containers.
- Clearly mark hazardous waste storage containers, identifying their contents and associated hazards to ensure proper handling and treatment.
- Establish a program for collection of hazardous waste so that it is not stored for extended periods; and
- Maintain records of waste generation including:
    - A full description of the waste, including its physical and chemical characteristics and hazards.
    - Quantities, sources and collection rates and periods.

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Regulation for the Protection of Air from Pollution

This regulation established the standards for emissions from stationary sources, incinerators, ambient air quality and noise. The standards are detailed in Tables 5.2 to 5.5.

Table 5-2: Air Pollutants Emission Limits for Stationary Sources

Substance	Symbol	Sources	Max. Allowable Emission Limits (mg/Nm^3)
Visible Emissions	-	Combustion sources Other sources	250 None
Carbon Monoxide	CO	All Sources	500
Nitrogen Oxides (Expressed as nitrogen dioxide)	NOx	Material producing industries. Other sources	1500 200
Sulphur Dioxide	SO2	Combustion sources Material producing industries. Other sources	500 2000 1000
Sulphur Trioxide Including Sulphur Acid Mist (expressed as Sulphur Trioxide)	SO3	Material producing industries. Other sources	150 50
Total Suspended Particles	TSP	Combustion sources Cement industry Other sources	250 50 150
Ammonia and Ammonium Compounds (Expressed as ammonia)	NH3	Material producing industries. Other sources	50 10
Benzene	C6H6	All Sources	5
Iron	Fe	Iron & Steel foundries	100
Zinc and its compounds (expressed as Zinc)	Zn	Electroplating/Galvanizing Industries	10
Lead and its Compounds (Expressed as lead)	Pb	All Sources	5
Antimony and its Compounds (Expressed as antimony)	Sb	Material producing industries. Other sources	5 1
A Ca	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution. 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.		
Mercury and its Compounds (Expressed as mercury)	Hg	All Sources	

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Nickel and its Compounds (Expressed as nickel)	Ni	All Sources	1
Copper and its Compounds (Expressed as copper)	Cu	All Sources	5
Hydrogen Sulphide	H2S	All Sources	5
Chloride	Cl-	Chlorine works. Other sources	200 10
Hydrogen Chloride	HCl	Chlorine works. Other sources	200 20
Hydrogen Fluoride	HF	All Sources	2
Silicon Fluoride	SiF4	All Sources	10
Fluoride and its Compounds Including HF & SiF4 (Expressed as fluoride)	F–	Aluminum smelters other sources	20 50
Formaldehyde	CH2O	Material producing industries Other sources	20 2
Carbon	C	Odes production Waste incineration	250 50
Total Volatile Organic Compounds (Expressed as total organic carbon (TOC))	VOC	All Sources	20
Dioxins & Furans	-	All Sources	1 (ng TEQ/m3)

Source: Regulations for the Protection of Air from Pollution (Ministerial Decree No. 12 of 2006)

Note 1-The concentration of any substance specified in the first column emitted from any source specified in the third column shall not at any point before the admixture with air, smoke, or other gases, exceed the limits specified in the fourth column.

Note 2- Nm means normal cubic meter, being that amount of gas when dry, occupies a cubic meter at a temperature of 25°C and at an absolute pressure of 760 millimeters of mercury (1atm).

Note 3- The limit of visible emissions does not apply to emission of water vapor and a reasonable period for cold start, shutdown, or emergency.

N 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.

N 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.

N 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Table 5-3: Allowable Emission Limits of Air Pollutants from Hydrocarbon Fuel combustion Sources

Substance	Symbol	Sources	Max. Allowable Emission Limits (mg/Nm3)
Visible Emissions	-	All sources	250
Nitrogen Oxides (expressed as Nitrogen Dioxide, NO2)	NOx	Fuel combustion units: Gas fuel Liquid fuel Turbine units: Gas fuel Liquid fuel	 350 500 70 150
Sulphur Dioxide	SO_2	All sources	500
Total Suspended Particles	TSP	All sources	250
Carbon Monoxide	CO	All sources	500
Source: Regulations for the Protection of Air from Pollution (Ministerial Decree No. 12 of 2006) Note: The same conditions specified in Notes 1 to 4 of Table 3.1 apply.			

Table 5-4: Ambient Air Quality Standards

Pollutant	Time Weighted Average ($\mu g/m^3$)	Averaging Period
Sulphur Dioxide (SO2)	350 150 60	1 hour 24 hours 1 year
Carbon Monoxide (CO)	30 mg/m^3 10 mg/m^3	1 hour 8 hours
Nitrogen dioxide (NO2)	400 150	1 hour 24 hours
Ozone (O3)	200 120	1 hour 8 hours
Total suspended particles (TSP)	230 90	24 hours 1 year
*Ambient Air Quality Standards, Source: MoEW regulation for protection of air from pollution, council of Ministers Decree No 12 of 2006, UAE		

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Table 5-5: Allowable Limits of Noise Levels in Different Areas

Area	Allowable Limits for Noise Level (dBA)*	
	Day (7 a.m. – 8 p.m.)	Night (8 p.m. – 7 a.m.)
Residential Areas with Light Traffic	40 – 50	30 – 40
Residential Areas in the Downtown	45 – 55	35 – 45
Residential Areas which include some Workshops & Commercial Business or Residential Areas near the Highways	50 - 60	40 – 50
Commercial Areas & Downtown	55 – 65	45 – 55
Industrial Areas (Heavy Industry)	60 – 70	50 – 60
** dBA means decibels adjusted.* *dBA is used for determining the sound exposure to humans.*		

Emirate of Abu Dhabi Environmental Regulations and Standards

Environmental matters in Abu Dhabi, including permitting for new Projects, are managed by EAD. The agency (formerly Environmental Research and Wildlife Development Agency, ERWDA), was established by Abu Dhabi Emirate Law No. 4 of 1996. In June 2005, as per Abu Dhabi Law No. 16, the agency was restructured, giving it more authority in all environmental matters, and was renamed to EAD. Environmental regulations and standards issued in the Emirate of Abu Dhabi that are applicable to the grand plan are discussed in the following sections.

Waste Management in Abu Dhabi Emirate

Law No. (21) Of 2005 for Waste Management in Abu Dhabi Emirate

Law No. 21 designates EAD as the competent authority for enhancement of waste management within the Emirate, through reduction of the generated waste, recycling, and reuse of the same and providing solutions for the treatment of diverse types of waste as well as setting out the priorities and best practices for disp
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- environment.

- Monitoring the environmental impact of the waste management system (i.e., related to air, water, and soil pollution), and adopting standards and regulation.
- Inspecting waste management facilities permitted by EAD to ensure compliance with relevant environmental laws and regulations.
- Promoting awareness on the environmental impact of waste and influencing the behavior of waste generators.
- Promoting research related to the environmental impact of the waste management system.

EAD is overall responsible for developing government strategies and targets, as well as regulating the waste management sector and enforcing the laws and regulations.
The law also describes the responsibility of waste generators which are listed below:

- Reduce the generated waste by means of implementing the regulations, methods, techniques, and alternatives approved in the Emirate for classifying, sorting, reusing, or recycling waste.
- Classify the generated waste to hazardous and non-hazardous waste as indicated in the approved relevant guideline.
- Enforce its waste generating facilities with the occupational health and safety requirements, with all relevant regulations, guidelines, and codes of practice, and to comply with the regulations set out by the Competent Authority in this regard; and
- Transportation of waste must comply with the codes of practice and guidelines for licensing of waste transport vehicles and the regulations and monitoring of transport operations.

Law No. (17) Of 2008 concerning the establishment of Center for Waste Management

Law No. 17 of 2008 established the Abu Dhabi Centre of Waste Management (CWM). CWM is the leading government agency responsible for the regulation, management, and control of waste throughout the Emirate of Abu Dhabi. This includes implementing the Waste Management Strategy and all aspects of service delivery required to establish a full cycle integrated waste management system.

Collection and disposal of waste under CWM is conducted through licensed environmental service providers (ESP). CWM also requires business entities (including contractors), depending on their waste generation rate, to develop an appropriate waste management plan. The following are specific roles and responsibilities of CWM with regards to waste management [EAD and CWM, 2013]:

- Ensuring the implementation of the principles of integrated waste management in the Emirate.
- Defining the operational strategy for the waste management sector
- Tracking waste generation and ensuring adequate waste management system capacity

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- providers and managing the contracts
- Pricing of services and proposal of gate fees (tipping fees).
- Reporting to the competent authority about the progress in the waste manageme

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- Coordinating waste management operations with the other emirates where necessary.

The Department of Municipal Affairs

In addition to EAD and CWM, the Department of Municipal Affairs (DMA) is also a key agency in Abu Dhabi's waste management sector [EAD and CWM, 2013]. DMA is responsible for setting standards that contribute to better practice in waste generation as well as for monitoring and inspecting illegal waste dumping. In Abu Dhabi City, DMA is represented by the Abu Dhabi Municipality.

The following are the specific roles and responsibilities of DMA with regards to waste management:

- Monitoring and inspecting the Emirate for illegal waste dumping, investigating related reports, fining identified offenders, and ensuring timely clean-up
- Setting standards, managing construction and maintenance for local roads in residential and municipal areas (types of litterbins by the roadside with/without waste segregation; road sweeping procedures; etc.).
- Setting building standards for all new buildings (including for waste chutes and waste collection points in apartment buildings).
- Encouraging/mandating use of recyclables in public works projects involving DMA or municipalities (e.g., recycled Construction and Demolition crushed aggregate in road building; compost for public green area maintenance).
- Ensuring implementation of Abu Dhabi EHSMS requirements for the construction and commercial sectors as set by the DMA and the OSHAD; and
- Managing City Image Project.

Waste Management Strategy for Emirate of Abu Dhabi (2013-2018) [EAD and CWM, 2013]

The Abu Dhabi Environment Vision 2030 aims for the waste sector to achieve enhanced value creation through optimized material flows and waste management by 2030. It has been recognized that for this to be realized, the Emirate needs to invest in infrastructure, material recovery, and disposal, and upgrade the legal framework, as well as provide incentives and raise awareness amongst consumers and producers on the advantages of reducing, reusing, and recycling of waste.

In response to the Abu Dhabi Environment Vision 2030, EAD in partnership with CWM and DMA, has developed priority targets for the implementation of the five-year (2013-2018) waste management strategy (see Table 5.6).

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1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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% of municipal solid waste (MSW) diverted from landfill	25%
% of construction and demolition (C&D waste diverted from landfill	45%

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% of green waste diverted from landfill	<30%	>50%
% hazardous waste going to provisional (interim) landfill storage due to lack of appropriate treatment capacity.	>50%	0%
% of business actively recycling waste	40%	95%
% of waste management costs covered by derived revenues	<30%	60-65%
% of waste collection contracts with segregated waste collection for residents	15%	100%
% of ESPs registered as EHSMS	0%	50%

Waste Management Initiatives

The following waste management initiatives are currently being implemented in Abu Dhabi [EAD and CWM, 2013]:

- UAE Free of Plastic Bags Campaign: campaign proposed by Ministry of Environment and Water (MoEW) and being implemented in Abu Dhabi by EAD. In view of this, MoEW issued Ministerial Resolution No. 451 concerning proper registration of plastic bags factories and suppliers.
- NADAFA (Arabic term for cleanliness) Program: this program is led by Emirate of Abu Dhabi and supervised by CWM. The main objectives of this program are to:
    - Reduce the production of waste in Abu Dhabi
    - Encourage people to recycle waste.
    - Spread awareness on how to deal with waste.
    - Encourage investors in friendly environmental businesses.
- Stop Illegal Dumping of Waste (See It, report it, stop it): This campaign is sponsored by DMA with the aim of raising awareness on the danger of illegal dumping of waste and wastewater on the environment and natural resources.

Air Quality Management in Abu Dhabi Emirate

The legal framework covering air quality management in the Emirate includes the following [EAD, 2014]:

- Federal law no. (24) of 1999, which regulates air pollution in the UAE.
- The Federal Cabinet of Ministers Decree No. (12) of 2006 sets air pollution limits and standards.
- Abu Dhabi Law No. (6) of 2005, which includes requirements on environmental impact assessments of current and future developments.
- Law No. (8) That concerns the phasing-out of gas flaring.

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Table 5-7: EAD Soil contamination Guideline for commercial and Industrial Development

Parameters	Screening Levels (mg/kg)	Clean-up Levels (mg/kg)
Inorganic (including Metals)		
Arsenic	6.8	68
Beryllium	160	1600
Boron	16000	160000
Cadmium	71	710
Chromium III	120000	1200000
Chromium VI	3	30
Copper	3.1	31
Iron	55000	550000
Lead	4.0	40
Tetraethyl Lead	0.0078	0.078
Mercury	11	110
Methyl Mercury	7.8	78
Nickel soluble	1.5	15
Zinc	23000	230000
Cyanide (free)	2.7	27
Manganese	1.8	18
Selenium	390	3900
Antimony	31	310
Cobalt	23	230
Phosphates	3800000	38000000
Nitrates	130000	1300000
Nitrite	7800	78000
Molybdenum	390	3900
Sulfur Trioxide	140000	1400000
Sulfuric Acid	1400000	14000000
Hydrochloric Acid	28000000	280000000
Asbestos		
Asbestos bonded	0.01% w/w	
Asbestos friable	0.001% w/w	
C9-C18 Aliphatic	96	
C17-C32 Aromatic	2500	

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Parameters	Screening Levels (mg/kg)	Clean-up Levels (mg/kg)
C6-C8Aromatic	82	820
C9-C16 Aromatic	110	1100
PAH		
Acenaphthene	3600	36000
Anthracene	18000	180000
Benzo(a)anthracene	1.6	16
Benzo(a)pyrene	0.16	1.6
Benzo(b)fluoranthene	1.6	16
Benzo(k)fluoranthene	16	160
Chrysene	160	1600
Dibenz(a,h)anthracene	0.16	1.6
Parameters	**Screening Levels (mg/kg)**	**Clean-up Levels (mg/kg)**
Fluoranthene	2400	24000
Fluorene	2400	24000
Indenol (1,2,3-c, d) pyrene	1.6	16
Naphthalene	38	380
Pyrene	1800	18000
VOCs		
Benzene	12	120
Toluene	4.9	49
Ethylbenzene	58	580
Xylenes	580	5800
Carbon Tetrachloride	6.5	65
Tetrachloroethylene	81	810
Trichloroethylene	-	-
Vinyl Chloride	-	-
1,1,1-Trichloroethane	8100	81000
Cis-1,2 Dichloroethylene	160	1600
Trans-1,3 Dichloroethylene	1600	16000
Methyl-tert-Butyl ether	470	4700
Formaldehyde (CH2O)	170	1700
PCB's		
~Arocolor 1242	2.3	23
~Arocolor 1248	2.3	

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Parameters	Screening Levels (mg/kg)	Clean-up Levels (mg/kg)
~Arocolor 1254	1.2	12
~Arocolor 1260	2.4	24
~Aroclor 5460	35	350
~Heptachlorobiphenyl,2,3,3',4,4',5,5'-(PCB 189)	1.3	13
~Hexachlorobiphenyl,2,3',4,4',5,5'- (PCB 167)	1.2	12
~Hexachlorobiphenyl,2,3,3',4,4',5'-(PCB 157)	1.2	12
~Hexachlorobiphenyl,2,3,3',4,4',5-(PCB 156)	1.2	12
~Hexachlorobiphenyl,3,3',4,4',5,5'-(PCB 169)	0.0	0.012
~Pentachlorobiphenyl, 2',3,4,4',5-(PCB 123)	1.2	12
~Pentachlorobiphenyl, 2,3',4,4',5-(PCB 118)	1.2	12
~Pentachlorobiphenyl, 2,3,3',4,4'-(PCB 105)	1.2	12
~Pentachlorobiphenyl, 2,3,4,4',5-(PCB 114)	1.2	12
~Pentachlorobiphenyl, 3,3',4,4',5-(PCB 126)	0.0	0.0037
~Tetrachlorobiphenyl, 3,3',4,4'-(PCB 77)	0.38	3.8
~Tetrachlorobiphenyl,3,4,4',5-(PCB81)	0.12	1.2
Total PCBs	13	130
Phenols		
Phenol	19000	190000
2-Chlorophenol	390	3900
2-Methylphenol (o-cresol)	3200	32000
`2,4-Dichlorophenol	190	
2,4,6-Trichlorophenol	49	

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Parameters	Screening Levels (mg/kg)	Clean-up Levels (mg/kg)
Pentachlorophenol	10	100
Herbicides/Pesticides		
DDD	23	230
DDE	20	200
DDT	29	290
Aldriun	0.39	3.9
Dieldrin	0.34	3.4
Chlordane	17	170
Endosulfan	470	4700
Endrin	19	190
Heptachlor	1.3	13
Heptachlorepoxide	0.7	7
Hexachlorobenzene (HCB)	2.1	21
Methoxychlor	320	3200
Mirex	0.32	3.2
Toxaphene	4.9	49
alphahexachlorobenzene	0.86	8.6
betahexachlorobenzene	3	30
gammahexachlorobenzene (Lindane)	5.7	57
Aluminium phosphide	31	310
Beta- cyfluthrin	1600	16000
Chlorpyrifos	63	630
Clofentizene	820	8200
Cypermethrin	630	6300
Cyromazine	470	4700
Diflubenzuron	1300	13000
fosetyl- aluminium	190000	1900000
Glyphosate	6300	63000
Metribuzin	1600	

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Parameters	Screening Levels (mg/kg)	Clean-up Levels (mg/kg)
Mineral oils	230000	2300000
Temephos	1300	13000
ThiophanateMethyl	5100	51000

Other Strategic Plans, Strategies and Guidelines in the Emirate of Abu Dhabi

ADNOC Limits for Effluent Discharged into the Desert

In the absence of local standards for effluent discharge into the desert, the ADNOC Limits for Effluent Discharge into the Desert have been adopted for the purpose of assessing potential impacts of any effluent discharges into the desert (see Table 5.8).

Table 5-8: ADNOC Limits for Effluent Discharged into the Desert

Constituents	Desirable Limits (mg/l)	Maximum Limits (mg/l)
Ammoniacal Nitrogen	5	10
Arsenic	0.1	0.5
Bio-Chemical Oxygen Demand (BOD)	30	50
Cadmium	0.1	0.2
Chlorine (residual)	1.0	2.0
Chromium, total	0.1	0.2
Copper	1.5	3.0
COD	150	200
Cyanide	0.1	0.2
Oil	15	25
Iron, total	2.0	5.0
Lead	0.1	0.3
Manganese	2.0	3.0
Mercury	0.001	0.05
Nickel	0.2	1.0
pH	6-9	6-9
Phenols	0.2	0.5
Phosphate (total, as		
Suspended Solids	30	
Turbidity	90	

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Zinc	0.5	5.0

Regulation and Supervision Bureau Regulation on Recycled Water and Bio solids 2010

The Regulation and Supervision Bureau (RSB) is established in Abu Dhabi to oversee the economic and technical activities of the electricity, water and wastewater companies that are licensed to operate in the Emirate of Abu Dhabi. RSB has published regulations to establish a legal framework for the safe and economic disposal of recycled water and bio solids in the Emirate of Abu Dhabi. These regulations took effect on 1st June 2010 and are cited as the Recycled Water and Bio Solids Regulations 2010 (see Table 5.9).

Table 5-9: Recycled Water Quality Criteria:

Parameters	Unit	Criteria		
		P1 (General Reuse)	P2 (Restricted Reuse)	P3 (Marine)
Microbiological				
Faecal Coliforms	CFU/100 ml	100	1000	1000
Intestinal Enterococci	CFU/100 ml	410	200	-
Helminth Ova	No./l	<1	<1	0
Sanitary				
pH	Units	6 to 8	6 to 8	6 to 8
BOD	mg/l	10	10	50
TSS	mg/l	10	20	50
Ammonia Nitrogen	mg/l	-	-	2
Total Phosphorus	mg/l	-	-	2
Turbidity	NTU	5	10	75
Residual Chlorine	mg/l	0.5 to 1	0.5 to 1	1
Dissolved Oxygen	mg/l	≥1	≥1	≥3

Notes:

- General reuse involves frequent and uncontrolled exposure of the public to Recycled Water and Restricted reuse involves infrequent and controlled public exposure to Recycled Water
- CFU = Colony Forming Units; NTU = Nephelometric Turbidity Unit; mg/l = milligrams per liter.
- MAC = Maximum allowable concentration; Average – Arithmetic mean of the samples taken in any calendar month must comply with the standard.
- Marine and land discharges are also subject to Federal and Emirate laws detailed in Annex A3 and A4. Any system discharging to land percolation should consider P1 as a minimum acceptable

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In case recycled water is intended to be used for irrigation purposes, the following RSB requirements will apply:

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- The recycled water must meet the standards set out in Table 5.9, derived from Annex 1 of WHO 2006 Guidelines for the safe use of wastewater in agriculture.
- The disposal licensee must define the agronomic value of the recycled water by specifying, amongst other things the:
    - Typical range of total and available nitrogen, phosphorus, and potassium; and
    - The salinity of the recycled water by providing information on the parameters identified in Table 5.11

Table 5-10: Irrigation Criteria for Trace Elements

Parameter	Unit	Maximum Allowable Concentration
Aluminum	mg/l	5.0
Arsenic	mg/l	0.1
Beryllium	mg/l	0.1
Cadmium	mg/l	0.01
Chromium	mg/l	0.1
Cobalt	mg/l	0.05
Copper	mg/l	0.2
Fluoride	mg/l	1.0
Iron	mg/l	5.0
Lead	mg/l	5.0
Lithium	mg/l	2.5
Manganese	mg/l	0.2
Molybdenum	mg/l	0.01
Nickel	mg/l	0.2
Selenium	mg/l	0.02
Vanadium	mg/l	0.1
Zinc	mg/l	2.0

Table 5-11: Salinity Parameters

Parameter	Unit
Electrical conductivity	(dS/m @ 25 °C)
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Boron	mg/
Bicarbonate (HCO3)	mg/

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Table 5-12: Abu Dhabi Wastewater Limits

Indicators		Maximum Allowable Limits for Discharge to		
Physio-Chemical	Units	Sewerage System	Land as for Irrigation	
			Drip	Spray
Biochemical Oxygen Demand	mg/L	1,000	20	10
Chemical Oxygen Demand	mg/L	3,000	100	50
Chlorides	mg/L		500	350
Chlorine-Residual	mg/L	10	Not less than 0.5 mg/l after 30 minutes contact time	
Cyanides as CN	mg/L	1	0.05	0.05
Detergents	mg/L	30		
Fluorides	mg/L		1	1
Nitrogen, ammonia cal	mg/L	40	5	1
Nitrogen, organic (Kjeidhal)	mg/L		10	5
Nitrogen, total	mg/L		50	30
Oil & Grease - Emulsified	mg/L	150		
Oil & Grease - Free Oil	mg/L	50	5	5
pH (range)	Units	6-10	6.0-8.0	6.0-8.0
Pesticides, Non-Chlorinated	mg/L	5		
Phenols	mg/L	50	0.1	0.1
Phosphorous (P)	mg/L	30	20	20
Sulphates, Total	mg/L	500	200	200
Sulphides as S	mg/L	10	0.05	0.05
Surfactants	mg/L			
Suspended Solids (SS)	mg/L	500	50	10
Temperature	Deg.Cent.	45 or >5 of Ambient		
Total Dissolved Solids (TDS)	mg/L	3,000	1,500	1,000
Metals				
Total Metals	mg/L	10		
Aluminium (Al)	mg/L		2	2
Boron (B)	mg/L	2.0	2.0	2.0
Cadmium (Cd)	mg/L	0.3	0.01	

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Chromium (Cr)	mg/L	1.0	0.1	0.1
Cobalt	mg/L		0.1	0.1
Copper (Cu)	mg/L	1.0	0.2	0.2
Iron (Fe)	mg/L		2.0	2.0
Lead (Pb)	mg/L	1.0	0.5	0.5
Magnesium (mg)	mg/L		100	100
Manganese (Mn)	mg/L	1.0	0.2	0.2
Mercury (Hg)	mg/L	0,01	0.001	0.001
Molybdenum (Mb)	mg/L		0.01	0.01
Nickel	mg/L	1.0	0.2	0.2
Selenium (Se)	mg/L		0.02	0,02
Silver (Ag)	mg/L	1.0		
Sodium (Na)	mg/L		500	200
Zinc (Zn)	mg/L	2.0	0.5	0.2

Regional, International and Other Relevant Guidelines and Regulations

International Conventions and Guidelines

The UAE is signatory to several regional and international conventions and protocols concerned with environmental protection. International protocols, standards, and guidelines applicable to the Project include the following:

- Montreal Protocol on Ozone Depleting Substances (1987).
- Kyoto Protocol on cutting down the emission of carbon dioxide and other greenhouse gases (1997).
- United Nations Framework Convention on Climate Change (1992).
- Vienna Convention for the Protection of the Ozone Layer (1985).
- Basel Convention on Transboundary Movement of Hazardous Waste (1992).
- Convention on Biological Biodiversity (1992).
- Convention on International Trade of Wild Species of Fauna and Flora (1973).
- Stockholm Convention on Persistent Organic Pollutants (2001); and
- UN Convention to Combat Desertification (1994).

Dutch Standards for Groundwater

Currently there are no UAE standards for groundwater contamination. To assess groundwater quality, the Dut

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- "I" (Intervention) values are considered to represent significant contamination an at the site might be required.

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Parameters	Groundwater (µg/liter in solution)	
	Target Value	Intervention Value
Metals		
Antimony	-	20
Arsenic	10	60
Barium	50	625
Cadmium	0.4	6
Chromium	1	30
Chromium III	-	-
Chromium IV	-	-
Cobalt	20	100
Copper	15	75
Mercury	0.05	0.3
Mercury (inorganic)	-	-
Mercury (organic)	-	-
Lead	15	75
Molybdenum	5	300
Nickel	15	75
Zinc	65	800
Organic Compounds		
Benzene	0.2	30
Ethylbenzene	4	150
Toluene	7	1000
Xylenes	0.2	70
PAH (total)	-	-
Mineral Oil	50	600

5.5 Environmental Awareness and Training

The construction activities will have various environmental impacts, and all employees, both direct and contract personnel, contribute to these impacts. Therefore, it is essential that all staff receive environmental awareness and training to ensure they understand their roles in minimizing environmental harm and mai

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In accordance with the Abu Dhabi Occupational Safety and Health System Framework (ADOSH-SF) and the Code of Practice ADOSH-SF-COP-54.0: Waste Management, specific training will be c

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compliance with local waste management requirements. This includes awareness of waste segregation, storage, transportation, documentation, and disposal practices in line with approved EAD and Tadweer (CWM) procedures.

5.5.1 Project Specific Training & Awareness

Training is one of the most important components within Al Hikma Building Contracting LLC EHSMS. It gives employees an opportunity to gain experience in their jobs, bring innovative ideas into the workforce, reinforce existing ideas and practices, and it helps to put the EHS program into action.
Providing EHS information and training helps to:

- Ensure that employees are not injured or made ill by the work they do.
- Develop a positive EHS culture, where EHS working becomes second nature to everyone.
- Enhance understanding of ADOSH-SF-COP-54.0 and its application to daily site waste operations.
- Ensure compliance with Federal Law No. 24 of 1999 and EAD technical guidelines for pollution prevention and waste reduction.
- Encourage proactive participation in environmental protection and waste minimization efforts.
- Find out how EHS can be managed better.
- Meet legal duty to protect the health, safety, and environment of employees.
- Everyone in Al Hikma Building Contracting LLC will benefit from EHS training through fewer workplace injuries and illnesses, reduced stress, and higher morale. Productivity, profits, and competitiveness will increase as production costs per unit, turnover and workers' compensation rates are lower.

All site employees, supervisors, and subcontractors will receive specific orientation on:

- Waste handling and segregation procedures.
- Hazardous waste identification and labeling.
- Use of designated storage areas and spill response actions.
- Documentation and tracking as per ADOSH-SF-COP-54.0 requirements.

5.5.2 Safety Induction

Prior to entering the site, all managers, employees, and visitors will attend a Safety and Environmental Induction that covers:

- Project rules and permitted areas.
- Personal Protective Equipment (PPE) requirements.

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will be reviewed and updated every six months to align with project progress and activi

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5.5.3 Safety In-House Training

- Al Hikma Building Contracting LLC Project Management team will ensure that relevant safety training has been given to all project employees as per the training matrix (Appendix - E).
- A dedicated training plan will include waste management and pollution control topics in line with ADOSH-SF-COP-54.0 and ISO 14001:2015 requirements.
- A separate training plan or training matrix will be formulated including third party required training. And the same will be submitted to clients monthly for approval.
- Training sessions will cover (but not be limited to):
  - Waste segregation and disposal procedures.
  - Permit to work, confined space, and emergency response.
  - Environmental incident reporting and corrective action.
  - Spill response and handling of hazardous materials.
- Each Foreman/ Supervisor must attend • Al Hikma Building Contracting LLC HSE department's safety leadership training. Site senior management should also attend the same.
- HSE training will be attended by employees from selected disciplines/ groups. The training to be conducted are as follows but not limited to: Permit to Work, Emergency Response, working at Height, Safe Work Procedures, Confined Space Work & Hot Work Safety, Prevention of Hand injuries, PPE, Power Tools, Briefing on Method of Statements and Risk Assessment Communications etc.
- On top of the project's programmed safety training, site employees will have to attend:
- In House Safety Training on the project, to promote and maintain the highest level of safety awareness possible among them.
- The safety training program will consist of class lectures, safety film viewing, workshop and field exercise (for selected subject i.e., Excavation, Scaffolding, Firefighting and Rigging). Available safety information in the form of a safety handout will be provided to attendees.

5.5.4 Safety Posters / Bulletins / Information Notices

- Visual aids such as safety handouts, posters, bulletins, notices will be utilized to the greatest possible extent to enhance safety awareness and education of site employees.
  - Waste segregation and labeling as per ADOSH-SF-COP-54.0.
  - Proper use of waste skips and recycling bins.
  - Prohibited disposal practices.
- Safety signs / Billboards which convey safety awareness promoting messages will be deployed at strategic locations on the project to reinforce implementation of the overall safety program.
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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  3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- All Safety Warning and Informative sign boards will include English, Arabic and other languages considering the nationality of workers.

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- The Safety Statistics Bulletin Board to be prominently displayed at an auspicious location and will be updated on a weekly basis.

5.5.5 Toolbox Talks (TBT) Meeting

In accordance with Al Hikma Building Contracting LLC TBT Procedure, Competent Project Supervisors (supervisor, charge-hand, etc.) will hold HSE toolbox talks with the help of HSE Engineer/Officer, on a weekly basis, for all sections of the workforce on site-specific and relevant subjects to enhance employees' knowledge of site HSE requirements. All partners and subcontractors are at least expected to comply with these requirements. Where subcontractors fail to deliver toolbox talks to the required standard, their workforce will be included in Al Hikma Building Contracting LLC deliveries with an agreement to contra-charge the relevant subcontractor. After Toolbox Talks (TBT) attendance will be recorded and this record will be kept in HSE files along with the TBT Topics discussed. The TBT training will be given in different languages by Competent Engineers/Supervisors.

The Toolbox talk is focused on:

- Health and welfare of employees, especially in relation to tasks for the day
- Hazards associated with daily tasks.
- Correct waste handling procedures in compliance with ADOSH-SF-COP-54.0.
- Protection measures which need to be in place, e.g., PPE, isolations, etc.
- Awareness of employees of their responsibilities and addressing their concerns about OSH risks associated with their daily tasks.
- Reminders about lessons learned from previous similar tasks or incidents (if any).

All environmental awareness and waste management training under this section will comply with ADOSH-SF-COP-54.0, ensuring alignment with the Abu Dhabi OSHAD-SF Framework, EAD Technical Guidance, and Federal Law No. 24 of 1999.

5.6 Documents Review and Update

Al Hikma Building Contracting LLC will follow EAD requirements on review and update of documents including this CEMP.

If any change occurs after approving/issuing this CEMP (i.e., addition of new construction), then Al Hikma Building Contracting LLC will ensure that the CEMP has been updated and reviewed accordingly.

In addition, and prior to the start of any operation that is critical to the environment and not listed within the CEMP), a detailed method statement together with an adequate risk assessment will be prepared and will req

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regularly updated and reviewed includes:

- EHS Policy.

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- EHS Management System
- Training programs; and
- Onsite internal auditing and inspection (checklists and reports).

All EHS related documentation is updated and reviewed (at a minimum) every six months.

5.7 Environmental Commitments

Al Hikma Building Contracting LLC will ensure compliance with all required environmental commitments during the construction phase of the project to demonstrate their commitment and responsibility to protect the environment. This Construction Environmental Management Plan (CEMP) for the project construction phase is an assertion of Al Hikma Building Contracting LLC commitment to protect the environment and to implement environmental policies.

Al Hikma Building Contracting LLC shall comply with relevant legislation and implement programs aimed at managing the environmental aspects of our operation and protecting the environment. The CEMP defines environmental requirements and provides implementation guidelines. It sets quantifiable targets and includes provision for checking and corrective action and management review which is aligned with our existing corporate EMS and its environmental commitments. The recommendations given in the approved CEMP will be considered as regulatory requirements as the license is accorded on this basis and the recommendations will be fully implemented and will be subject to environmental audits.

5.8 Coordination With External Entities and Addressing Complaints

The project, in its construction phase, entails coordination with other external entities related to the project such as

- Environment Agency Abu Dhabi
- Al Suweidi Engineering Consultants (Consultant)
- Al Hikma Building Contracting LLC (Main Contractor)
- Waste Management of Abu Dhabi
- ADM Environmental Agency

If there is any complaint from the surrounding areas e.g., Local communities, the following procedure shall be adopted.

- The complaint from the concerned party shall be registered with the Site Engineer.
- Upon registering the complaint, the Site engineer will meet the complainant and understand the
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  complaints made by the external entities shall be addressed immediately through measures that will be adopted immediately.

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- All the records of complaints, correspondence, meetings with entities, corrective actions undertaken shall be documented and maintained to enhance the quality and enable efficient operation.

6 Environmental Impacts

The purpose of this section is to identify and, where appropriate, quantify the principal potential environmental impacts on the existing environment that may arise during construction activities. In addition, risks associated with the project activities during the construction phase will also be identified.

- This section attempts to identify the impacts and to assess their significance and considers the risk assessments as part of the HSE Plan. This section addresses the potential and anticipated impacts of the project on environmental components and includes the direct and indirect impacts in the project area and area of probable impact identified by Al Hikma Building Contracting LLC associated with the proposed project.
- Where possible and based on the information provided, the following have been included and described in this section.
- All the potential impacts and their respective sources, including a description of the cause and-effect relationships between planned project activities and the environmental impacts.
- The location of the impacts in relation to the project activities and site boundaries.
- The probable significance of predicted impacts (i.e., magnitude of change or effect).
- Due to the information limitation, qualitative analysis has been performed in the identification of the permanence and reversibility of the predicted impacts.
- If no impacts are anticipated, then this is stated, along with a supporting justification for the conclusion.
- Evaluation and detailed descriptions of the potential cumulative environmental impacts have been included.
- The following sections detail the potential impacts that are likely to occur during the construction phase. The impacts are assessed under the range of environmental receptors, namely: air, noise, land, water, ecology, waste management, socioeconomics, and natural resources.

The key environmental impacts associated with construction phase of the project are listed in table.6.1 and discussed in the succeeding paragraphs. While Table 4.4 lists sensitive receptors that were scoped out during the site monitoring / walkthrough.

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Table 6-1: Construction Phase Environmental Aspects & Impacts

Environmental Aspects	Environmental Impacts	Mitigation Measures	Monitoring Program
Air & Dust Emissions from Movement of vehicles, construction equipment and machineries.	• Dust generation during land clearing. • Discomfort to operatives. • Ozone depletion • Global warming potential.	• The working area of any leveling of earthmoving operation will be sprayed with water regularly during the operation to maintain a damp surface. • Excessive spraying will be avoided to conserve water. • The use of groundwater from dewatering for dust suppression will be assessed and implemented where practical to reduce the use of potable water. • Compacted haul roads to be installed as soon as possible. Where this is not possible, designated routes will be marked and surfaces to be dampened down to reduce dust throughout the working day/night significantly. • Regular maintenance of equipment and machinery to reduce engine exhaust emissions. • Place animals crossing- At the areas of animal crossing, a signboard will be placed on the roads to make people aware of it so that no disturbance will be made. It will be briefed for drivers/plant operators during the Toolbox Talks.	• Visual dust Inspection. • Daily Inspections using Environmental Checklist (Refer to Section 8.1). • Obtain Annual vehicle certificates from authority. • Receiving complaints from neighboring, sensitive receptors, clients, and Municipality must be recorded and addressed accordingly.
C n			COSHH • Daily Inspections using Environmental Checklist (Refer to Section 8.1).
Waste	• Aesthetic Degradation. • Disturbance of Flora & Fauna.	• Due to current site be stored on site-re • Storage of sewage	as ties of waste cannot • Waste Segregations and Monitoring. • Visual Site Inspection using checklist.

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			• Receiving complaints from neighboring, sensitive receptors, clients, and Municipality.
Noise	• Noise due to construction activities such as cutting, welding, vehicle movement, heavy machinery, Use of DG, etc. • Discomfort to operatives.	• Noise reduction measures shall be taken to minimize the impact on the workforce by switching off unnecessary equipment and storage that away from workplace while not in use. Other measures will include noise screening, keeping shrouds on equipment's closed etc. • Regular and effective maintenance of stationary and mobile equipment's.	• Regular Noise Monitoring using Sound detector. • Ambient / Indoor noise level monitoring shall be conducted through third party Consultant.
Excavations			
Excavations	• Generation of Waste • Dust Generation • Muck on roads • Ground water Pollution	• Waste will be disposed of through CWM approved ESP. • Haul roads and stockpiled for reuse as backfill. No earthwork material will be leaving the site. • Stockpiles will be covered properly or watered regularly. • Access roads are regularly damped down with the use of no potable water. • A wheel washdown area is to be operational for all concrete, steel, and haulage deliveries. • The dewatering system will run into approved drains or site	• Regular Environmental Inspections. • Stockpiling arrangement • Receiving complaints from neighboring, sensitive receptors, clients, and Municipality.
A **c** **(temporary and permanent)**	• Water pollution is due to seepage of concrete contaminated water to land. • Noise from concrete pump, concrete mixers, air compressor.	washed in designated areas specially designed for washing purposes. • Unconcern person's ıcrete pump and mixer will be restric oard. will be done to ensure the	• Waste segregation and collections • Air & Noise Monitoring - Visual and using sound detector. • Speed Control • Recording of in / out of vehicles & equipment.

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	• Waste generation due to excess concrete or during cleaning the pump. • Hydraulic oil leakages from Concrete pump	noise level. • Proper maintenance of equipment's and mufflers will be conducted to reduce the excessive noise, • All equipment will be kept away from the workplace and daily noise level monitoring will be conducted on the project. • A drip tray or polythene sheet will be placed beneath the pump to prevent land contamination due to concrete and oil spillage. • Where waste concrete cannot be avoided, excess will be utilized elsewhere e.g., temporary surfaces or barriers. • All the concrete waste shall be collected separately and reused on site or sent for recycling.	• Vehicle & Operator competency certificates.
Waste Management			
Waste Management	• Soil & Ground water Contamination. • Aesthetic Degradation.	• Waste will be disposed of through CWM approved ESP. • Excess concrete will be used in appropriate backfill areas and cast of temporary works. Waste concrete will be crushed and reused for haul roads. • Segregation of all wastes will be done according to their types. • Proper Waste type sign boards will be placed near to the skips in different languages. • All recyclable waste will be collected separately and sent for away from ed. curs at transfer stations. • Food Waste collecte or composting.	• Collection of waste & waste manifest record. • Complaints from neighboring contractors or sensitive receptors. • Environmental Audit (Internal / External)
Refueling			

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Spillages during refueling	• Land Contamination • Water Pollution	• Refueling will take place in designated areas. • Spill kits will be made available. • Drip tray will be place beneath refueling point	• Regular Inspections Incident report (Oil Spill)
Dewatering			
Dewatering - Excessive potentially contaminated,	• Soil Contamination • Land Pollution	• Contractor should develop a method statement for dewatering procedure.	• Regular check of dewatering activities.
water run off		• Planned reuse of dewatering liquid from storage basins at water sprinkling along open area and internal access routes will be done to maximize the reuse from sedimentation basin. • Regular inspection of sedimentation basin location will be conducted as required. • Compliance will be achieved with the required discharge water standards as permitted by ADM. • Regular inspection will be done to ensure that the land is not contaminated due to oil spills from operating generators and high-pressure pumps as well as from the underlying soil and water discharge quality.	• Complaints from neighboring contractors or sensitive receptors.

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented ring all effectively during site execution.
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6.1 Air Quality

During the construction of the project, the most significant impact would be due to dust uplift because of construction activities such as excavation, site clearance and vehicle movement etc. Another significant impact could be due to emissions from combustion activities in vehicles, machinery, and equipment etc. There will be sources of VOC's or odor during the construction period. Thus, activities which could lead to any impact on the Ambient Air Quality (AAQ) and health of workers during the construction phase can be summarized as below:

- Earthwork, clearing/excavation.
- Dust from the stockpiling of the excavated soil and material transport.
- Dust generation and exhaust emissions during the transportation of construction materials if trucks are not covered properly.
- Dust uplift due to onsite movement of vehicles on unpaved roads for transporting materials, machinery, labor etc.
- Emissions from operation of construction machinery at site.
- Emissions from generators

Environmental hazard associated with exhaust emissions (particularly diesel engine emissions, NOx, Sox, CO2, and particulate matters) from the construction machinery contribute to global atmospheric load of GHG (CO2, NOx), O3 (secondary pollutant), SOx (major pollutant causing acid rain) that consequently causes climate changes. The main air pollutants of concern in Emirate of Abu Dhabi are Sulphur dioxide (SO2), carbon monoxide (CO), nitrogen dioxide (NO2), ground-level ozone (O3), particulate matter (PM10) and lead (Pb).

6.1.1 Dust Emissions

Construction activities such as site clearance, site preparation, excavation, concrete work, soil stockpiling, vehicle movement, and material transport release dust particles and impact the air quality.

- Construction activities causing release of dust particles and impact the air quality include:
- General surface earthworks particularly during site establishment (e.g., site clearance).
- Concrete work
- Excavation work
- Spoil fines accumulated on sealed areas.
- Topsoil / spoil handling includes stockpiling, spoil loading and spoil haulage.
- Vehicular movements over unpaved area
- Wind erosion of exposed areas and temporary spoil stockpiles

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- Excavators
- Wheel Loaders

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- Backhoe Loader
- Bob Cat
- Water Tanker
- Truck
- Crane
- Grader
- Vibrator
- Crane
- Compactor
- Sand Blasting Machine

Meteorological Factors likely to influence Dust Generation

Meteorological factors that could exaggerate the impacts due to dust uplift and emissions include:

a) Wind Direction - determines whether dust and suspended particles are transported in the direction of the surrounding receivers.
b) Wind Speed - governs the potential suspension and drift distance of particles.
c) Soil Moisture - increased soil moisture reduces soil or dust erosion potential; and
d) Rainfall or Dew - rainfall or heavy dew wets the surface of the soil.

Table 6-2: EAD Maximum Allowable Dust Limits

Substance	Max Allowable Limit (mg/m3)
Respirable Dust Crystalline Silica (quartz)	0.05
Un-crystalline Silica (graphite)	2.5
Asbestos (Crysotile)	0.1 (fiber/cm^3)
Total Dust Un-Crystalline Silica (graphite)	10
Stone wool	5
Silica jell	6
Portland cement	10
Dust from Biological Sources Hard wood vapors	1
Soft wood vapors	5
Inorganic Lead	0.05

6.1.2 Gaseous Emissions

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- Fugitive emission from concrete work.

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Air Pollutants Emission Limits for Stationary Combustion Sources

Maximum Allowable Limits for Air Pollutants inside Working Areas (Dust) are given in Table 6-4 below:

Table 6-3: Air Pollutants Emission Limits for Stationary Combustion Sources

Substance	Symbol	Sources	Emission Limits (mg/Nm3)
Nitrogen Oxides (expressed in Nitrogen di-oxides (NO2))	NOx	Fuel Combustion units: Gas Fuel Liquid Fuel	 350 500
		Turbine Units: Gas Fuel Liquid Fuel	 750 150
Sulphur Dioxide Total Suspended Particles Carbon Monoxide	SO2 TSP CO	All Sources All Sources All Sources	500 250 500

Table 6-4: AAQ Standards for the Emirate of Abu Dhabi

Substance	Symbol	Maximum Allowable Limits (□g/m³)	Average Time
Sulphur Dioxide	SO2	350 150 50	1 hour 24 hours 1 Year
Carbon Monoxide	CO	23 (mg)	1 hour
		10 (mg)	8 hours
Nitrogen Dioxide	NO2	290	1 hour
		110	24 hours
Ozone	O3	160	1 hour
		120	8 hours
Total Suspended Particles	TSP	230 90	24 hours 1 year
Particulate Matter	PM10	300	1 hour

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Potential Impacts

The potential impacts of air pollution will depend on the source-pathway-receptor analysis. For the project construction program, the sensitive receptor is the workforce and Residents near the project site.
The impacts of polluted air include:

- Potential adverse health effects of air pollution include eye, nose, and throat irritation from excessive inhalation of fine particles.
- Emissions during the operation of vehicles, equipment and machinery also contain chemical compounds which are considered as occupational hazards. Exposure of humans to such chemicals for an extended duration may cause chronic diseases such as emphysema, bronchitis, and asthma; and may lead to lung cancer in extreme cases.
- It further increases the quantity of GHG's at global levels.
- Dust deposition on surfaces may cause damage to surface and/or lead to a need for increased cleaning or repairing.
- Dust deposition on the leaves of plants in nearby areas will impair the photosynthetic, respiratory and transpiration activities.
- Aesthetic effects which arise from the visible airborne dust plumes and deposits of dust on surfaces.

Dust emissions from the construction activities will have a localized effect (during intense construction activities and adverse meteorological conditions) but it is unlikely that this effect will be carried much beyond a several hundred-meter radiuses of the source. Dust generation, airborne dust can create visibility, health, aesthetic, and environmental problems in the surrounding areas. Indirect Impacts include a potential for the increase in concentration of various pollutants locally, due to gaseous emissions from construction machinery operations.

Impact Significance

Depending upon the nature of project, the impact of construction activities on ambient air quality is judged as Moderately Significant. It can be predicted that construction dust resulting from project activities may cause a slight increase in natural dust levels which will be limited to a small spatial boundary along the construction route. Considering the short duration of construction at each stage, it can be predicted that impact of construction, especially earthworks on local air quality with respect to dust is likely to be Slightly Adverse and limited to short duration and spatial boundary and will reverse quickly as soon as the construction cease.

6.1.3 Potential Odor Issues

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6.2 Surface Water Impacts

During the construction phase of the project, it is crucial to address the potential impacts on nearby surface water bodies. The increased activity and disturbance associated with construction activities can lead to sediment runoff, erosion, and potential pollution of adjacent watercourses. Soil erosion caused by excavation and earth-moving activities can result in sedimentation of nearby water body, impacting water quality and aquatic habitats. Additionally, runoff from construction sites may carry pollutants such as chemicals, concrete washout, and construction debris into surface water, potentially affecting aquatic ecosystems and the overall water quality. Therefore, implementing effective erosion control measures, sedimentation basins, and best management practices is paramount to minimize adverse impacts and ensure the protection of the surrounding surface water resources.

6.3 Soil And Groundwater

The surface geology of Abu Dhabi is concealed under a cover of sands, which form dune ridges reaching heights of about 150 m inland. Evaporitic flats, sabkhas, which extend more than 80 Km southwards into the sand deserts, dominate the coastal plains. UAE falls in the Arabian tectonic plate and the nearest seismic fault line is Zargos Fault. This is in the southern Iran, about 120 km from the UAE and is unlikely to have any major seismic impact on UAE. Nevertheless, the UAE is susceptible to earthquakes given its proximity to the Zagros belt in southern Iran. The Project associated construction activities may have the potential to contaminate the local soil characteristic and water quality. This contamination may occur because of accidental spillage of diesel, petrol, grease or lubricants through equipment failure, human error or incidents from improper storage or handling of construction materials and substances. Therefore, it is necessary to protect the soil and water quality during the planning and execution of construction works.

a) Potential Sources of Soil and Water Contamination

The impact on soil and ground water from the construction can be from:

- Improper maintenance of equipment
- Improper storage of chemical substances and fuel (diesel)
- Spillage/leaks of fuel during transfer
- Improper waste management
- Vehicle/ Equipment washing and improper management.
- Improper management of sewage/ wastewater generated at the site.
- Temporary and permanent physical or chemical changes to soil characteristics during stockpiling, leveling and earthworks.
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will be regularly maintained as per the manufacturer's instruction. Inspections will be c

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basis. An area for cleaning of equipment will be established where water runoff can be collected and pumped into containers and removed by a licensed contractor.

The sewerage wastes generated at the site will be stored onsite in appropriate tanks and removed by an authorized service provider on a regular basis. Waste generated at the site will be collected and segregated in identified skips, which will be then transported to the waste disposal site. Abu Dhabi approved ESP will be assigned for the transportation and disposal of construction waste and effluents.

Improper Storage of chemical substances on site is a major source of spillage and further to groundwater and soil contamination. All chemicals and substances will be stored in a safe manner to avoid any damage and spillages on the floor. The storage area will be made impermeable to prevent any seepage into the ground. All fuel/diesel tanks that will be used on site for storage of fuel/oil should be manufactured to a recognized standard.

b) **Potential Soil and Water Contamination Impacts**

Keeping into consideration the normal construction techniques, it can be concluded that the chances of contamination are lower. Poor material management, inappropriate waste management activities and spillage of lubricants or other liquid chemicals on site can cause the contamination of soil and groundwater at the work site. However, any significant impact on soil and ground water quality can be minimized or mitigated by adopting measures as discussed in Section 7.3 of this CEMP. Therefore, the overall significance is slight adverse.

6.4 Terrestrial & Marine Ecology

Impacts on terrestrial & marine ecology due to construction process are discussed in this section. This section addresses the potential Environment Sensitive Receptors (ESR's) and the anticipated impacts from the construction activities.

6.4.1 Discharges to Land

There are no planned discharges on the land as:

- It is understood that vehicle washing will not be done on site.
- Sewage generated at the site will be collected separately by the approved waste collector.
- Other liquid waste or used oil will be stored in oil containers and then disposed of through approved CWM's approved ESP.

Accidental discharges of fuel in the form of leakage/spills are expected in case of improper handling only.

Considering mitigation measures proposed in section 7, impacts on land is expected to be slightly adverse.

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- The following are the main impacts on the fauna resulting from the construction of the project Increased dust generation impacting faunal respiratory systems (of fauna onsite or surrounding the site).
- Increased levels of noise (day and night) disturbing faunal movements and routes (of fauna onsite or surrounding the site). The elevated levels of noise can impact the surrounding faunal habitats (if any) where fauna may migrate because of the disturbance; and
- Night lighting may disturb fauna (movements and loss of differentiation between night and day). The lighting may disturb surrounding faunal habitats which will eventually result in their migration.

6.4.3 Vegetation (Flora)

The following impacts may occur on flora because of construction activities.

- Destruction of flora and/or habitats because of site work i.e., operation of vehicles, grading which may decrease floral diversity and abundance.
- Due to any accidental spills, etc., the flora may accumulate contaminants from the contaminated soil thus impacting its health.

6.5 Marine Ecology Impacts

The project is located next to the Izbah(Desert farms) and no marine water discharges are anticipated.

6.5.1 Discharge to Marine Waters

As mentioned in the previous section, there will be no discharge to marine therefore there will be no impact on marine water.

6.5.2 Wildlife (Fauna)

No significant impacts are anticipated to occur on marine fauna.

6.5.3 Vegetation (Flora)

No significant impacts are anticipated to occur on marine flora.

6.6 Noise & Vibration

a) Sources

The construction of Pipelines and pumping station will entail use of equipment as listed in the Section 4-3 abo

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Excavation
- Loading and unloading

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- Generators operations
- Installation of machinery and equipment
- Loud noise by concrete work and vibrator used for concreting.
- Beams and slabs.
- Operations of construction machinery

Table 6-5: Noise Level from Construction Equipment's and Machinery

Equipment	Noise Level at 50 Feet (dB)		Noise Level at one hundred Feet (dB)	
	Without Controls	With Controls	Without Controls	With Controls
Earthmoving	79	75	73	69
	85	75	79	69
Front Loaders Backhoes Bulldozers	80	75	74	69
Tractors Graders	80	75	74	69
Pavers	85	75	79	69
Trucks (dump truck/ road truck)	89	80	83	74
Excavator or Bobcat	82	75	76	69
	82	75	76	69
Material Handling				
Concrete Mixer	85	75	79	69
Concrete Pump	82	75	76	69
Crane	83	75	77	69
Stationary				
Pumps	76	75	70	69
Generators	78	75	72	69
Compressors	71	75	75	69
Impact				
Jack Hammers	88	75	82	69
Pneumatic Tools	86	80	80	74
Others				
Saw	78	75	72	69
Vibrators	76	75	70	69

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Table 6-6: Typical Maximum Noise Level at 50 Feet for Each Major Construction

Major Construction Activity	Relevant Construction Activities	Equipment/Machinery	Noise Level at 50 Feet* (dbA)
Earthworks	• Excavation & backfilling • Dewatering • Compaction & leveling	Dump truck, excavator, shovel, bulldozer spoil loader, compactor, grader, multi tyred and vibratory roller, generator, dewatering pump,	84
Foundation	• Pile Boring • Foundation dewatering • Material Transportation • Steel Work • Concreting • Backfilling & compaction	Board piling Machine, dewatering pump, concrete batching plant, concrete pump, concrete transit mixer truck, Steel Cutting Machine, concrete vibrators, Mobile crane, Soil compactors, road Truck	73
Building Construction	• Formwork & shuttering • Steel Cutting & Fixing • Material Transportation • Concreting and curing • Removal of Formwork & shuttering	Concrete batching plant, concrete pump, concrete transit mixer truck, concrete vibrators, Tower and mobile crane, steel cutting machine, road truck	80
Construction of Roads	• Earthwork • Surveying & leveling • Material Transportation • Preparation pavement foundation • Laying & compaction of base and sub-base • Surfacing or Asphalting • Compaction of road	Excavators, road trucks, bulldozer, drum compactors, pneumatic compactors, dump truck, grader, asphalt paving plant	79
Utilities works	• Earthwork • Laying of sewer lines, gas line water line and electric • District Cooling Network • Power Network	Road truck, excavator, shovel, bulldozer	

(se 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Note: The Environment Department imposes certain restrictions and conditions on working hours, methods of work and type of equipment used to ensure noise levels are kept at an acceptable level. The permitted hours of work are.

- Monday to Saturday 6:30 am to 7:00pm
- Sunday & Public Holidays will be subject to the Project Requirement (Timings 6:30am to 11:30am)

a) Potential Impacts

The propagation of noise depends upon numerous factors other than the distance from the noise source. Topographic features and structural barriers that absorb, reflect, or scatter sound waves can increase or decrease noise to a considerable level. In addition to atmospheric conditions (wind speed and direction, humidity levels, and temperatures) can also affect the degree to which sound is attenuated over distance. However, noise on construction sites is not avoidable and should be reduced to a minimum with the target to reduce to a maximum of 92 dB (A) or the level of noise shall not exceed 15 dB (A) of the background noise level over a period of 15 minutes. In case the noise level exceeds 85 dB (A) the affected employees must wear hearing protection equipment.
By scheduling project activities such as work during daytime, avoiding simultaneous operation of noise generating activities, etc.; impacts of noise can be reduced. Apart from scheduling the activities, there are various other mitigation measures to reduce the impact of noise on the surrounding environment. Detailed methodologies for reduction or mitigation of noise and vibration impacts are discussed in Section 7.6 of this CEMP.

Noise pollution control plan should be in place which complies with the regulations and ensures that:

- All equipment to be used will be operated and maintained in accordance with the manufacturer's instructions for low noise operation.
- Engine covers, silencers, mufflers and other forms of acoustic linings or mobile shields will always be used.
- Machinery and plants, including vehicles, which may be intermittent use will be shut down between work periods or will be throttled down to a minimum.
- All sensitive receptors will be screened from significant sources of noise, which may include the use of stockpiles as acoustic barriers during high noise activities; and
- Regular maintenance of equipment to reduce noise emissions. This includes lubricating moving parts, tightening loose parts, and replacing worn out companies. It is recommended to inform residents in adjacent properties / Residents about unavoidable continuous noisy work outside of the normal

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6.7 Traffic

Due to the project activities, there will be significant impact on the flow of traffic. Following measures must be considered in Traffic Management Plan:

- Appropriately trained traffic marshals shall be provided on site to oversee traffic control arrangements. Traffic marshals shall be easily identifiable with a high-visibility vest or jacket.
- Appropriate shelters shall be provided for traffic marshals to shade them from the sun, this will include air conditioning for main entrance and exit posts.
- Traffic marshals shall ensure that they are always in full view of the driver whilst undertaking reversing operations and shall prevent any pedestrian movement behind reversing vehicles.
- All CONTRACTOR vehicles and mobile equipment requiring access to and from the project site will bear valid vehicle inspection (stickers) issued by Al Hikma Building Contracting LLC HSE Dept.
- All Traffic Control Devices (Barriers, Warning Lights and Warning Signs) will be in accordance with the Traffic Police dept. Regulations. Al Hikma Building Contracting LLC will submit drawings and method statement to the Traffic Police Dept. showing their Traffic Management Plan.

6.8 Waste Management Impacts

As per Al Hikma Building Contracting LLC project schedule, the total project construction duration is 487 days, from mobilization and documentation, procurement, site investigations to construction and handover. Several types of waste will be generated during all stages of construction and will maximize when the peak workforce is present on site. The purchase, storage, use and handling of materials and hazardous substances should be undertaken very carefully to avoid any waste, spillage or mishandling which could lead to adverse impacts. The dangerous goods and hazardous substances which might be purchased and stored during construction phase include:

- Fuel/diesel, oils, and lubricants; and
- Construction chemicals (e.g., concrete curing compounds, epoxy chemicals etc.).

Therefore safe / efficient management of construction waste is especially important as waste generation will create a significant impact on human health and the local environment. Poor waste management practices may create unhygienic conditions at site and pose a risk to workers' health and safety. Moreover, mixing potentially reusable or recyclable material with discarded material at construction sites may also increase the unnecessary load on Abu Dhabi Municipality and environmental resources. In this section, the waste management hazard of project has been analyzed. The general approach adopted to analyze the waste management hazard is as follows:

- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
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Types of Wastes

Waste is expected to be generated during the construction works of the project. The approximate quantities and methods of disposal can be classified into hazardous wastes and non- hazardous wastes. Waste coming under these categories are listed below.

6.8.1 Solid Waste

a) Non-Hazardous Waste

The non-hazardous waste expected to generate during the construction phase include but not limited to the following:

- General waste (Plastic, Paper, Cardboard, Wood)
- Concrete Waste Metal Waste
- PVC, HDPE, GPR Pipe
- Food Waste
- Dredging material
- Inert construction waste
- Plastic waste
- Paper / cardboard
- Other non-hazardous waste

b) Hazardous Waste

The hazardous waste expected to produce during construction activities may include but not limited to following:

- Used chemical drums/tins/containers.
- Waterproof bitumen sheets and bitumen boards
- Spoilt soil
- Diesel and petrol filters
- Spoilt clothes, plastic, and paper (With oil and chemical)
- Used cartridges from printers and photocopy machines (form site office)
- Used batteries.
- Maintenance waste of construction equipment

6.8.2 Liquid Waste (Effluent)

a) Non-Hazardous Waste

- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.

b) 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Sewage waste
- Vehicle wash water
- Used oil.

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- Used lubricants.
- Paint
- Wastewater from flushing and chemical cleaning test activity
- Most of the construction waste will be recycled to lower the load on landfill. However, some of the impacts of poor waste management are listed below:
- Health hazard to workers
- Poor housekeeping practices
- Generation of odor leading to poor air quality
- Land and groundwater contamination
- Resource depletion

The analysis of types of waste generated and construction practices normally adopted in UAE suggests that during the construction phase the magnitude of waste management impact is negligible, local and of temporary duration. Good housekeeping and waste management practices to manage these wastes can further reduce the impacts of waste from the construction processes.

Al Hikma Building Contracting LLC has prepared a site-specific waste management plan. Onsite sewage will be collected separately in septic tanks and collected by approved sewage tankers.

6.9 Other Environmental Impacts

6.9.1 Health & Safety

The potential Health & Safety issues during the construction are:

- Exposure to potentially dangerous equipment
- Falls, slips and trips-Injuries to workers.
- Ergonomics
- Burns, Heat stress & Occupational Noise exposure.
- Electrical exposures

Al Hikma Building Contracting LLC has in place operating procedures to safeguard workers' health and safety in addition to the HSE plan. These plans and procedures, when implemented, will minimize risks to the health & safety of the workforce involved in the project.

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7 Environmental Mitigation Measures

This section presents mitigation measures and control measures that Al Hikma Building Contracting LLC will have to implement as part of EHS responsibilities. Most of the provided plans and measures are based on Al Hikma Building Contracting LLC procedures. However, some of the provided controls were developed in previous similar projects experiences and regulatory requirements.

This section has captured all possible applicable, implementable, and feasible mitigation/control measures that Al Hikma Building Contracting LLC will abide by. Adequate supervision, in the form of monitoring and reporting to ADDC shall be done by Al Hikma Building Contracting LLC to ensure that the environmental performance is satisfactory and that mitigation measures are being implemented properly throughout the project period and the detailed control plans for each of the impact identified are discussed in the following sections.

Please note that this CEMP will be kept as a live document where Al Hikma Building Contracting LLC will regularly update it with any new activities, impacts and mitigation measures.

7.1 Air Quality Control Plan

Al Hikma Building Contracting LLC contractors are specifically required to implement pollution prevention measures based on the potential impacts identified.

General Mitigation Measures

- Fugitive dust emissions shall be controlled by wetting exposed soil and site areas, as necessary.
- Regular visual monitoring of construction activities shall be conducted to identify any dust sources.
- Stockpiles of fine materials such as sand, construction material, sand, etc. shall be covered and managed when not in use.
- Areas of excavation or earthworks shall be limited to the minimum size area necessary.
- Equipment and vehicles shall be cleaned before leaving the site.
- Trucks hauling any loose material that could produce dust shall cover their load.
- Regular maintenance of site plant and vehicles shall be conducted to minimize exhaust emissions.
- Engines shall be switched off when vehicles and plants are not in use.
- The maximum speed limit inside site is 20 KPH.
- Low Sulphur fuel shall be used wherever practicable.
- The use of low emitting adhesives, paints, coatings, sealants, etc. shall be incorporated in the materials selection for construction, where possible.
- All plant/equipment shall be regularly maintained by the manufacturers.
- Instruction / recommendation. Regular inspections shall be conducted.
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- All refrigerants must not be released into the atmosphere.
- Window a/c units shall be sent to an approved contractor for re-filling.

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Specific control for dust management, gaseous pollutants and PM control, and odor management are identified and detailed into control plan below.

7.1.1 Dust Generation

Objectives

Mitigate dust produced during transportation of material, construction and implement appropriate control and management measures.

Source

Dust generated during earthworks and vehicle movement on unpaved access roads.

Control and Preventative Measures

- Water sprinklers or water carts will be used for dampening exposed surfaces, roads, newly filled or excavated areas, stockpiles, etc. to control dust generation.
- Dust suppression using water sprinkling on any unpaved roads, at least twice a day.
- Cutting of concrete or block work activities shall be damped down with small amount of water to reduce dust being generated.
- All stockpiling of fine construction material like sand etc. and the excavated earthwork shall be covered, if possible, to prevent them from getting airborne.
- Dust level to be maintained within the applicable standards as provided by EAD.
- Dust masks will be provided to workers for working in high dust uplift from soil.
- Regular inspection of work sites to ensure that dust uplifting is under control and all mitigation measures are in place.
- Fine or coarse sand collected/stored at construction sites will be covered during windy period.
- Construction activities that generate dust during intense winds will be avoided.
- It must be prohibited to burn any kind of waste or material on site.
- Vehicle tires shall be washed prior to leaving the site. A tyre washing area shall be provided near the security gate.
- Vehicles carrying supplies shall be covered to prevent loose materials from getting airborne.
- Speed limits of less than 15 kmph shall be enforced on unpaved roads to minimize dust generation and dispersion.
- During the construction of access roads to construction site, reducing drop height into the dump truck can reduce the dust generation significantly.

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7.1

Gas

following are the main gaseous pollutant management methodologies.

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- All equipment and vehicles will be adequately maintained and repaired in order to minimize emissions. Mitigation measures include the use of low-sulfur fuels, soot filters, and catalytic emission controls as specified by the project-specific requirements. Vehicles and equipment that fail to meet emission limits and standards will not be operated/used until adequate servicing, testing and maintenance has been conducted. Al Hikma Building Contracting LLC will maintain records of equipment maintenance and repairs.
- Vehicle and equipment exhaust will be directed upwards (wherever possible) and directed away from the ground at a minimum. Operational stationary equipment will be installed as far as possible from surrounding sensitive areas.
- Idling of vehicles and equipment will not be permitted. Where appropriate, electrically powered equipment will be used instead of gasoline or diesel-powered equipment; and
- All hazardous materials including chemicals, paints, cleaning agents, solvents and solvent containing products will be adequately sealed in labeled containers at the end of each day by the contractor. After sealing the materials, all containers will be adequately stored in contained areas (i.e., 110% containment).

7.1.3 Odor Management

The odor generated onsite will result from waste, chemical/fuel, and combustion. The following is Al Hikma Building Contracting LLC management plan for odor emissions:

- Burning of waste or unwanted materials will not be permitted onsite.
- Long-term storage of waste will not be permitted onsite. In addition, for short-term storage, no waste is to be stored outside designated areas.
- Organic waste skips and septic tanks will be always closed; a leak and drip free sewerage network will be installed onsite.
- Closed fuel and chemical storage areas will be adequately vented and confined; and
- Plan, locate, and control all possible work-site activities that have the potential to generate smoke and odors (from engine combustion and vehicle exhausts) so that nearby sensitive receptors are not adversely affected.

7.2 Erosion And Sediment Control Plan

The purpose of this Plan is to minimize soil erosion and the discharge of sediment to land and waterways because of onsite operations.

The Plan will meet this objective by ensuring that best practice environmental management measures are incc

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The following are the main sediment and erosion control measures to be considered by Contracting LLC.

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- If the road or work area is to carry only light to medium traffic flows and light vehicles then the road must be graveled (i.e., gravel/railway ballast/crushed concrete) to suppress dust.
- If the road or work area is to carry heavy traffic flows or heavy machinery then a dust suppression regime must be implemented e.g., wetting down where required (i.e., water cart).
- Immediate re-vegetation (wherever needed) following completion of works.
- The installation of pipelines and pipeline breaks onsite may result in erosion to soils; therefore, those activities will be conducted based on best practice guidelines to ensure minimal impacts.
- For ongoing works or operations, installation of a sediment detention basin down-gradient of disturbed area.
- For the construction of drainage lines, drain surface should be rock lined to minimize erosion.
- Use established roads only.
- Cover material using plastic sheeting to minimize wind erosion and storm water ingress into material; and
- Divert all up-gradient flows around stockpiled material.

7.3 Soil And Groundwater Contamination Control Plan

There will be no intentional discharge to soil or groundwater from site activities. Al Hikma Building Contracting LLC will obtain a Discharge Permit from TADWEER (prior to conducting any discharge activities) which will specify the location and the quantity of discharge.

If dewatering is required, then Al Hikma Building Contracting LLC will obtain a Discharge/Dewatering Permit from EAD specifying the allowed dewatering locations, etc. For general prevention of soil and groundwater contamination, the following management plan procedures are proposed:

- Adequately contains all fuel, oil, and chemical storage areas (i.e., 110% containment based on the largest container stored).
- Organic waste skips and septic tanks will be always closed (except during emptying/collection).
- The sewerage network needs to be leak and drip free.
- Regularly maintain all storage areas and inspect for cracks, holes, etc.
- Conduct soil and groundwater sampling if required (i.e., after a major spill).
- Use drip trays onsite.
- No onsite vehicle or equipment washing will take place.
- Onsite fresh concrete management.
- Spill kits will be made available onsite and at appropriate locations, especially near bulk storage locations.

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Cor

- The Contractor should keep a list of all hazardous substances present on site and t
data sheets (MSDS) for these substances will be readily available to all concernec

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- All hazardous liquids/fuel should be stored in an impervious bunded area where the volume of the storage bund is not less than 110% of the largest storage tank contained within the bund.
- All chemicals and substances are to be stored in a safe manner so as not to get damaged and cause spillages on the floor.
- The Contractor shall ensure that there is adequate fire-fighting equipment in any fuel (diesel) storage area.
- Any refueling operations should take place at a designated site, which shall be inspected by the Supervisory Personnel. The ground under the refueling areas shall be protected against pollution from any spills and/or tank overfills.
- Appropriate spill clean-up material must be available adjacent to storage and maintenance areas. Used waste fuel or other waste chemicals shall be stored in a bunded area until collected for off-site disposal by an approved Waste Contractor at Abu Dhabi Municipality - Environmental Department.
- The Contractor shall comply with all ADM legislation with regards to the safe storage, handling, and disposal of hazardous substances.
- The Contractor shall be responsible for the training of all personnel on site who will be managing hazardous materials about their proper use, handling, and disposal.
- In case of any spill, the area shall be inspected by the HSE Manager and the Project Manager and this will be included in the incident report.

7.4 Terrestrial Ecology Control Plan

Objectives

- To minimize or avoid cutting or trans-location of Trees Plants & Bushes.

Sources

- Trees, Plants, Bushes.

Control and mitigation measures

- Training & Environmental Awareness for all personnel.

7.4.1 Terrestrial Ecological Management

The following are general terrestrial ecology management procedures:

- Al Hikma Building Contracting LLC will provide adequate fencing around the sites to avoid any trespassing of roaming fauna i.e., gazelles, cats, etc. Site visits have identified gazelle tracks onsite. To protect such fauna and to avoid any disturbances, Al Hikma Building Contracting LLC will fence construction sites.

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- any potential seepage to soils and groundwater. The existing flora may absorb such contamination thus impacting its health.

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- Al Hikma Building Contracting LLC will conduct regular inspections to verify and identify any impact on ecology onsite and surrounding the site. Any non-compliance or impact on terrestrial ecology will be corrected though an efficient action plan; and
- The Al Hikma Building Contracting LLC field execution manager will address questions about the ecological management procedures and will ensure complete compliance with ecological control measures.

Any additional specific measures for the protection of species or ecology will be added to the above list.

7.5 Water Quality and Marine Ecology Control Plan

7.5.1 Dewatering Management

Objectives

- To minimize or avoid impacts of effluent discharge to the local environment.
- To comply with ADM Guidelines for Effluent Discharges into the Environment in case of discharge to land.

Sources

- Groundwater from dewatering activities.
- Spillage and leaks from fuel transfer.
- Waste storage area.
- Diesel tank spillage / leakage.

Control Measures

- Spills of potential contaminants will be immediately cleaned up and sent to a holding tank.
- Appropriate discharge points shall be identified to dispose of the dewatered water and discharge permits shall be obtained before discharge.
- The wastewater shall be evaluated for turbidity and other physical parameters before disposal.
- All septic tanks and wastewater storage will be regularly maintained and inspected for any cracks.
- Sewerage tankers as approved by ADM will regularly remove the wastewater.
- Waste disposal notes will be kept for records.
- Training & Environmental Awareness for all personnel.

7.5.2 Wastewater Management Plan Objectives

- To minimize or avoid impacts of effluent discharge to the local environment.
- To comply with ADM Guidelines for Effluent Discharges into the Environment in case of discharge to

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Sou

- Waste storage area.
- Diesel tank spillage / leakage.

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Control Measures

- Spills of potential contaminants will be immediately cleaned up and sent to a holding tank.
- Appropriate discharge points shall be identified to dispose of the dewatered water and discharge permits shall be obtained before discharge.
- The wastewater shall be evaluated for turbidity and other physical parameters before disposal.
- All septic tanks and wastewater storage will be regularly maintained and inspected for any cracks.
- Sewerage tankers as approved by ADM will regularly remove the wastewater. Waste disposal notes will be kept for records.
- Training & Environmental Awareness for all personnel.

7.6 Noise And Vibration Control Plan

Objective

- To mitigate any potential noise and vibration impacts from the construction activities.
- To comply with the Allowable Noise limits as listed in Table 5.5 of EAD Guidelines and Standards.

Source

All construction activities, vehicle, and equipment movement.

Several control and management measures for noise and vibration control and management have been outlined and discussed in the box below and are further detailed in the plan below.

- Site work activities shall be restricted to daytime operations.
- Noisy equipment's shall be replaced with less noisy alternatives or equipment that is specifically designed with noise inhibitors such as generators and compressors with silencers and muffled jackhammers will be used.
- Equipment shall be used in accordance with the manufacturer's specifications.
- Machines (that are fitted with engine covers) will keep the engine covers closed.
- Regular and effective maintenance of stationery and mobile equipment is to be conducted.
- Noise reduction measures will be used on noisy equipment.
- Noise barriers should be installed to reduce noise, where required.
- Use of appropriate PPE to protect worker hearing.
- A noise complaint register will be maintained to keep a record of any complaints received and the remedial actions taken.

Control and Management Measures

Suitable control and management measures are specified to mitigate the noise impacts during construction an

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Pre

- Select site access routes for construction machinery and spoiled trucks as far as p sensitive receivers and residential areas.

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- Orient or install stationary construction equipment and machinery, known to emit high noise, away from the sensitive receivers.
- Install/erect temporary noise barriers at noise sensitive areas.
- All staff will undergo noise awareness training and mitigation measures to be implemented at site.
- Public signboards and important contact numbers to be displayed on site, so that the issue of higher noise, public concern, etc. can be immediately reported.
- Installation of acoustical anti-vibration mat between the bottom of pump and the base on which it sits will absorb much of the vibration-based noise often experienced.

Construction Phase

- In case works are required to be conducted during nighttime, prior consultation with the public in nearby areas will be conducted and explain them the reason for such night activities.
- Any high noise generating activity will be communicated/ notified to nearby residents well in advance.
- If the project safety working procedure allows, it is recommended to use non-tonal reversing beepers (or equivalent) on all construction vehicles.
- It is advisable to use site sheds, embankments, materials, and stockpiles to increase acoustic shielding, where feasible.
- The labor working under high noise (close to plant, noise level approx. 85-90 dBA, noise exposure 40 hours per week) will be provided with earmuffs and plugs.
- All equipment, machinery and vehicles used at site will be properly and regularly maintained and records will be maintained at site.
- Machinery will not be permitted to “warm-up” before the nominated working hours.
- Replace the plant or machinery which is causing high noise or use those machineries which have specially designed noise inhibitors.
- Ensure that all machineries and equipment are used and maintained as per the manufacturers specifications only.
- Exposure to impulsive or impact noise should not exceed 140dB peak sound pressure level.
- Monitoring shall take place throughout the operation to ensure compliance.
- Noise Monitoring will be conducted monthly including occupational noise and a record will be submitted along with the monthly OHSE Report.

7.7 Traffic Control Plan

Objectives

- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Sources

- Working adjacent to the roads.
- Construction vehicles

Al Hikma Building Contracting LLC will provide details of site-specific traffic management measures. The measures will include:

- All Traffic Control Devices (Barriers, Warning Lights and Warning Signs) will be in accordance with the Traffic Police Dept. regulations. Al Hikma Building Contracting LLC will submit drawings and method statement to the traffic Police Dept. showing their Traffic Management Plan.
- The maximum speed limit inside the site is 20KPH.
- Al Hikma Building Contracting LLC will assign a traffic safety team to ensure the maintenance of all the traffic control devices.
- Work will not disturb the live traffic flow.
- The pedestrians, drivers, should follow the Road Safety rules framed for this purpose.
- Reference to the drawing showing the traffic management during construction.
- The project, the actual Traffic Management Plan with Emergency Plan will be submitted separately.

7.8 Waste Management Control Plan

Al Hikma Building Contracting LLC employees and workers will implement a waste management plan. Several waste management measures rather than control measures to minimize the impacts.

Objectives

- To minimize and mitigate potential environmental impacts associated with the project activities.
- To ensure proper collection, segregation of construction waste.
- To ensure proper management and disposal of waste as per TADWEER/EAD requirement standards.
- To ensure compliance with the Abu Dhabi waste management guidelines & regulations.

Sources

- All kinds of waste like.

Solid

- Waste that is generated during construction is classified as hazardous or non-hazardous.
- Domestic solid waste generated within workers accommodation areas.

Liquid

- Non-Hazardous - Wastewater from site offices & pumped water from dewatering activity
- Hazardous - Vehicle wash water, used oil, used lubricants, Paints, and used water for flushing.

Spe

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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- All waste collecting bins and skips will be properly labeled and placed at strategic
- Mixing of the waste will be avoided. Proper segregation of waste will be done.

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- Construction waste shall be segregated at the source. Metals or steel bars and cement/asphalt related items shall be stored in separate containers.
- Waste shall be stored for the minimum time possible. Contractors will be ensured to implement procedures for record keeping, including place of treatment disposal, time, and quantities.
- The appropriate waste transport and disposal permits shall be in accordance with ADM waste management system.
- Al Hikma Building Contracting LLC will maintain the waste disposal register and associated documents.
- The storage, handling and disposal of hazardous waste shall be in accordance with COSHH best practice.
- Hazardous waste shall be stored in approved containers and on impervious bunded hardstand. Spillage and leakage prevention measures including regular inspection of containers shall be prepared and implemented.
- Spillage response and emergency contingency procedures will be prepared and implemented. Staff shall be trained in accident response and clean-up procedures.
- Mandatory training program for employees shall be implemented to increase awareness of waste management, including waste and chemicals handling.
- Where possible, hazardous chemicals will be replaced with no hazardous products.
- Excavated material shall be used for backfilling.
- Training & Environmental Awareness for all personnel.

7.8.1 Minimization, Reuse, and Recycling

Al Hikma Building Contracting LLC shall follow the waste management hierarchy as shown in figure below which is based on the concept of waste reduction, reuse, recycling, and the last option is the disposal of unrecoverable wastes. Source segregation strategy (between reusable and recyclable materials) will save the time for waste segregation and will make it easy to reuse the wastes at site (e.g., broken concrete can be used for backfilling).

The waste material which neither has the potential to be reused nor can be recycled will be hauled to a construction waste treatment facility approved by Abu Dhabi Waste Management.

Waste minimization, reuse and recycling can only be achieved by appropriate training and retraining the workforce in waste management hierarchy and encouraging them to reuse and recycle materials.

Environmental and economic constraints of waste disposal should be communicated to the workforce.

The procurement department should be made aware of the waste management hierarchy to make procurement decisions that encourage reuse and recycling. Resource minimization and reuse will also be imp

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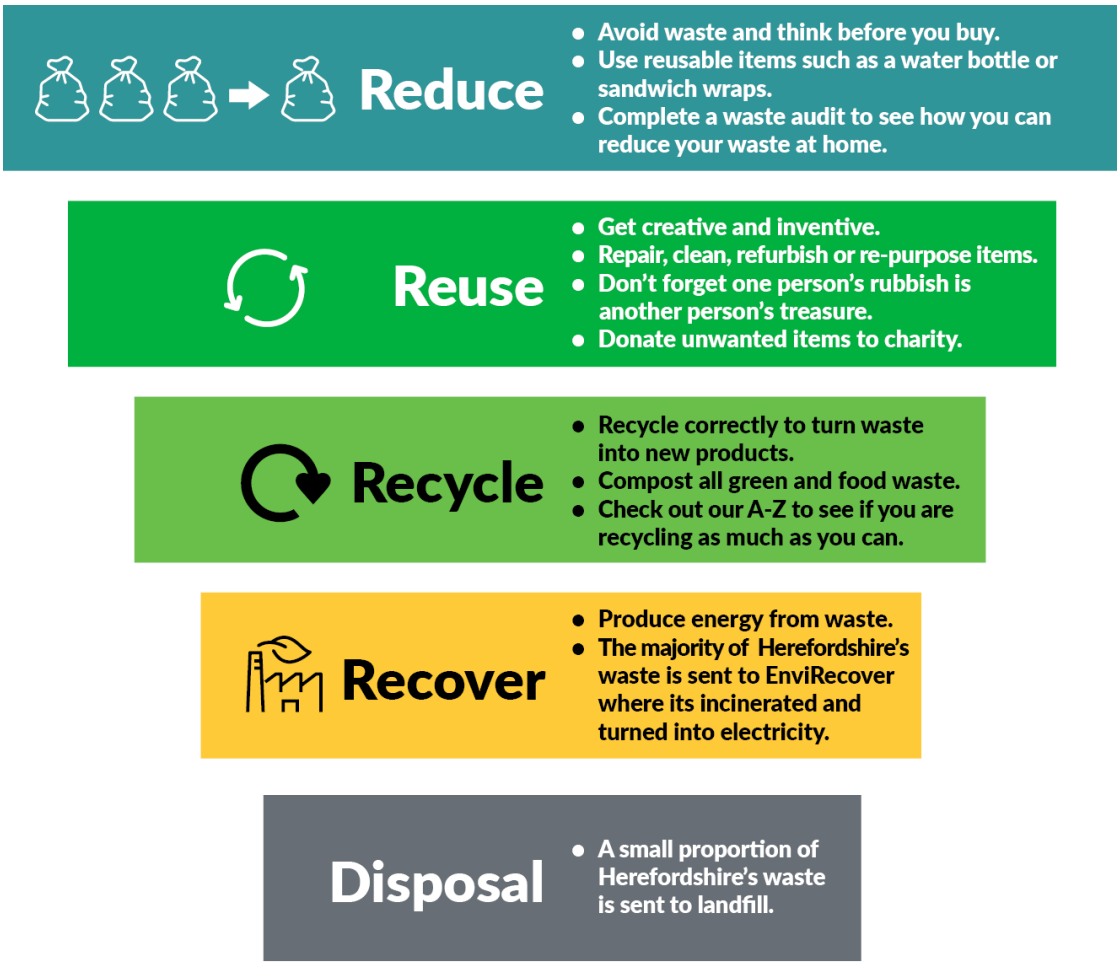


Figure 7-1: Waste Management Hierarchy

7.8.2 Solid Waste Management

Al Hikma Building Contracting LLC will follow waste management plan and will implement it to achieve the objectives Additional procedures are discussed below:

Waste Collection and temporary storage

All solid waste generated at the site shall be collected in a temporary waste collection area, which is to be constructed on impervious surface. The temporary storage system shall be designed to ensure segregation and safe collection and to avoid mixing of incompatible wastes.

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storage area. Assorted color coding shall be adopted for segregating the waste into different colored bins. An impervious surface should be constructed for bins / skips, with a ramp to enable easy a

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vehicles. All waste bins shall be labeled and covered. Awareness and training shall be imparted to make the collection and segregation effective and to identify reusable and recyclable materials.
Approved Abu Dubai waste management collectors shall away haul the waste regularly.

Handling of Construction Wastes

Construction wastes include excavated material, concrete, asphalt, metal, cardboard, steel, and wood waste. This waste shall be stored in separate waste metal skips. Staff and workers shall be trained to separate waste and dispose of it into dedicated skips. The onsite reuse of the waste shall be explored e.g., excavated material shall be backfilled, concrete blocks can be crushed and used as aggregates, metal can be sold as scrap. All non-recoverable waste shall be hauled away by CWM's approved regularly to avoid overflow. Generic mitigation/ management measures to achieve solid waste management include the following.

7.8.3 Liquid Waste (Effluent) Management

Appropriate discharge permits shall be obtained prior to discharge of liquid waste. Turbidity and other physical parameters shall be monitored before discharge. Other waste shall be collected in the holding tank and disposed of to the wastewater treatment facility after obtaining permits.

7.8.4 Hazardous Waste Management

Based on the USEPA, Hazardous wastes are wastes that are dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludge. They can be discarded commercial products, like fluids and chemicals, or the by-products of a process.
The types of hazardous wastes expected to be generated because of the construction include waste oil and fuel from equipment and vehicle refueling and maintenance, accidental spills, soils that are contaminated with oils or fuels, waste spill control kits, and waste chemicals.
The following steps discuss the main requirements for hazardous waste management on Al Hikma Building Contracting LLC sites:

- Hazardous waste generated at the sites will be collected and stored as per EAD requirements; hazardous wastes, as defined by the applicable local regulations, will be stored separately from non-hazardous wastes in accordance with applicable regulations, project-specific requirements, and good waste management practices.
- Al Hikma Building Contracting LLC field execution management and employees will be vigilant for the presence of hazardous wastes (as listed previously) that may have not been removed from the site during site preparation. Where expected hazardous waste is identified, all activities in the vicinity will be

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- At the time of disposal, any aerosol which contains chemicals will be listed or cha hazardous waste and will be stored in a hazardous waste container. If the aerosol

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identified as empty (meaning they contain no propellant or product and are at atmospheric pressure) then the container will not be regulated as a hazardous waste and may be recycled as scrap metal or just land filled. Each project will collect empty aerosol cans at a central location approved by the client and Project Manager. A designated person will puncture the cans with an approved device designed for puncturing aerosol cans and collect the remaining propellant or product before disposal. Before the designated person punctures and collects the remaining contents of the can, they will ensure that the contents are compatible with the contents of the collection container. The recovered contents should be analyzed to determine if they are a listed or characteristic hazardous waste and labeled and disposed of accordingly.

Please note that waste manifests will be filed and kept for record and reference during inspections and audits. Wastes manifests will include waste transfer notes, and waste acceptance notes from the disposal facility.

7.8.5 Polychlorinated biphenyls (PCBs), Asbestos, and Ozone Depleting Substances (ODS) Management

Considering the type/nature, size, capacity and duration of this project, no PCB, asbestos, and ODS are expected to result. In addition, asbestos and PCBs are banned from being used in the UAE as per the EAD. In addition, EAD has banned and prohibited the use of any ODSs.

7.8.6 Use of Environmental Service Providers for Waste Management

The collection and transport of all the wastes arising out of the construction will be handed over to an approved waste contractor. All waste will be transported off site and disposed of by Service Providers registered with Abu Dhabi Waste management. Copies of service providers as shown in Table 7-1 below summarize the possible waste service providers for the project.

Table 7-1: Waste Provider

Type of Waste	Recycle / Reuse/Dispose	Possible Waste Service Provider	Possible Destination
Mixed C&D	Dispose	TADWEER	TBC
Concrete	Recycle	TADWEER	TBC
Metal / Steel	Recycle	TADWEER	TBC
Aluminum/Copper	Recycle	TADWEER	TBC
Timber / Wood	Recycle	TADWEER	TBC
Plastic	Recycle	TADWEER	TBC
Sewage	Recycle	TADWEER	TBC
Other	Dispose	TADWEER	

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3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Hazardous	Dispose	TADWEER	TBC

Designated zones shall be delineated and clearly labelled to facilitate the separation of materials for potential recycling, reuse, salvage, disposal and/or return. Where possible, the use of different colored areas or skips (or sufficiently clear labelling) will help ensure that construction workers are clear about where to put each type of waste. This will also help to reduce the level of contamination in the collection areas and increase the likelihood that a greater proportion of the waste is recycled or reused. This strategy will be further developed with the Waste Management Contractor prior to the construction works commencing.



Figure 7-2: Example of good Waste Management Practice

7.9 Chemical And Hazardous Materials Management

Chemicals and hazardous materials to be used at site include fuel/diesel, lubricants, paints, and waterproofing chemicals etc. and limited amounts of first aid and medicines. Chemicals and hazardous materials management will be done as follows.

Objectives

To manage chemicals and hazardous materials in safely and minimize its potential risks to environment as wel

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Control and Mitigation Measures

- Assign a dedicated fuel / chemical storage area that provides for adequate containment including concrete base and 150% containment (or bund height based on the largest stored container).
- Environmental protection measures in relation to any work involving the use, movement, and storage of fuel or chemicals will be fully documented and accepted by Al Hikma Building Contracting LLC prior to its commencement.
- MSDS of all chemicals shall be made available at storage area and with HSE officer.
- No chemical will be purchased without MSDS.
- Persons handling chemical / material are required to refer to the material assessment before the product is used for the first time.
- Chemicals shall be stored on shelves made of non-reactive materials.
- Chemicals shall never be stored above the eye level.
- Adequate spill kits (sorbent pads etc.) shall be made available to facilitate immediate clean-up. Workforce will be trained to clean-up any spills/ leaks/ contamination and store the wastes in the designated area.
- Chemicals, coating materials and paints to be stored in safe, ventilated, and cool areas in accordance with MSDS.
- All hazardous materials, including chemicals, paints, cleaning agents, solvents, and solvent containing products, will be properly sealed in containers at the end of each day by the contractor prior to storage in appropriately protected and dike areas.
- Training & Environmental Awareness to all personnel.

Vehicle Refuelling

Onsite Vehicle refuelling will be avoided as much as possible. However, in case of refuelling the following control measures and steps will be implemented for onsite vehicles. Vehicle refuelling control measures include:

- Al Hikma Building Contracting LLC will review and authorize any fuelling and refuelling activities conducted on the project site. Al Hikma Building Contracting LLC team will be responsible for complete compliance with ADM requirements, EHS plans, and all relevant regulatory requirements.
- Refuelling and tank filling activities will be carried out in designated adequately contained refuelling areas. However, where the nature of the machinery makes this impractical, the refuelling activities will be conducted on a concrete base area with the use of drip trays under refuelling hoses, etc.
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- During the process of refuelling, a fuel spillage kit will be available to contain any contamination.

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- An emergency spill kit containing sand and other suitable absorbent materials will be kept readily available (and accessible) onsite in case of spillage in the main fuel storage area.
- Fuelling stations will be equipped with an automatic shut-off mechanism.
- Trained personnel will supervise all refuelling operations.
- Valves and taps will not be left open or unattended and will be locked when not in use; and
- Personnel handling and managing refuelling will to be made aware of the requirements listed here and will be trained to use the spill kits and emergency procedures.

Equipment and Maintenance

Onsite repair, maintenance, oil change, cleaning and washing for the plants, equipment, vehicles, concrete truck mixers, etc. is prohibited. ADM prohibits and does not allow for any such activities to take place onsite.

For unavoidable situations and prior to commissioning such activities, Al Hikma Building Contracting LLC will communicate the activities and practices to ADM and approval will be obtained (prior to commencement of work). In such cases adequate mitigation measures including hard standing, adequate containment (i.e., 110% bunding), plastic lining, etc. will be developed to prevent soil and groundwater contamination. Please note that in case of obtaining approvals for such activities from ADM.

Al Hikma Building Contracting LLC will update the CEMP with the required and necessary mitigation measures.

7.10 Contingency Plan

This contingency plan is intended to be prepared by for response to oil spills during the construction phase. The potential source for oil/diesel spill is expected during fuel transfer at site. The Emergency Response Team, comprising of the Project Manager, Project HSE Manager/Advisor & Site Engineers of Al Hikma Building Contracting LLC along with nominated workforce will be trained in responding to oil spills occurring at the site. Details of the emergency response team members are presented in following table:

Name	Position	Contact Number
Mr. Jiries Hani Oweis	Senior Project Manager	+971 50 406 1077
Mr. Damodhar Zomuni	HSE Engineer	+971 56 828 7679

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1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Paint/ lubricants/chemicals

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Procedures

- To minimize the impact on the environment in the event of a spillage by effective and efficient containment and clean up, the following procedure will be adopted:
- An incidental spill is defined as either an incident, which can be absorbed or controlled by personnel working in the immediate area, or releases, which do not present any health or safety hazards.
- Response actions and procedures will be contingent upon the nature and quantity of the materials that are released.
- To determine the level of spill response capabilities required, the site must first determine what chemicals are present at the site and in what quantities.

Identification

The facility will use MSDS to define which chemicals have the potential to cause an emergency, to target its chemical response planning. Focus should be on those chemicals that the project site stores in bulk and the chemicals which are flammable.

Control

Once the chemical hazards and potential impacts have been identified, provisions shall be developed to properly control these occurrences. The site will evaluate its ability to provide response services for chemical hazard emergencies and/or use outside response services for the same. The determination of when spills and releases must be responded to by an external emergency response service shall be based upon the size of the spill and the nature of the materials that have been released.

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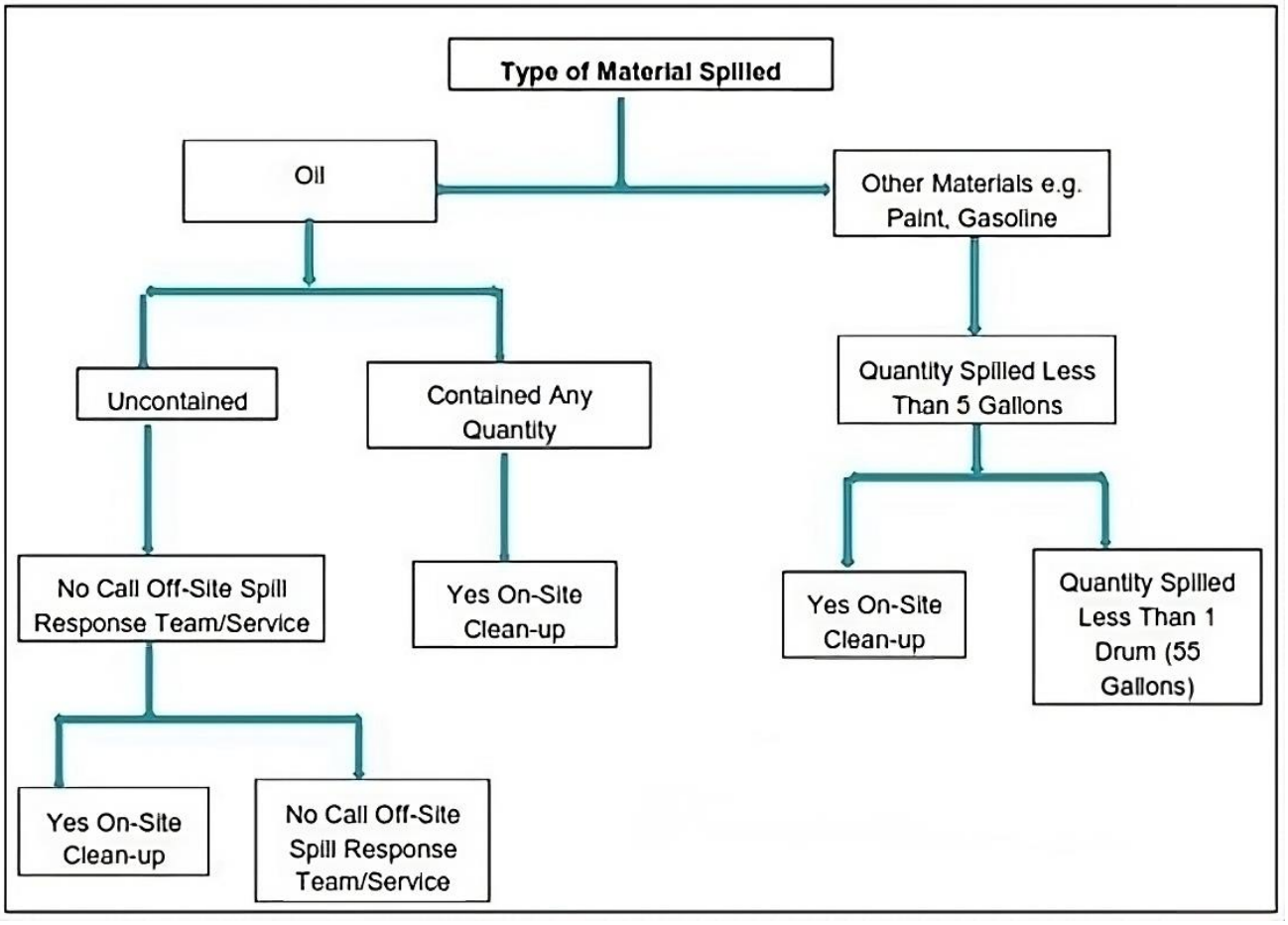


Figure 7-3: Response Plan

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Control and Mitigation Measures

- Adequate spill control equipment will be made available at the sites which will be deployed in case of oil/diesel spills.
- Once the spill is cleaned up, the surrounding contaminated soil will also be cleaned up. The hazardous wastes generated out of this operation will be collected by the waste handler and disposed of accordingly.
- Any spillage of hazardous material shall be reported immediately to the concerned person on site.
- Al Hikma Building Contracting LLC will be responsible for training all staff in the procedures for handling spills and shall provide all staff with appropriate personal protective equipment (PPE).

7.11 Emergency Management Plan

7.11.1 List of Emergency Coordinators

Al Hikma Building Contracting LLC has developed a list of contact information for all internal resources and personnel. The list includes the name, description, location, and contact details (telephone, email) for each of the resources, and be maintained annually. The following are the main contact individuals assigned onto the Project site:

Table 7-2: List of Emergency Coordinators

Name	Position	Contact Number
Mr. Jiries Hani Oweis	Senior Project Manager	+971 50 406 1077
Mr. Damodhar Zamuni	HSE Engineer	+971 56 828 7679
Al Hikma Building Contracting LLC H.O	Admin	+ 971 4 236 4242

7.11.2 Emergency Procedures Type of Emergency

- Personal injury (Medical: includes injuries or emergency medical cases that require professional medical attention).
- Fire or explosion
- Extreme weather conditions
- Road accident
- Oil and chemical spills/release of hazardous materials
- Property damage

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construction personnel to any medical waste is unlikely.

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General Evacuation Procedure

- Raise the alarm.
- attention of others by shouting or any other means available.
- Inform emergency immediately to supervisor.
- Stop all the activities.
- Switch off all electrical appliances.
- Follow emergency exit routes.
- Rush towards nearest safe assembly point
- Stand in an order at assembly point.

Responsibility

It is the responsibility of all employees and all sub-contractors working at site to implement the control strategies and corrective actions included in this Control Plan.

Note

- Never tackle emergency alone. Always seek assistance.
- Nobody is allowed to return to work unless it is announced by the HSE Manager / Advisor

Emergency Evacuation

- The HSE Officer will be in charge in case of emergency and will alert everyone inside and surrounding the pits.
- The HSE Officer will supervise the evacuation of all workers in an orderly manner to the assigned assembly points.
- The HSE Officer will inform the emergency Authorities - Civil Defence, Ambulance, police and the HSE Engineer
- The HSE officer will carry out a head count and report to HSE Engineer
- In case of movable injuries, the HSE Officer will supervise moving the injured person on the stretcher using the cradle and mobile crane available on Site.
- In case of fractures and injuries where the injured person cannot be moved, the HSE Officer will wait for the professional medical team to move the injured person.
- In case of Fire, the HSE Officer will evacuate all workers inside the confined space and assess the possibility of tackling the fire from inside or outside the pit. If the fire is uncontrollable entry will be prohibited and use of fire extinguishers and sand will be carried out from the top of the pit.
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- 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
- 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.
- HSE Officer will declare the end of the emergency.

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Emergency Drills

Emergency response plan will be communicated to all employees on the construction site. Moreover, site specific evacuation plan layout is provided.

Emergency Response Plan for Spillage of Hazardous Materials

- Any spillage of chemical should apply sand / sawdust or spill kit to absorb the spilled chemical, to control the spilled area.
- Protective clothing and appropriate equipment should be given to workers to handle any chemical spillage situation.
- After cleaning, any used absorbent (e.g., sand / sawdust) shall be treated as chemical waste material.
- The occurrence of chemical spillage shall be recorded in the accident report, to discuss the preventive action for future.
- Chemical Spill drill shall be arranged once a year.

Table 7-3: Incident Response Procedure-Oil/Fuel Spill

Activity	Description
Stop	Wear protective clothing and prevent further release at source e.g., switch off tap/Val correct leaking drum/tank. Remove sources of ignition and prevent access to the site.
Notify	Categorize incident and notify responsible party.
Contain	Use absorbent materials e.g., sand or pads to absorb excessive materials and dispose of them within plastic bucket so not to transfer spill. Do not rinse away spills. If a spill is migrating create a temporary bund using soil, sandbags, or spill kit materials. If drain located nearby, install drain seals.

Table 7-4: Incident Response Procedure –Leakage of Gaseous Substance

Activity	Description
Stop	Identify the source and prevent further release at source e.g., switch off tap/valve. Provide aeration to area. Remove sources of ignition and prevent access to the site.
Notify	Categorize incident and notify responsible party.
	It is not practicably possible to contain a gaseous leak, but weather conditions should

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Table 7-5: Incident Response Procedure – Release of Excessive Dust/Bulk Powders Powder

Activity	Description
Stop	Identify source and prevent further release of dust, if possible, e.g., if split pipe - set transferring dust until pipe is replaced/repaired. Identify construction activities which are causing excessive ambient dust and stop w immediately.
Notify	Categorize incident and notify responsible party.
Contain	Under dry conditions, dampen areas using a bowser or like prevent windblown. Dust (unless dry dust can be reclaimed immediately for reuse, by use of specialist equipment/plant). When dampening the dust down, ensure the resulting mixture/run-off does not enter any drains or groundwater (see chemical spillage guidance for details of how to prevent this). Deploy dust suppression bowsers (or road sweepers in wet conditions) on any hard-surfaces affected by dust. Cover materials which are being transported or large exposed stockpiles or relocate exposed stockpiles where possible. For more permanent areas of site, e.g., site office, promote planting.

Table 7-6: Incident Response Procedure-Noise

Activity	Description
top	Identify the source of excessive noise. Assess the situation and associated noise level. If an external complaint has been received it may be necessary to go to the location of the complainant to get an idea of the noise at their location. Make a judgement of what can be done, if anything, to minimize the noise propagate from the site based on factors such as remaining duration of the works (e.g., if the no works are due to stop within half an hour, allow to continue).
Notify	Categorize incident and notify responsible party.
Contain	Initially ensure all plants are maintained, and with correct appliance, to prevent excessive noise. Conduct work near SRs during daytime hours only. Come to mutual agreement with the Project manager on whether works should be

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Table 7-7: Incident Response Procedure – Sewage/Organic Waste

Activity	Description
Stop	Wear protective clothing (e.g., gloves, coverall, and nose mask/cover). Stop all work immediately and vacate the area. Identify the source and prevent further release at source for sewage spill. Provide aeration to areas due to odor issues. Cordon offsite to prevent further disturbance.
Notify	Categorize incident and notify responsible party.
Contain	Use absorbent materials e.g., sand or pads to absorb the spill and dispose of it within hazardous plastic bag. Secure properly the hazardous plastic bag so the materials are contained inside. Prevent direct contact of personnel/environment to sewage/organic waste as this contains pathogenic microorganisms that may cause serious diseases once exposed. Since the sewage holding tanks will be contained in a bund, therefore, no overflow will be expected. If personnel have been exposed to sewage/organic waste (e.g., skin contact), see the First Aider for further instructions. Limit access to the area until the unpleasant odor has subsided.

Table 7-8: External Agencies

Sr. No:	Agency	Location	Contact Details
1	Police	999	999
2	Fire	-	997
3	Ambulance	-	998

7.12 Security & Access Control

Security measures during construction will include the following.

7.12.1 Gate Control

To prevent unauthorized entry into the project site, Al Hikma Building Contracting LLC will ensure strict gate con
indi

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
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7.12.2 Staff ID Cards

Upon completion of the induction training course, all staff working on site shall be issued ID cards and shall be required to prominently display them when instructed by Site Security. Said ID cards shall contain the pass holder's photograph, pass number, pass holder's name, pass holder's employer, pass holder's designation (e.g., Engineer, Quantity Surveyor, etc.), pass holder's ID number, pass issue and expiration dates.
All employees shall be required to keep the ID Cards issued to them in good condition and shall be prohibited from duplicating, destroying, or transferring them to any third person, on pain of being expelled from the site. In the event of loss, damage or excessive wear of their ID Cards, employees shall be required to immediately inform the HR Officer, who shall arrange for their replacement thereof.

The HR Officer shall maintain copies of all ID Cards issued to site personnel as per the above.

7.12.3 Visitors

The EHS officer shall be required to ensure that ID Cards are issued to all visitors entering the site, including but not limited to engineers, experts, third party auditors, suppliers, vendors, etc., on completion of the induction training course.
Visitors shall be required to display their ID Cards prominently always and shall always be accompanied by the Contractor's EHS officer or another of the Contractor's senior staff members designated by the EHS officer.
While on site, visitors shall abide, always, with minimum PPE requirements, by wearing a hardhat, safety shoes, high visibility vest and safety glasses.

7.12.4 Site Signage

Al Hikma Building Contracting LLC will set up and maintain (cleaned and legible) throughout the course of the project enough traffic diversion signboard and adequate hazards warning signs and caution boards according to standards and IRC Code.

Warning signs and caution boards shall clearly state the nature of the hazard and instruct people of the correct actions to take. Warning signs shall be manufactured in accordance with internationally recognized standards and shall display their message in English, Hindi and languages understood by workers onsite.

Barriers shall be manufactured of solid materials and be positioned continuously around the hazardous area. The contractor shall provide barriers that are strong enough to prevent people or vehicles gaining entry. The

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7.12.5 Vehicles

All vehicle drivers shall hold a valid driving permit and shall necessarily always keep headlights on, refrain from using mobile phones while driving, wear seatbelt always (also applicable to passengers), observe the site speed limits, reverse park.

7.12.6 Site Safety Rules

Al Hikma Building Contracting LLC have developed and shall implement a comprehensive set of site safety rules to be followed mandatorily by all people entering the site. These rules shall be submitted to the client for review and approval and displayed at the entrance to the site and at various locations across the project.

7.12.7 Temporary Facilities

Al Hikma Building Contracting LLC will ensure the safe construction and use of all temporary facilities. Temporary facilities shall be designed by the competent engineers and, if requested by the client, said designs shall be submitted to the client for review and approval. Completed temporary facilities may be inspected, at the Engineer's discretion, to ensure compliance with the designs.
All temporary facilities shall be fitted with suitable emergency equipment.

7.13 Incident Response Plan

All incidents or accidents occurring at or associated with the project will be thoroughly investigated by Al Hikma Building Contracting LLC Incident Investigation Team, comprising the Concerned Supervisor, HSE Manager/Engineer, Construction Manager, Project Manager, and any relevant witnesses or victims.
All incidents will be reported to the Client in line with the Client's incident reporting procedure and the applicable Abu Dhabi Occupational Safety and Health System Framework (ADOSH-SF) requirements.

- Occupational injuries, illnesses and first aid cases.
- Vehicle or equipment accidents.
- Property damage.
- All type of Fire.
- Injury to non-project persons visiting the project.
- Project employees injured on project site.
- Project employees injured away from the project site performing project duty.
- Near Miss.
- Leakage from services.

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1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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- In accordance with Client and ADOSH-SF Mechanism 11, all serious or reportable reported immediately to the Client and the Sector Regulatory Authority (SRA).

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- The injured employee involved in an accident must complete an Employee Injury Report and submit the same to Al Hikma Building Contracting LLC first aid facility. If the injured employee is too capable to complete the report, then his immediate supervisor must assist in completing the report. Accomplished employee injury report must then be submitted to Al Hikma Building Contracting LLC HSE Manager.
- The supervisor of the injured will then conducts a preliminary investigation and complete a supervisor's incident investigation report (Safety Officer will assist in the investigation) and submit it to Al Hikma Building Contracting LLC Project HSE Manager. The supervisor will complete the same report for all other types of incidents/ accidents and submit it to Al Hikma Building Contracting LLC Project HSEM/ Engineer.
- Al Hikma Building Contracting LLC Project HSE Manager will verify the correctness of the incident / accident report of the supervisor. He will then make an Incident Notification to Client/Consultant Safety Department

Detailed Written Report

A complete accident / incident investigation report with the root cause analysis and the investigation committee's recommendation for preventive action will be submitted to Client HSE Department within 3 days after such occurrence of the incident. Copies of all relevant documents must be attached to support the report.

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8 Monitoring And Auditing

The purpose of this section is to define the monitoring requirements to assure compliance with the requirements of this CEMP, which also covers applicable legal requirements. Timely monitoring ensures the project legal compliance and effectiveness of environmental management strategies and the identification of non-compliance areas so that subsequent corrective actions can be planned and implemented.
Environmental Monitoring and audits shall be undertaken as part of Al Hikma Building Contracting LLC commitments towards environmental management. Monitoring will be done at specified intervals for key environmental parameters to ensure compliance with the regulatory requirements or standards.

8.1 Environmental Performance Monitoring

Methods for periodic monitoring, inspections, and audits have been detailed in this section to enable Al Hikma Building Contracting LLC management to track the environmental performance throughout the construction period of project.
A summary of the Environmental performance monitoring that will be done as per the schedule is listed in Table no. 8-1 below and described in detail in sub-sections.

Table 8-1: Monitoring Programs

Attribute	Parameters	Frequency	Responsibility
Ambient Air	Ambient Humidity, Relative Humidity, CO, TVOC O3, SO2, NO2, H2S, H C , PM10	Yearly (Depending upon the site activities at specific location)	Al Hikma Building Contracting LLC through third party Consultant
Gaseous Emission Monitoring	CO, NOx, SO_2, CO2, O2	Yearly	Al Hikma Building Contracting LLC through third party Consultant.
Dust Monitoring	Dust	Daily Visual Inspection	In-house
Noise	dB(A) – Lmax, Lmin, Leq	Monthly – Near high noise area/Equipment.	In-house
Discharge Water(If required)	Physical Parameters, Heavy Metals.	Annually during construction.	ESMA registered and ISO 17025 accredited third-party laboratory.
Soil Quality	Physical Parameters, Heavy	Annually during	ESMA registered and ISO

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and other requirements, which could otherwise result in detrimental impact on the sur

In addition, he will also be responsible to inspect ongoing activities in his area, on daily

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issues such as material storage, vehicle emissions, dusty haul roads, waste segregation and storage, discharge of wastewater, etc.

8.1.1 Air Quality Monitoring Ambient Air Quality Monitoring

The following table describes the ambient air quality monitoring requirements that will be conducted. by Contractors during construction.

Table 8-2: Ambient Air Quality Monitoring Program

Objectives
Monitoring the ambient air for compliance with the EAD"s air quality standards.
Compliance Standards
EAD"s "*Recommended Ambient Air Quality Standards for the Emirate of Abu Dhabi*" as given in the Table 5.4 of this document.
Monitoring Parameters
SO_2 – will be reported in µg/ nM^3 and the results will be for an averaging time of 24 hrs. O_3– will be reported in µg/ nM^3 and the results will be for an averaging time of 08 hrs. CO– will be reported in µg/ nM^3 and the results will be for an averaging time of 08 hrs. NO_2 - will be reported in µg/ nM^3 and the results will be for an averaging time of 24 hrs. PM10 - will be reported in µg/ nM^3 and the results will be for an averaging time of 24 hrs.
Monitoring Schedule
• Yearly • After any emergency
Monitoring Location
Downwind Direction. The location shall be free from any obstructions on the upwind side.
Monitoring Equipment and Specifications
High Volume Air Sampler
Laboratory
• ESMA registered and ISO 17025 accredited third-party laboratory
Monitoring Procedure and Reporting Format
Objectives
• The High-Volume Air Sampler will be installed and operated for a period of 24 hours continuously. • 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution. • 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. a 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and p prevent incidents during work activities.

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Table 8-3: Ambient Air Quality Monitoring Program

Daily Inspection Checklist				
Visual Inspection to monitor the water sprinkling of unpaved road and stockpiles.				
Visual inspection of exhaust emission from the vehicles and construction machinery on site.				
Review of the air quality complaints (if complaints have been recorded by the complainant).				
Workers using PPEs during loading or unloading activities.				
Are stockpiles of dusty materials covered or watered?				
Are there any instances of vehicle idling, open burning, violation of speed limits, etc.				
Are wheels of truck and vehicles leaving the project site cleaned to prevent the dirt being tracked on to the public roadways?				
Are equipment well maintained?				
Air Quality Monitoring Test (1 Test)	**Parameter**	**Test Method**	**# Points**	**Frequency**
	Temperature	Standard ISO 7730	1 Point	Yearly
	Carbon Dioxide (CO2)	Standard ASHRAE 62:2001		
	Carbon Monoxide (CO)	Standard European Directive2000/69/CEE		
	Nitrogen Dioxide (NO2)	EN 50270:2015		
	Sulphur Dioxide (SO2)	EN 50270:2015		
	Ozone (O3)	EN 50270:2015		
	Total Suspended Particulate Matter (PM 2.5 and PM 10	-		
Stack Emission Monitoring (1 Test)	**Parameter**	**Test Method**	**# Points**	**Frequency**
	Sulphur Dioxide (SO2)	USEPA CTM – 034	1 Point	Yearly
	Nitrogen Oxides (NO, NO 2, NOx)			
	Carbon Dioxide (CO2)			
	Carbon Monoxide (CO)			
	Oxygen(O2)			
	Total Hydrocarbons (CxHy)			

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8.1.2 Noise Monitoring

Monthly noise monitoring of vehicles or machinery, as selected by Contractors, will be conducted to determine whether the noise being generated is following the EAD standards. In case any non-compliance is observed, the source will be sent for maintenance.

Details of noise monitoring are as given below in Table 8-4.

Table 8-4: Fence Line Noise Monitoring

Objectives
To assess noise levels during construction.
Compliance Standards
Results will be compared against the "Allowable Limits for Noise Levels in Industrial Areas" as specified in the EAD document "Technical Guidance Document TG-0003 – Standards and Limits for (a) Pollution to Air and Marine Environments (b) Occupational Exposure (c) Pesticides and Chemical Use".
Monitoring Parameters
Sound level in d(BA), and the following metrics will be recorded: • Leq • Lmax • Lmin
Monitoring Schedule
• Monthly
Monitoring Location
Four fence-line locations along the site perimeter.
Monitoring Equipment and Specification
Noise monitoring will be conducted using a noise level meter, (Real Time Analyzer) with Class 1 Microphone which includes 1/1 and 1/3 Octave Frequency Analyzer.
Laboratory
In-house
Monitoring Procedure and Reporting Format

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Noise monitoring at 8 locations around the perimeter of the construction area. At each location, noise monitoring will be done for 15 minutes during daytime and nighttime. Noise measurements will be taken for 15 minutes interval at each location and the following metrices will be recorded daytime and night-time: • Lamin • LAmax, and • LAeq To aid interpretation of the results, other external sources of noise during the noise monitoring will be identified. A report will be prepared which will compile the results, analyze them against the EAD standards, and in case of exceedance, an analysis will be done to identify the sources of
Corrective Action
Appropriate corrective action will be initiated in case of any exceedance, including considering the recommendations given in the report.

Additionally, the following daily inspections will be conducted by the HSE Department

Table 8-5: Noise Monitoring Checklist

Daily Inspection Checklist			
Inspection of noise generating equipment's and machineries for excessive noise generation.			
Is idle equipment turned off or throttled down?			
Review of complaints received for the high noise levels.			
Observe that workers in high noise area are using adequate PPEs.			
Parameter	**Method**	**# Points**	**Frequency**
Internal Noise Spot reading (8 hours/point)	Sound Pressure Level/ EU 93/68/EEC and IEC651 TYPE 2 ANSI S1.4 Type 2	6	Monthly
External Noise Spot reading (8 hours/point)	Sound Pressure Level/ EU 93/68/EEC and IEC651 TYPE 2 ANSI S1.4 Type 2	1	Yearly

8.1.3 Wastewater Monitoring

Any wastewater generated from dewatering activities shall be evaluated for physical parameters like:

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- PAH, TPH,
- Salinity
- Coli form & MPN

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Table 8-6: Parameters for Analysis - Groundwater

PARAMETERS	UNITS	TEST METHODS
Total Suspended Solids	mg/L	APHA-2540 D
ph @20°C	-	APHA-4500 H*
Turbidity	NTU	Turbid metric Method
Ammonia	mg/L	Salicylate Method
Nitrate	mg/L	Cadmium Reduction Method
Sulphide	mg/L	Methylene Blue Method
Total Phosphorus	mg/L	Ascorbic Acid Method
Aluminum	mg/L	APHA-3120B
Arsenic	mg/L	APHA-3114C
Total Chromium	mg/L	APHA-3120B
Copper	mg/L	APHA-3030 (3111/3113)
Iron	mg/L	APHA-3030 (3111/3113)
Lead	mg/L	APHA-3120B
Mercury	mg/L	APHA-3114C
Nickel	mg/L	APHA-3120B
Zinc	mg/L	APHA-3120B
Hydrocarbons	mg/L	APHA-5520F
Oil & Greece	mg/L	APHA-5520B

Groundwater (Dewatering) Monitoring (1Test)	Parameter	Methodology	# Points	Frequency
	Temperature	ESMA Accredited	1 Point	Yearly
	pH			
	Total Dissolved Solids (TDS)			
	TSS			
	Metals			
	Chloride			
	Chlorobenzenes			
	Pesticides			
	DO			

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	Polynuclear Aromatic Hydrocarbons (PAH)			
	Benzene, Toluene, Ethylbenzene and Xylene (BTEX)			
	Semi Volatile Organic Compounds (SVOCs)			

8.1.4 Dust Monitoring

Visual inspection of construction site shall be conducted on regular basis.

8.1.5 Soil Quality Monitoring

Soil Samples will be collected in case of any chemical or oil spill for analyzing alkalinity from concrete washout areas.

Daily and weekly site inspections/ visual monitoring will be conducted by the HSE Officer to inspect for the following observations.

- Spills/ leaks/ stains on the soil
- Chemical/fuel storage at pre-identified locations only
- Availability of spill kits in chemical/fuel storage area
- Availability of drip trays for storage of all hazardous chemicals or materials.
- Spillage of waste around the waste storage bins.
- Vehicles used for to-and-fro transportation of materials are fully covered and have sufficient free board, to avoid any spillage along the transport route.
- If soil is observed to be contaminated, soil testing for the following parameters shall be conducted and compared against Standards. (pH, TPH, PAH, Heavy Metals (Cr, Cd, Co, Mn, Fe, Pb, Zn, Ni), Phosphate, Sulphate, Oil & Grease).

8.1.6 Waste Management Monitoring and Reporting

Al Hikma Building Contracting LLC or appointed waste representative will provide monthly reports incorporating the following information:

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- Recycling Receipts: Copy of receipts issued by an approved recycling center.

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- Salvaged Materials Documentation: Types and quantities, by weight and volume, for materials salvaged for reuse on site, sold or donated to a third party.

The Waste Coordinator (or other suitable representative) will compile all waste data monthly into a single spread sheet (monthly waste register) to track trends and facilitate analysis of waste data throughout the project.

8.2 Reporting Requirements

The construction activities will entail several reporting requirements as per the prevailing rules and regulations. Al Hikma Building Contracting LLC has committed in its Site specific HSE Plan to report any environmental violations / incidents to the client.

In addition to audit findings, reporting also includes reporting of incidents or near-misses, received complaints, etc. Reporting is an effective tool to keep project management team informed about the effectiveness of steps taken to protect the environment. Further it will keep responsible authorities aware of negligence of duties and responsibilities, besides providing reasons to review the effectiveness of EMP.

Specific environmental incident investigations will be as per Al Hikma Building Contracting LLC incident investigation procedure and an Incident Investigation Report will be used to report the incident.

These are discussed below along with procedures specific to the activities.

Specific environmental incident investigations will be as per the EAD incident investigation procedure and an Incident Investigation Report will be used to report the incident. These are discussed below along with procedures specific to the activities.

8.2.1 Incident Reporting

Reporting and investigation of all events that can cause physical harm to people, damage to property, reduction in production, or harm to the environment will be done as per Contractors" procedure. The procedures established by Contractors will be used to analyze facts and circumstances and determine cause and assign remedial actions.

Any accident/incident or any form of injuries including first aid, near misses and fire must be reported immediately to Al Hikma Building Contracting LLC Safety Manager/ Engineer. Incident reporting and inve

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Objectives

- To maintain a register of reporting.
- To notify Client, ADM, and other regulatory authorities about the incidents.
- To draw lessons learnt and implement relevant changes in the system for preventing recurrence.

Reporting Frequency

- Within 24 hours of the incident happening

Types of Incidents

All incidents/accidents of all the following nature, which occur at or in association with the project, will be thoroughly investigated by Al Hikma Building Contracting LLC incident investigation team (Concern Supervisor, HSEM/Engineer, CM, PM, Witness and Victim) and report to Client as per Client incident reporting.

Procedure

- Occupational injuries, illness and first aid cases.
- Vehicle or equipment accidents
- Property damage
- All type of fire
- Injury to non-project persons visiting the project.
- Project employees were injured on the project site.
- Project employees injured away from the project site performing project duty.
- Leakage from services

Procedure

Incident reporting will follow the procedures of “Site specific HSE Plan” with the responsibility of reporting the events vested with the HSE officer (line management) who shall report to his Project HSE Manager. When an accident occurs on site, the HSE officer will immediately conduct an initial assessment of the severity of the injured person and/or of the accident, incident or near miss. Once he has obtained the necessary information, he will inform the Project HSE Manager verbally of the incident. After that, the written report will be sent to the corporate HSE department within 24 hours. An investigation will be conducted once the area has been made safe and an initial report will be established until further details are obtained i.e., medical reports, external parties e.g., manufacturer / supplier etc.

Initial oral reports of such incidents shall be followed by a written report detailing the full circumstances, corrective action taken and recommended to prevent a recurrence. Written reports shall be completed on standard forms. In the case of serious accidents, a fully detailed account of the circumstances with witnesses’ sta

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8.2.2 Periodic and Quarterly Performance Reporting

Upon the approval of CEMP, Al Hikma Building Contracting LLC will prepare an environmental performance report. The report will be submitted to the client for review and approval. The environmental performance report will contain all the recommendations that have been specified in CEMP.

8.2.3 Monitoring Compliance and Audit Reports Objectives

The CEMP is a living document with all the recommendations subject to implementation. Hence, compliance with the CEMP is auditable.

Scope

- Al Hikma Building Contracting LLC shall have an internal audit program in place to monitor the CEMP applicability.
- To assess the environmental performance during the construction, a quarterly environmental performance report shall also be prepared and will be submitted to the client.

Procedure

The HSE Engineer will prepare the audit plans, coordinate internal audits, review the audit results, and ensure that corrective actions, if any, are taken by the relevant parties. Internal Audits will be conducted to determine whether quality management activities and associated results comply with planned arrangements and whether these arrangements are implemented effectively and suitably to achieve set objectives.
The HSE Engineer will prepare an Audit Plan which specifies the audit schedule, the scope of audit and allocation of auditors. The Operations Manager/Project Manager will approve the audit plan. Ms./Oxygen Consultancy Limited approved environmental consultant will conduct the audit. The consultant will audit the implementation of the CEMP recommendations.
Environmental performances reports during the construction will be prepared from the date of approval of this CEMP. The environmental performance report shall accomplish the following:

- Identify the standards, performance measures, and statutory/legal requirements applicable to the construction of project.
- Assess the environmental performance during construction to determine whether it is complying with these standards, performance measures, and statutory requirements.
- Identify any non-compliance against the conditions of this CEMP or any standards, performance measures or statutory requirements.
- If any non-compliance is identified, describe the actions and measures that have been or are being performed to ensure compliance.
- 1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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address registered complaints.

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- Provide results of all environmental monitoring as mentioned in CEMP of proposed project including interpretations and trends or exceptions in these results.

8.2.4 Environmental Checklists

The environmental checklists that have been developed in section 8.1 will be filled in by the HSE team after his observations. A summary of the environmental parameters that will be inspected is given in Table 8.7 below.

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Table 8-7: Environmental Checklist

S/L No:	Attribute	Location	Monitoring		Mitigation Measures	Monitoring Method
			Monitoring	Frequency		
1	Dust	Construction Site	Smoke, Smog, Dust.		Dust suppression by regular water sprinkling.	Visual Observation
2	Ambient Air Quality	Construction Site			Regular Maintenance	Visual Inspection
3	Noise	Site Boundaries			Ensure Regular Use of PPE's	Sound Level Meter / Sound Detector
4	Liquid Waste	Oil from diesel tank, vehicles, paint cans	Soil analysis when leaks are substantial with the eventual contamination of soil	As required	Ensure area affected by spillage is cleaned and soil is replaced.	Liquid waste record
5	Training Efficiency	Workforce	Performance	Monthly	Re-training	Training Records
6	Complaints Register				To address the complaints and to close out all complaints.	Complaint record
7					ant changes em for currence.	Waste record
8	Soil Inspection	Site Boundaries		Daily	eakage prevention	Field Test Kit

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8.2.5 Procedures to Review Inspection and Address Non-compliance Objective

- To ensure the inspection records and audit reports are reviewed.
- To ensure that all non-compliances are addressed.
- To ensure the effectiveness of mitigation measures.
- To ensure lessons learnt do not recur.
- To ensure proper planning for timely addressing of the issues like monitoring, submissions, reporting etc.

Review Documents

- CEMP report
- Monthly Inspection checklists
- Quarterly audit reports
- Incident reports

Responsibility

- Project HSE Manager - to review the documents, and to detail measures to address the non-compliances.
- Operation Manager/ Project Manager - to ensure sufficient funds and resources are allocated.

Procedure

All the aforementioned documents will be available at the HSE Engineer's/HSE Manager's desk. All noncompliance's that arises out of monitoring and other methods will be addressed within the time allocated for the response. Al Hikma Building Contracting LLC shall be responsible for managing the review, and implementing any of the recommendations that arise through the review process and will ensure the availability of CEMP on site.

Table 8-8: Summary of Environmental Reporting

Type of Documents	Control Procedures	Responsible	Location
Incidents Reports	Accident Incident Reporting / Legal	HSE Officer	Project Site
Periodic or Quarterly Performance Reporting	Weekly, Monthly Environmental Reporting	HSE Officer	Project Site
Monitoring Compliance and Audit Reports	Internal & External Environment Audit	HSE Officer	Project Site
Environmental Checklist	Daily, Weekly, Monthly Inspections	HSE Officer	Project Site
Procedure to Revie Inspections and	CEMP Monthly Reporting	HSE Officer	Project Site

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9 Documentation

As mentioned before, CEMP is a living document and the procedures described within it, along with the construction procedures will be maintained with the latest revisions by HSE Manager / HSE Advisor. All records, checklists and forms will also be maintained in separate numbered files for easy access to all concerned personnel. The documentation system will be subject to audit and any deviations will constitute non-compliance. A list of all required documentation to be maintained is given as below:

- Approved CEMP
- Site Inspection Checklists
- Training/Induction Records
- Registers
- Complaints register.
    - Register of non-compliances
    - Previous audit reports
- Monitoring reports & closed outs.
- Incident investigation reports
- All minutes of the Meeting
- Method of Statements
- Waste Management Reports
- Project environmental procedures, as follows:
    - Internal site environmental inspection
    - Dust management
    - Noise management and hearing conservation; and
    - Waste management.
    - Environmental Issues related to maintenance, fueling and cleaning of vehicles and equipment.

Al Hikma Building Contracting LLC commits to maintaining copies of the CEMP including plans and any updates. All documents are easily accessible for external auditors and authority visits/ inspections.

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10 Appendix A: HSE Plan

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Document Transmittal Form (DT)

Project Name:	**Harrow School-Abu Dhabi**	**Project No:**	**2419 / AD353**
Client:	**Taaleem Management LLC**	**Location:**	**Abu Dhabi**
Consultant:	**Al Suweidi Engineering Consultants LLC**	**Reference No:**	**AS-AD353-DT-005-R1**
Contractor:	**Al Hikma Building Contracting LLC**	**Date :**	**30-Jul-25**

Subject: **Project OSH Costruction Management Plan**

Detail of Clarification/ Information Required:

Type: (Tick Applicable)	☐ Technical Data	☐ Guarantee	☐ Certificate	☐ Test Result
	☐ Schedules/ Programmes	☐ Report	☐ Statutory Issues (NOC)	☒ Others
Attachment	☐ Samples	☐ Drawings	☐ Catalogue	☐ CD's
Purpose of Issue	☒ For information	☐ For further Action	☐ For Record	☒ For Review

Detail : 1. Project OSH Costruction Management Plan

Issued By & Signature : (Project Manager)	**Issued To :**	**Action Required By :**
Mr. Jan Kuhn		
Reference Document : (Attach if any relevant documents)	**Work Location :** (if applicable)	

Received By :		**Date :**	

Comments (if any) :

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Eng. Mohammad Al Kubba
04/08/2025

Note: This document provides information or clarification only. If the Contractor considers the provided information a act, then the Contractor has to obtain the required approval as established in the Condition of Contract.

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ENGINEER'S COMMENTS SHEET

Project Name:	The Harrow School Abu Dhabi Project - Saadiyat Island, SDW4 - Land No. P13, Abu Dhabi, UAE
Submittal Type:	Plan
Reference No:	AS-AD353-DT-005-R1
Description:	Review Comments on Project OSH Construction Management Plan– Abu Dhabi Harrow School (Ref: AS-AD353-DT-005-R1)

Reviewer's Discipline	☐	**Civil**	☐	**Architectural**	☐	**Mechanical**
	☐	**Electrical**	☐	**Planning**	☐	**QA/QC**
	☒	**HSE**	☐	**Others (Specify .....)**		

Status	☐	**A: Approved**	☒	**B: Approved with Comments**
	☐	**C: Revise & Resubmit**	☐	**D: Rejected**

Comments:

No Objection, subject to the following conditions:

1. Ensure that all HSE measures are actively implemented.
2. Ensure ongoing compliance with all HSE regulations throughout the project lifecycle.
3. Ensure that regular audits and checks are conducted and documented.
4. Ensure that all relevant personnel have completed the required HSE training.
5. Ensure regular reviews and updates of the HSE plan and review it if any incidents or major changes to the project.
6. Ensure that all team members are aware of their roles and responsibilities in maintaining safety and environmental standards.
7. Ensure that the incident reporting process is clearly communicated and established.
8. Ensure that all local regulations are addressed and comply with all client and legal HSE requirements.
9. Ensure all activities are covered by task-specific risk assessments and control measures are clearly communicated to the workforce.
10. Establish provisions for health surveillance of workers exposed to occupational hazards as per legal requirements.
11. The approved Construction OSH Management Plan must be followed as submitted.
12. No deviations from the approved procedures are permitted without prior written approval.
13. Any changes to the scope of work, methodology, or site conditions must trigger an immediate review and update of the OSH Plan.
14. Updated versions must be re-submitted for review and approval prior to implementation.
15. All site staff must be briefed on the contents of the OSH Plan prior to starting work.
16. Toolbox talks and pre-start briefings must reflect key safety controls outlined in the plan.
17. A copy of the approved OSH Plan must be available at the site office and accessible to all supervisory and safety staff.
18. Periodic reviews of the OSH Plan should be scheduled (e.g., monthly or at major project milestones) to ensure continued relevance.

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

Re	
Na	
Signature	
Date Reviewed	03/08/2025

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Document Transmittal Form (DT)

Project Name:	**Harrow School-Abu Dhabi**	**Project No:**	**2419 / AD353**
Client:	**Taaleem Management LLC**	**Location:**	**Abu Dhabi**
Consultant:	**Al Suweidi Engineering Consultants LLC**	**Reference No:**	**AS-AD353-DT-005-R0**
Contractor:	**Al Hikma Building Contracting LLC**	**Date :**	**09-Jul-25**

Subject: **Project HSE Management Plan**

Detail of Clarification/ Information Required:

Type: (Tick Applicable)	☐ Technical Data	☐ Guarantee	☐ Certificate	☐ Test Result
	☐ Schedules/ Programmes	☐ Report	☐ Statutory Issues (NOC)	☒ Others
Attachment	☐ Samples	☐ Drawings	☐ Catalogue	☐ CD's
Purpose of Issue	☒ For information	☐ For further Action	☐ For Record	☒ For Review

Detail : 1. Project HSE Management Plan

Issued By & Signature : (Project Manager) Mr. Jan Kuhn	**Issued To :**	**Action Required By :**
Reference Document : (Attach if any relevant documents)	**Work Location :** (if applicable)	

Received By :		**Date :**	

Comments (if any) :

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- Risk Register
- Environmental Aspect and Impact Assessment

14/07/2025

Eng. Mohammad
14/0/2025

Note: This document provides information or clarification only. If the Contractor considers the provided information a act, then the Contractor has to obtain the required approval as established in the Condition of Contract.

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PROJECT OSH CONSTRUCTION MANAGEMENT PLAN



Project Description	**Construction Al Saadiyat Island**	Project Site No.	353
Project Name:	**Harrow School Abu Dhabi**	Date Prepared:	26 July 2025
Business Unit	**M/S Al Hikma Building Contructing L.L.C**	Next Review	As required
Consultant	**M/S Al Suweidi Engineering Consultant**	Revision	03
Clients Representative	**M/S Taaleem Management L.L.C**		

Prepared by:	**Reviewed by:**	**Approved by:**
Mr.Damodhar Zamuni	**Mr.Jan Kuhn**	**Ali Nazir**
HSE I		
Sign:		
Date: 30-July-2025	**Date:30-July-2025**	**Date:**

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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1. PROJECT DETAILS

1.1 The Project

AL SAADIYAT ISLAND

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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1.3 The Designer and Supervision Consultant

Al Suweidi Engineering Consultants Al Zahiyah - E16 01 - Abu Dhabi Phone: 02 644 4000	AL SUWEIDI السويدي للاستشارات الهندسية AL SUWEIDI ENGINEERING CONSULTANTS

1.4 Main Contractor

AL HIKMA BUILDING CONTRACTING L.L.C Contact Person: Eng. Jan Kuhn Tel. No. +971 50 406 1077 Email: jan.kuhn@hbc.ae	HBC AL HIKMA BLDG. CONT. (L.L.C.)

1.5 Subcontractors

1.	Sajaya Plaza 35VP+5CJ - Al Barsha – Dubai Phone: 04 885 7434	ENTIRE
2.	UNITED PRECAST CONCRETE DUBAI L.L.C. P.O. Box 52900 Dubai Industrial City Saih Shuaib 4 , Dubai, U.A.E Tel. : 4254086, Fax : 4274020 E-mail : upchcs@emirates.net.ae www.unitedprecast.com	United Precast Concrete
3	P.O. Box: 8262, Abu Dhabi, U.A. E Tel. : +971 2 55 111 00	PIONEER

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1.6 Key Relevant persons and contact details

Name	Designation	E-Mail	Contact Number
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Moustafa Mahmoud	QA/QC Engineer	m.mahmoud@hbc.ae	+971-547411088
Damodhar Zamuni	HSE Engineer	damu.z@hbc.ae	+971-56 8287679

1.7 Introduction

The purpose of this OSH-CMP is to outline the management system requirements and procedures fully complied/ implemented in our projects.
This document is prepared in compliance to contractual requirement and legal obligation which will include relevant Legislation, Codes of Practice, Guidelines, Standards, Procedures and References that will define and describe the operational requirements/ strategies for managing OHS on the project and to assist the Project Team in its proper implementation.
The Plan shall be made readily available to all always working on site and shall be in the company site offices. The procedures contained within this document do not prejudice any statutory requirements and guidelines that may be in force at any time during the contract's life.
This OSH-CMP may be subject to revisions during the Project for applicability and to consider any

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all activities/phases of the works that are mandatory for this project. This plan applies to all HBC employees, subcontractors, vendors, and visitors engaged in the project.
The Project Director has the overall responsibility to manage the OSH-CMP ar implementation of this requirement on behalf of the project.

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Each employee on the Project is responsible for his own health & safety and the people around him. It is therefore of paramount importance that each employee on this project fully understands all project OSH rules and standards; and those OSH rules and standards specifically concerned with the work they perform.

1.8 Abbreviations

Abbreviation	Definition
HBC	Al Hikma Building Construction LLC (Main Contractor)
ADWEA	Abu Dhabi Water and Electricity Authority
AL	Acceptable Level
ALARA	As low as reasonably achievable
ALARP	As low as reasonably practicable
ASLI	Automatic Safe Load Indicator
BPM	Best Practicable Means
CAR	Corrective Action Report
CD	Civil Defense (under Abu Dhabi Ministry of Interior)
CEMP	Contractor's Environmental Management Plan
COP	Code of Practice
COSHH	Control of Substance Hazardous to Health
CPR	Cardio-pulmonary Resuscitation
dB	Decibel
DMT	Abu Dhabi Municipality
DN	Delivery Note
EIA	Environmental Impact Assessment
ELCB	Earth Leakage Circuit Breaker
ERP	Emergency Response Plan
ERT	Emergency Response Team
ESD	Emergency Shutdown Device
Fit	Fit for Work
HI	Hazardous Installation
HoD	Head of Department
HPD	Hearing Protection Devices
HR	Human Resources
H&S	Health and Safety
OSH	Health Safety Environment
I	Integrated Management System
ISO	International Organization for Standardization
IR	Inspection Request

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Abbreviation	Definition
JHA	Job Hazard Analysis
KPI	Key Performance Indicator
LEL	Low Exposure Limit
LEQ	Equivalent Continuous Sound Level
LOTO	Lock-out Tag-out
LTA	Lost Time Accident
LTI	Lost Time Incident
MCB	Manual Controlled Barriers (Crossing)
MEL	Maximum Exposure Limit
MEP	Mechanical, Electrical, and Plumbing
MEWP	Mobile Elevating Work Platform
SDS	Safety Data Sheet
NIHL	Noise-induced Hearing Loss
NIR	Non-ionizing Radiation
NOC	No Objection Certificate
PMV	Plant, Machinery, Vehicle
PoW	Plan of Work
PPC	Pollution Prevention Control
PPE	Personal Protective Equipment
Ppm	Parts per million
PPWM	Pollution Prevention and Waste Minimization
PRV	Pressure Relief Valve
PSI	Pounds per square inch
PTO	Permit to Operate
PTW	Permit to Work
QS	Quantity Surveyor
RA	Risk Assessment
REL	Recommended Exposure Limit
RCI	Repetitive Strain Injury
S	
S	
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SVN	Safety Violation Notice
SWL	Safe Working Load

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Abbreviation	Definition
SWP	Safe Work Practices
TC	Terms and Conditions
TLV	Threshold Limit Value
UEL	Upper Exposure Limit
UV	Ultraviolet
VCW	Voluntary Cessation of Work
VOC	Volatile Organic Compound
VWF	Vibration White Finger
WI	Work Instructions

1.9 Definitions of terms

This shall be read in conjunction with ADOSH-SF Glossary of Terms Version 4.0, 15 July 2024

Terms	Definition
Accident / Incident	Any undesired circumstances which give rise to ill health or injury; damage to property, plant, products or the environment; production losses; or increased liabilities.
Accident Prevention	The application of measures designed to reduce accidents or accident potential within a system, organization, or activity.
Competent Person	A person who by reasons of qualifications and /or experience has the knowledge and skill necessary to perform the duties with respect to which the expression is used
Confined Space	A space in which because of its construction, location, contents or work activity where hazardous gas, vapour, or fumes may accumulate or in which an oxygen deficient atmosphere may be created.
Conformity	Meeting requirements
Consequence	The hazardous scenarios and resultant effects associated with an event or chain of events that result from the release of a hazard.
Construction & Demolition Waste	Waste arising as result of construction and demolition activities such as wood waste, steel, concrete, dirt, sand, filling materials, etc.
Contractor	A business, firm, partnership, consultant, or individual hired to perform a specific task or job.
Controlled Copy	Refers to all documents which support UNEC's Integrated Business Management System. These will include not only the Manuals (e.g., Company Procedures and Work instructions, Divisional/Departmental Procedures and Work instructions, Individual Project Procedures) but also method statements, drawings, technical specifications (e.g., ISO 9001 Specifications, bid

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Customer	External and internal clients
Dangerous Occurrence	A significant incident arising out of or in the course of work in injuries and/or fatalities but had the potential to have do

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Terms	Definition
Day of Disability	any day in which an employee is unable, because of injury or illness, to perform effectively throughout a full shift the essential functions of a regularly established job which is open and available to him
Defect	Any part of a product or service that fails to meet specified or intended functional or physical requirements.
Disabling Injury	work injury which results in death, permanent total disability, permanent partial disability, or temporary total disability
Document Information	Information that the organization has to control and maintain to ensure achievement of objectives. Must be in the agreed format and sources and media within the contract.
Domestic Waste	Waste consisting of food wastes, paper, cardboard, plastics, textiles, leather, yard wastes, wood, glasses, tin cans, aluminium, other metals, household special wastes, etc.
Environment	The air, land, or water within the vicinity of the Project that may be exposed and vulnerable to adverse impacts potentially arising from non-compliant environmental emissions.
First Aid Case	Any one-time treatment and any follow-up visit for the purpose of observation of minor scratches, cuts, burns, splinters and so forth, which do not ordinarily require medical care. Such a one-time treatment and the follow-up visit for the purpose of observation are considered first aid although provided by a physician or registered medical professional.
Hazard	The inherent property or ability of something to cause harm: The potential to interrupt or interfere with a process or person, which is or may be casually related to an incident by itself or with other variables.
Hazardous waste	waste that is dangerous or potentially harmful to our health or the environment
Health Hazard	Any activity of operation which adversely affects public health and safety of humans and environment.
Hot Work	Use of open flame, other heat sources and/or spark producing devices where there is a potential for explosion or fire.
OSH Objectives	Overall OSH goal, arising from the OSH Policy, that the project sets itself to achieve, and which is quantified where practicable.
OSH Performance	Measurable results of the OSH Management System.
OSH Policy	Statement by the company of its intentions and principles in relation to its overall OSH performance which provides a framework for action and for the setting of OSH objectives and targets.
OSH Targets	Detailed performance requirement, quantified where practicable, applicable to the project's parts thereof, that arises from the OSH objectives and that needs to be set and met in order to achieve those objectives.
Immediate Cause	The final act in a series of events resulting to the NC
IMS	The company structure, responsibilities, practices, procedures, system processes and resources for implementing QOSH Management Systems.
IMS Policy	A statement issued by the Company about the intention and principles of actions regarding IMS effects and which gives rise to strategic and detailed objectives
Incident	An event or chain of events which has caused or could have caused injury, illness and/ or damage to assets, environment, company reputation and third party workplace
Interested Party	Suppliers, personnel, shareholders, legislative bodies, customers, etc. are now included as interested parties customers

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Terms	Definition
ISA	An independent, systematic, and documented process of objectively obtaining and evaluating verifiable evidence against QOSH criteria, policies, and objectives
Loss Prevention	A before-the-loss program designed to identify and correct potential causes of accidents before they result in actual injuries or financial loss.
Lost Time Incident/Injury (LTI)	Any absence from work resulting from work-related Fatalities, Permanent Total Disabilities, Permanent Partial Disabilities and lost workday cases.
Lost Workdays Case	A work-related injury or illness that results in an injured person temporarily unable to perform any regular job or restricted work activity on subsequent schedule workday or shift, supported by a medical report from an approved medical practitioner.
Manual	Describe the overall function of the departmental system, lay down policies and define structure
Material Safety Data Sheet	Identifies the hazards, proper procedures, and emergency treatment for a particular chemical.
MedEvac	Medical Evacuation is the state when an individual or group of individuals has suffered and sustained injury and has been decided by the on-site Medical Personnel (doctor, nurse, first aid trained) that the injured need to be treated in a hospital where equipment and facilities are available and are not found in the clinic
Medical Treatment Case	Is an occupational injury/illness which is not classified as a lost time injury, but which results in loss of consciousness or medical treatment other than first aid, Example, Loss of consciousness due to lack of oxygen/heat induced/electrocution/head injury, penetrating eye injury, chemical or hot burns, fracture not resulting from lost time injury, etc.
Near Miss	An unplanned and uncontrolled event that, in different circumstances, could have caused injury to people or damage to property. Near Miss incidents will be categorized in accordance with potential severity to cause an incident in line with the definitions above.
Non-Routine Job	A job that is performed once or less time per month or a job whereby the job hazards significantly change with its location.
Occupational Illness	any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact.
Occupational Injury	any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from a single instantaneous exposure in the work environment. Conditions resulting from bites, such as insect or snake bites, and from one-time exposure to chemicals are considered to be injuries
OHS	Conditions and factors that affect the well-being of employees, temporary workers, contractors, personnel, visitors, and any other person in the workplace.
Permanent Partial Disability	Any work-related injury, which results in the complete loss, or permanent loss of use, of any part of the body or any permanent impairment of function of parts of the body, regardless of any pre-existing disability of the injured member or impaired body function.
Permanent Total Disability	Any work-related injury which permanently incapacitates an employee and results in termination of employment;
Practice	Accepted method or means of accomplishing stated tasks

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	comprehensive that a system. It is composed of planning and implementation. It addresses issues that have either limited scope or timefra
Record	Documents information used for verification by authorize activities have been completed.

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Terms	Definition
Regularly Established Job	shall mean the occupation or job description of the activities performed by an employee at the time of the accident and shall not mean on which has been established specially to accommodate an injured employee, either for therapeutic reason or to avoid the counting case as disability
Regulation	A rule, ordinance, law, legal regulation, or device by which conduct, or performance is controlled.
Restricted Workday Case (RWC)	An injury/illness that involves one or more days of restricted work or a job transfer. Restricted work activity occurs when a physician/Licensed Medical Professional determines: (1) an employee cannot perform one or more of his/her routine job functions (work activities the employee regularly performs at least once per week), or. (2) an employee cannot work a full workday
Risk	defined as the "combination of the likelihood of an occurrence of a hazard event or exposure and the severity of damage that may be caused
Risk Assessment	A hazard identification tool comprising of a document containing a list of basic job steps, hazards identified with the job steps and the mitigating
Root Cause	An initiating cause of either a condition or a causal chain that leads to an effect/NC. A point where an intervention could reasonably be implemented to improve performance or prevent undesirable outcome.
Safety	Freedom from unacceptable risk or harm (or a judgment as to the acceptability and tolerability of risk)
Scaffold	Any temporarily provided structure on or from which persons perform work in connection with operations or works.
Shall, Will, Must	Means the action is compulsory
Should, Would	Means the action is not compulsory but recommended.
Standard Form	The most common method of record keeping and documentation of our business activities. Standard Forms are designed to provide conformity across the business and to guide the Business Process
Sub-contractor	Any person, firm or corporation contracting with the contractor to perform part of the work and including partners and associates in a joint venture so contracting with the contractor.
System	A management tool for meeting an established objective made of four steps PDCA (Plan-Do-Check-Act)
Temporary Total Disability	shall mean any injury or illness which does not result in death or permanent total or permanent partial disability, but which results in disability from work for a day or more.
Training	Encompasses the steps necessary to ensure that employees have the knowledge, skills and values necessary to fulfil their responsibilities.
Unsafe Act	Any act the deviates from a generally recognized safe way or specified method of doing a job and increases the potential for an incident.
Unsafe Condition	It is a condition where something exists that varies from a normal accepted safe condition and can result in an incident, if not corrected properly.
Visitor	Any person temporarily on the site who is not regularly involved in the daily site activities including delivery personnel and guests.
Wastewater	liquid waste discharged by domestic residences, commercial properties, industry, and / or agriculture and can encompass a wide range of potential contaminants and concentrations
WI	Detailed generic descriptions of the Company's requirement on "how" to carry out a particular activity from a procedure or method statement. Work

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Workplace/ /worksite	Any place where construction operations or works or Engineering construction works, or both are being carried out on and any temp workshop area associated with works.

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2. DOCUMENT CONTROL

2.1 Document Information

This OSH Plan shall consider as live documents and subjected to revised for any significant changes in organization, process, legal requirement, scope of work and client requirements. The Project Director/Manager will approve amendments by signature on the cover sheet of this plan. Holders of registered copies will receive revisions to this document, should they occur, with a request that the superseded copy be destroyed. Registration of copies will cease once the final stage of the project has reached practical completion. When amendments occur, the relevant section of the document will be reissued with the revision number updated accordingly.

2.2 Document and data control procedure

Reference – ADOSH- SF Element 09 Version 4.0- July 2024
The purpose of this Project Environmental Health and Safety – Construction Management Plan (OSH-CMP) is to ensure that all HBC and sub-contractual employees are safeguarded, as far as is reasonably practicable, from potential hazards in the performance of their duties and all practicable measures are taken to safeguard the environment.

The Literatures included in this Plan are in line with Abu Dhabi OSH-SF V 4.0 Guidelines, ISO 45001:2018 specifications, Company Policy and procedures,OSHMS Rev.3, and international best practices prevailing in Construction.
This plan is initially Drafted for tendering process, while it was issued for the first time for approval from consultant upon signing the contract and will be revised and resubmitted as required.

2.2.1 Records

Project records comprise of all documents, which demonstrate the effective management of the project. The records are not only those associated directly with project construction; employees' training and supporting administration are equally important.

Records are identified, indexed, and stored in such a manner that they can be readily retrieved. The project filing system index is set out in the project Quality Management Manual,

All original documents withdrawal/ borrowing requires the approval of the concerned Project Director or Manager.

Archiving of documents will be carried out which include requirements for retention periods of

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2.3 Subsequent changes

A review of documents including OSH Management Systems, operations procedur
and OSH-CMP documents will be made and documented periodically based on th

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- Changes in or new regulatory requirements
- Changes in design / operation of any facility or process which can significantly increase the potential for fires, explosions, or other emergencies.
- Changes in personnel responsibilities
- If a procedure or plan fails to meet reasonable expectation in normal operations or during an Emergency
- To clarify requirements

All changes will be reviewed and approved by relevant management personnel and distributed through the document control system.

Document control shall be handled the same way as indicated in Project Quality Management Manual section 4.5- Project Administration. Detailed Project filling system details are attached in Appendix D- Project filling system.

2.4 Record of OSH-CMP Briefing

Once the OSH-CMP is approved the contents of the OSH-CMP Plan requirements will be briefed, read and understood by the project staff. Records of acknowledgment to be maintained by Project OSH Team.

HBC Project Management will prepare MSRA For Each activity of project as per scope of work after approval, MSRA will be communicated to all workforce prior commencement of any activity at site and records will be maintained.

DISTRIBUTION LIST OF REGISTERED COPIES			
Copy No.	Issued To & Acknowledgement by	Copy No.	Issued To & Acknowledgement by
1	Project Director	8	Subcontractor (s)
2	OSH Department	9	All Project Execution Team Members
3	Client/Consultant/PMC	10	Other Relevant Parties
4	Project Manager	11	Project Document controller
5	Construction Managers		
6	Project Engineers		
7	Planning Engineer		
To Note: - OSH CMP rev 05 has been acknowledged by all the parties, the document owner will ensure the distribution of the revised version to all the parties for their acknowledgement upon the final approval.			

2.5 Distribution & Acknowledgement list

3. **Project Brief Description**

3.1 Project Location

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minute drive) from Abu Dhabi International Airport (AUH) via main highways including E10/E12
Al Shawamekh (sometimes spelled "Al Shamkhah") is situated further southeas
approximately 20 km from Abu Dhabi Airport and around 37–39 km from Saadiy
a 30–40-minute drive depending on traffic) The site benefits from excellent roac

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- Bordered by the E11 highway to the northwest.
- Accessible to the southeast via Sheikh Mohammed bin Rashid Al Maktoum Road.

Both roadways provide strong vehicular connectivity throughout the emirate.



3.2 Scope of works

The scope of works for this project is based on a design and build contract. The Contractor is responsible for initiating and developing the detailed design for the Al Saadiyat Island development and executing the construction of this project.

The construction of Harrow school Abu Dhabi in Al Saadiyat Island Abu Dhabi project comprises the infrastructure development, construction, completion and maintenance during the defect's liability period of the Construction of the main works of the. Harrow school the scope of works shall include the following:

1. Infrastructure development
2. Structural works

- Blinding
- Pile head treatment, waterproofing and protection
- Substructure, including removal of props and/or de-stressing of ground anchors
- Superstructure construction, including external works

2. MEP Systems Installation
3. Façade enclosure
4. Interior fixed fixture and fitting installation
5. Interior finishes
6. Any required onsite adjustments to locations of street lighting and utilities at area of the car park entrance ramp and carpark surface set downs
7. Systems commissioning
8. Snagging

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Project Completion date: 13 September 2026

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3.4 Project Working Hours and Days

HBC normal working hours in the project will be from 06:00 am to 12:00 noon and 01:00 pm to 07:00 pm, Six days in a week Monday to Saturday and Sunday will be holiday.

Break Times will be Morning 09:00 am to 09:15 am- Breakfast, 12:00 noon to 1:00 pm- Lunch break.

Depending on the work requirement if any works to be carried out after general working hours or working during holiday will be communicated to Client, & SECB Supervision consultant by HBC Project Manager in advance.

The summer break time will be implemented as per ministry of labor requirement.

3.5 Project Manpower Details

The project shall employee workforce in tandem to the work progress histogram from the planning team and thus the head counts will be dynamic to the changes. This will include sub-contractors and suppliers.

A detailed manpower projection with each phase of work will be submitted separately by the project manager.

4. PROJECT OSH MANAGEMENT

HBC is certified for ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018



Certificate Of Registration

Awarded to

AL HIKMA BUILDING CONTRACTING L.L.C – ABU DHABI BRANCH

at

P.O.BOX NO: 93780, M43 MUSAFFAH, ABU DHABI CITY, ABU DHABI, UAE

Quality Registrar Systems certify that the management system of the above organization has been audited and found to be in compliance with the QRS & ISO standard requirements for registration of the management system standard detailed below:

ISO 9001:2015

Quality Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

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EA 28
Certificate No: AAU-2361
Originally Registered: 15 JULY 2022
Latest Issue: 01 JULY 2025
Valid up-to: 14 JULY 2028

Quality Registrar Systems

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ISO 14001:2015

Environmental Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

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HBC
P.O Box : 93780, Abu Dhabi U.A.E.
AL HIKMA BUILDING CONT (L.L.C)

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HBC
P.O Box : 93780, Abu Dhabi U.A.E.
AL HIKMA BUILDING CONT (L.L.C)



Certificate Of Registration

Awarded to

AL HIKMA BUILDING CONTRACTING L.L.C – ABU DHABI BRANCH

at

P.O.BOX NO: 93780, M43 MUSAFFAH, ABU DHABI CITY, ABU DHABI, UAE

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ISO 45001:2018

Occupational Health and Safety Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

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Certificate No: AAU-4013
Originally Registered: 15 JULY 2022
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4.1 Policy

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OHS Policy

AL HIKMA BUILDING CONTRACTING (L.L.C.) is committed to providing and maintaining a healthy, safe, and secure working environment for all its employees and all other people who may be affected by its activities.

AL HIKMA BUILDING CONTRACTING (L.L.C.) recognizes that good health and safety management benefits the organization and that a commitment to a high level of safety makes good business sense. It also recognizes that health and safety are essential functions and must, therefore, continually improve, update, and adapt to changes.

The success of this statement and its implementation depend on the commitment from **AL HIKMA BUILDING CONTRACTING (L.L.C)'s** Top Management. It applies to all premises and activities within **AL HIKMA BUILDING CONTRACTINGS (L.L.C.)'s** control.

In order to achieve this aim, **AL HIKMA BUILDING CONTRACTING (L.L.C.)** has the following key objectives:

- To comply with the legal requirements related to health, safety, security, and welfare of all its employees whilst at work.
- To ensure that visitors, and the general public who may be affected by **AL HIKMA BUILDING CONTRACTING (L.L.C)'s** activities, are not exposed to risks, especially their health and safety.
- To identify hazards (the potential for harm), assess the risks (the likelihood of that harm being realized), and manage those risks.
- To consult with employees and ensure all who work on our behalf are adequately informed of identified risks and where appropriate receive the relevant information, instruction, training, and supervision.
- To make arrangements for coordination and cooperation with other employers where **AL HIKMA BUILDING CONTRACTING (L.L.C.)** shares premises, facilities, or activities with persons working from other organizations or where persons from other organizations are working in **AL HIKMA BUILDING CONTRACTING (L.L.C.)** controlled premises, facilities or activities.
- To maintain work equipment in a safe state and provide both safe systems of work and a safe working environment for employees and all who work on our behalf.
- To maintain arrangements for ensuring the safe use, handling, storage, and transport of articles and substances.
- To maintain clear procedures for action to be taken in the event of an emergency.
- To encourage the development and continual maintenance of a positive attitude towards health and safety throughout **AL HIKMA BUILDING CONTRACTING (L.L.C.)**.
- To commit to the continual improvement of the Occupational Health and Safety Management System in all processes.
- To uphold our duty of care to build a safe, sustainable, and responsible working environment.
- Commitment to workers' consultation and participation.

This Health and Safety Statement of Intent will be reviewed and, if necessary, revised on an annual basis.

OSAMA DAHAM

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

4.1.1 QHSE Policy

4.1.2. Project OSH Objectives

The objectives of the OSH activities are:

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QHSE Policy

AL HIKMA BUILDING CONTRACTING LLC shall commit and ensure the Quality of its services, Health & Safety of its Employees, Clients, Visitors, and the community at large and protect the physical environment in which the **AL HIKMA BUILDING CONTRACTING LLC's** associated business activities are carried out.

The Management and Staff of **AL HIKMA BUILDING CONTRACTING LLC** shall:

- Ensure that our products and services meet the needs and expectations of our clients in terms of quality.
- Develop and implement an Integrated Management System conforming to ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018.
- Ensure the availability of personal, financial, and human resources necessary to mitigate the adverse impact of its operations on HSE.
- Undertake reviews to measure QHSE performance against identified objectives and targets and continually improve the system.
- Ensuring the safety and welfare of our staff and the protection of our assets.
- Comply with or exceed all relevant Quality, Environmental, Health & Safety legal laws, regulations, and other requirements.
- Identify the hazards in the production facility, assess the risks, and manage those risks to reduce adverse impacts on HSE.
- Periodically review the suitability, adequacy, and effectiveness of the (QHSE) management system.
- Make every effort to protect the environment and prevent pollution, minimize consumption of materials, promote the reuse and recycling of waste, and adopt best practices on waste management.
- Strive to achieve continual improvement of the QHSE management system and related performance.
- Prevent accidents and cases of work-related ill-health.
- Provide appropriate training for employees where applicable.
- Ensure that the company's QHSE Policy is well communicated to all quarters concerned.
- Commitment to participation and communication of workers

شركة الحكمة لمقاولات البناء ذ.م.م HBC P.O Box : 86609 Dubai U.A.E. AL HIKMA BUILDING CONT (L.L.C)

OSAMA DAHAM
CEO

Date: 18 February 2025

IMS-MR-F01 Rev.: 01

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To strive to effectively apply our QSHE policies, procedure and practices consistently in all our operations and significant stages of the progress.

شركة الحكمة لمقاولات البناء ذ.م.م HBC P.O Box : 93780, Abu Dhabi U.A.E. AL HIKMA BUILDING CONT (L.L.C)

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- To achieve the highest levels of OSH compliance of the project against applicable legal regulations, codes of practices, standards and contractual requirements, including OSH design deliverables.
- To seize every opportunity to promote, enhance and improve a positive OSH- conscious culture
- To accomplish the construction facilities by integrating hazard prevention proactively for elimination or mitigation control measures to ensure risk reduced to ALARP

4.1.3 Targets

It is recognized that the completion of the projects without any unsafe occurrences, though desirable, may not be entirely realistic. The realistic annual Key Performance Indicators (KPI) and targets will be set for the project-based set targets. OSH performance and the effectiveness of the management systems during the execution of the Project will be monitored, measured, and evaluated.

4.1.4 Performance Monitoring

SN.	Description	Formula	Target til completion
1	Fatality	-	0
2	Accident frequency rate	(#of reported accidents x 200,000) / man- hours worked	0.35
3	Lost Time Injury Frequency Rate (LTIF)	(# of LTI cases x 1 million) / Qty man- hours worked	≤ 0.12
4	Lost Time Injury Severity Rate (LTISR)	(# of workday lost x 1 million) / Qty man- hours worked	≤ 2.50
5	Vehicle Accident Rate	(# of vehicle accidents) / # Of licensed vehicles	0.5*

*Note: to compute an "annualized" vehicle accident rate for less than 12 months, it is necessary to multiply the number of accidents for the particular period as follows: 3months (factor x4); 6months (factor x2); 9months (factor x1.333); 12months (factor x1)

SN.	Description	Unit	Target/til completion
1	Energy Consumption	MWh/year/person	TBA
2	Water Consumption	Metric tons/year/person	TBA
3	Paper Consumption	Kg/year/person	TBA
SN.	Description		Target
1	Risk Assessment completed for each activity		95%
2	Mandatory induction		100%
3	Mandatory External training (requiring ID or certificate from authority)		100%
4	Planned Internal Training (toolbox)		90%
5	Planned OSH Audits		90%
6	Planned Emergency Response training		90%
12	All labors joining the site is provided with mandatory basic PPE		90 %
13	All minimum stock required for First-Aid box maintained at each mon		
14	Nos. of Nurse and First Aider required complied with		
15	Nos. of OSH ENGINEER s required complied with		

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16	Nos. of Certified OSH team member complied with e.g., scaffolder, fire marshal	98%
17	All inspection for Fire Extinguisher done on weekly Basis	90%
18	Required Reports submitted as per legal requirements within allowed time	95%
19	Zero OSH-related fines	100%
20	Emergency Drills	90%

4.1.5 ACTION PLAN- Typical Leading Indicators

Activities	Frequency
Performance Evaluation	Annual
Management Review Meeting	Semi- annual
Emergency Drills (subject to change depending on identified emergency situation)	Semi- annual
Environmental Awareness Campaign	Semi- annual
Activities	**Frequency**
Internal audit	Quarterly
Incident Prevention Campaign (for high-risk activities)	Quarterly
Project OSH Committee Meeting	Quarterly
OSH Awarding	Monthly
OSH Joint Inspection	Weekly
OSH training	weekly
Equipment/ machineries/ tools Audit	Monthly
Toolbox talk (15-30 minutes)	Daily
Waste collection at allocated location	End of each day
Housekeeping	End of each day
OSH inspections	Twice a day
Dust Control	Twice a day
Waste Disposal by Authorized Company (segregated)	As required
OSH induction	As required
Wastewater collection by Authorized Company	As required
Risk assessment review	As required
Regulatory Awareness Campaign	As required
External Audit	As advised by head office

The Project shall include as a minimum in weekly and monthly reporting will be collected and reported as part of the Project's report to the Client/consultant.

- Number of Employees working per day
- Project Man-hours with severity and frequency rate
- Number of Stop Work Notices issued to Contractors.
- Number of Safety Violations, NCR raised by Consultant (Pending / Closed out)
- Number of OSH Audits
- Number of Safety Meetings, Inductions, and toolbox conducted.
- Number of Safety Inspections
- Number of Near Miss Cases

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- Number of Property/Equipment Damages
- Number of Disabling Injuries
- Number of Fatality Cases
- Number of Reportable Cases `

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- Number of fires, property, or equipment damage
- Number of motor vehicle accident within the project
- Number/ hours of Trainings
- Number of Complaints
- Accident Frequency Rate/100,000 man-hours (LTFR)
- Any unusual incident that needs to be reported to protect all stakeholders.
- All significant Environmental issues such as but not limited to:
- Incidents such as accidental release of flammable and/or toxic substances or gases
- Oil spill
- Hazardous material releases
- Radiation exposure etc.

4.2 Roles and Responsibilities

Reference - ADOSH-SF Element 01 Version 4.0 15 July 2024, Roles, Responsibilities and Regulation

The responsibilities for the project management and supervision role includes but not limited to the following:

The Organization

PROJECTS DIRECTOR/PROJECT DIRECTOR,

Project director is accountable for.

- The Project Director is responsible for the implementation of the plan.
- Ensure that all Managers, supervisory staff and subcontractors have access and knowledge of this OSH Plan and that they implement it through their teams/workers.
- The Project Director is responsible for ensuring only competent contractors are selected, and that their performance is monitored.
- He will ensure that all subcontractor activity has a formal kick off meeting and a representative from the safety department is in attendance.
- Co-operate and communicate with the designers and the consultants.
- Make sure all the relevant approvals, NOCs, Permits...etc. from concerned authorities such as Abu Dhabi Municipality, ADWEA, ADSSC ADDC, Etisalat, and Du …etc.
- Identify all foreseeable risks that were possible, which will assist contractors when producing their job specific risk assessments and method statements.
- Manage resources, paying due regard to competency and provision for Health and Safety.
- Issue all relevant information related to the construction project to the project team.
- Ensure co-operation between contractors.
- Monitor Health, Safety and Environment performances.

PROJECT MANAGER

Responsible to: Project Director

Responsible for: All project staff

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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1. He is responsible to:
2. Set a personal example in OSH rules, regulations and procedures considering OSH matters as equal to productivity.
3. Ensure: -
    - OSH plan is implemented fully at site during execution of each activity.
    - All activities are covered under the scope of risk assessment and risk-mitigating measures are carried out before commencing work.
    - Kick off meeting is conducted prior to starting any new activity or deployment of any new sub-contractor.
    - Disciplinary actions as recommended by the OSH department consider OSH matters as equal to cost, quality, and productivity.
    - Safety in equipment and tools design and specification is fit for the intended application and carries out periodic check/inspection.
4. Consider employees' suggestions and encourage them to accept and support OSH rules and regulations.
5. Visit work locations and show interest relating to good performance in all OSH rules and regulations.
6. Accompany the team during management OSH walk, authorities visit and client OSH walk.
7. Coordinate with authorities such as Police, Civil Defense, SRA OSH Inspector/Investigator in case of any "Reportable Incident"
8. Coordinate with Site OSH Manager on written report on "Reportable Incidents" to Consultant Project management, Client and authorities concerned.
9. Share knowledge and experience during risk assessments.

CONSTRUCTION MANAGER
Responsible to: Project Manager
Responsible for: All operations staff

He is responsible to:

1. Set a personal example in OSH rules, regulations and procedures considering OSH matters as equal to productivity.
2. Ensure: -
    - OSH plan has been implemented fully at site during execution of each activity.
    - All works requiring a permit to work have been started after obtaining PTW for the same.
    - Control measures mentioned in the PTW have been implemented on site.
    - All permits and working areas are inspected by OSH team before starting the work.
    - Method Statement and risk assessment for all the activities are approved and communicated to the concerned team prior starting the activity.
    - The compliance of all site superintendents with the OSH requirements.
    - Ensure lessons learnt from incident/near miss are communicated to all staff and corrective actions taken.
    - All the sub-contractors, suppliers and internal construction team undergo OSH induction and required training prior deploying them on site

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3. Share knowledge and experience during risk assessments.
4. Be part of any investigation teams.
5. Coordinate with subcontractors to sort out any considerations related

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6. Coordinate logistics, security, storage, traffic and waste management matters with OSH.
7. Consider employees' suggestions and encourage them to accept and support OSH rules and regulations.
8. Visit work locations and show interest related to good performance in all OSH rules and regulations.
9. Accompany the team during management OSH walk, authorities visit and client OSH walk.
10. Report and rectify unsafe acts/conditions, near misses observed at site.
11. Attending all OSH meetings, visits, walks, inspections, OSH trainings.

OSH MANAGER
Responsible administratively to: Project Manager
Responsible Functionally to: Project Director
Responsible for: OSH staff, Security
He is responsible for:

1. Understand and be aware about local, federal, legal, national, and international OSH requirements.
2. Ensure: -
   - Management is well versed with all general matters affecting the occupational safety and health of the workforce.
   - OSH roles, responsibilities, policies, plans, and objectives are communicated to all relevant personnel.
   - Only authorized persons enter the construction area.
3. Reviewing and revising plans and Procedures of the company and subcontractors
4. Investigate potential hazards and dangerous occurrences and examine cases of incidents as part of the team carrying out that function.
5. Be a part of the reviewing team for subcontractor agreements, and the contract close-out.
6. Investigate complaints related to OSH of any member of the workforce and draw attention to such matters to higher management.
7. Review the environmental health and safety policies once a year to ensure each continues to be suitable and effective.
8. Liaise with department managers for implementation of OSH management system and issue safety directives accordingly.
9. Monitor, review and advise the project managers on OSH policies implementation and results of the OSH audits and inspections.
10. Monitor OSH training requirements of personnel and coordinates in arranging internal

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safe execution of the project.

12. Give support to OSH department for carrying out all company OSH per the safety management system.
13. Chair project OSH meetings and workers welfare meetings.

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NURSE

Responsible administratively to: Project Manager

Responsible functionally to: OSH Manager

He is responsible to:

1. Provide emergency care & first aid to the project site.
2. Coordinate with the OSH for activities related to employee's health & medical compensation.
3. Collection of workers' health data.
4. Provide medical awareness and first aid and keep a register.
5. Coordinating with the transport for emergency cases.
6. Meticulous observation of the ill signs of workers and reporting on the same to the site management for appropriate action.
7. Contributing for Emergency Response mock- up drill
8. Giving feedback to the management on occupational health cases and maintaining the site medical records.
9. Submitting records of personnel visiting the clinic on daily / monthly basis to the HSSE Manager
10. Any other duties assigned by the HSSE Manager

OSH ENGINEER

Responsible administratively to: OSH ENGINEER

Responsible functionally to: OSH Manager

Overall preparation and implementation of OSH- related plans and programs on site, e.g.:

1. Conduct OSH-related trainings
2. Cascading and updating of OSH-related information/ Bulletins/Alerts to OSH Engineers
3. Prepare Risk Assessment/Job Hazard Analysis in line with method statement.
4. Ensure
   - OSH- related permits necessary for site works are obtained from external parties.
   - sufficient availability of PPE & OSH gears at site store. welfare and first aid facilities are adequate and properly maintained.
   - OSH Engineers carry out continuous site inspection.
   - necessary arrangement and provisions for emergency response plans are maintained.
   - adequate OSH & emergency provisions are available through- out the project site.
   - Permit to Work system is being implemented.
   - implementation of SWP on site
   - team complies with Risk Assessment/Job Hazard Analysis Mitigating Measures
   - housekeeping schedules and standards are complied with at all times

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Office.

7. Maintain Project relevant OSH records.
8. Conducting Accident/ Incident Investigation to find root-causes and impl corrective actions.

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9. Verify licenses and training certificates of all required skilled workers.
10. Review all inspection reports completed by inspectors and act on any notifiable non-conformances against OSH requirements.
11. Implements all OSH programs set by the department.
12. Randomly Audits and checks all OSH related supplies are within acceptable standards on- site.
13. Collates all necessary inputs for the weekly and monthly reports.
14. Report all accidents and near misses to OSH ENGINEER
15. Assist OSH ENGINEER during emergency evacuation of site.
16. Conducts Toolbox Talks.

OSH INSPECTOR

Responsible administratively to: OSH Engineer

Responsible functionally to: OSH Manager

Overall physical checks of OSH compliance on site, e.g.:

1. Conduct daily OSH inspections.
2. Identify and correct unsafe acts immediately.
3. Identify and report unsafe conditions to construction team.
4. Implements conditions set forth in the work permits issued by the department.
5. Enforce wearing of P.P.E. on site.
6. Correct unsafe acts and unsafe conditions at site.
7. Verify equipment are inspected and valid certificates are available.
8. Identify hazards and provide necessary input if any changes are required on the Job Hazard Analysis.
9. Ensures housekeeping is done as per schedule.
10. Report all accidents and near misses to OSH Engineer.
11. Arranges location for OSH precautionary signage at site.
12. Checks compliance to all Safe Working Practices
13. Assist in Toolbox Talks.

FIRST AIDER

Responsible administratively to: Nurse

Responsible functionally to: HSSE Manager

He is responsible to:

1. Provide first-aid medical assistance as required.
2. Ensure first aid resources on site are maintained.
3. Maintain register on medical and first aid cases

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Responsible administratively to: Project Manager

Responsible functionally to: HSSE Manager

He is responsible to:

1. Control all incoming and outgoing vehicles and verify necessary ingress and

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2. Control all incoming and outgoing visitor's logbook.
3. Escorting visitors to the reception area and advise the QOSH department accordingly for proper induction.
4. Securing the entry/exit point during non-operating hours.
5. Foot Patrol of jobsite
6. Regular Inspection of hoardings to check against any possible security breach.
7. Maintain watch over equipment.
8. Contributing for Emergency Response mockup drill
9. Emergency patrol
10. Traffic Control
11. Report Hazard to Site supervisors
12. Prevent theft, vandalism, assault, or other undesirable behaviour.
13. Remove disruptive persons from the premises, check for intruders, or manage crowd control in emergencies.

STOREKEEPER

Responsible administratively to: Commercial Manager

Responsible functionally to: Project Manager

He is responsible to:

1. Ensure all delivered PPE and OSH-related materials are as per approved samples by OSH department.
2. Segregation of damaged tools and control of issue must be done
3. Make sure all COSHH are collected from OSH department and files ready for access by anyone who needs it
4. Ensure that all equipment and tools delivered to the site has the necessary certificates, OSH guards' prior acceptance.
5. Ensure follow- up of requisitions for timely delivery.

All Personnel

- No reckless interference with, or misuse of, anything provided for OSH or environment.
- Wearing or using the appropriate OSH equipment or clothing and using the appropriate OSH devices.
- Familiarising themselves with the relevant requirements of the Project OSH Management Manual.
- Reporting any accident, incident or damage of property or equipment to their immediate supervisor.
- Making suggestions to improve the OSH to their superior and the Project OSH Team

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overflow.

- Carry out work in accordance with CEMP.
- Exercise due care, skill and judgement when carrying out tasks.
- Implement corrective action which have been approved by supervisor.

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Subcontractors

All Sub-Contractors apart from the Contractual obligations vide Abu Dhabi ADOSH SF, Codes of Practice…etc. for construction projects and UAE Federal Law; the following specific responsibilities are to be complied on this Project.

- Ensure that suitable, site-specific OSH Plan is prepared and approved by UNEC or comply with HBC OSH plan.
- The plan and procedures shall be communicated to all relevant parties prior to start of construction. Make sure the OSH Plan is implemented and kept update as the project progresses.
- Sign the OSH agreement with HBC.
- Make sure competent supervisor, safety staffs, first aider/male nurse, fire warden/fire watch are present at site during operation at site.
- Make sure that all activity will have an approved method statement and risk assessment before starting the activity and it is communicated to all those involved in the activity and risk mitigating measures are adopted on the job.
- Safety officer will coordinate with HBC OSH Department on day today activities at site, he will attend the site weekly OSH meeting with HBC.
- Make sure all staff/operatives attend the general induction given by HBC and site-specific induction by the concerned contractor's safety department. In addition, they will receive information, instruction and training on OSH matters required for the task.
- Provide adequate welfare facility to operatives such as rest areas, toilet/washing facilities, sufficient cool drinking water, first aid facility…etc.
- Permit shall be obtained from HBC before closing/diverting any haul roads as a part of construction and provide appropriate traffic signs/flag men as advised by HBC.
- Follow approved waste management plan for waste segregation, disposal of waste…etc.

4.3. Management of Change (procedures)

Reference –ADOSH-SF – Management System Element 9 Version 4.0, 15 July 2024 Compliance and Management review

- HBC management of Change Process shall consider change management requirement when developing all OHS MS procedures, process and programs and shall ensure that change in organizational structural, personal, Plant, Machinery, equipment, material, documentation process and procedures do not result in the inadvertent introduction of hazards and increased risk. Moreover, shall analyse change in operational procedures or process to identify any required changes in training, documentation or equipment and analyse change in location, equipment or operating conditions for any potential hazard in addition to ensure all documents recorded reviewed, risks assessed, and all personnel trained and fully aware about any changes and aware about the suitable control measures as well prior start implementation.

4.4 OSH Legal Regulatory & Other Requirements

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Center	Abu Dhabi UAE	Fax: +971 (2) 449[illegible] E-Mail info
SRA (Sector Regulatory Authority)	**Department of Municipal Affairs** Abu Dhabi Municipality	Phone:800 Fax: +971 E-Mail:hse

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ESTIDAMA	**Abu Dhabi Urban Planning Council** Abu Dhabi, United Arab Emirates P.O. Box 62221	Telephone: +971 2 409 6000 Fax: +971 2 443 9 443 E-mail: info@upc.gov.ae
Environmental Agency Abu Dhabi (EAD)	PO Box No. 4553 Abu Dhabi, UAE	Tel +971 (2) 4454777 Fax +971 (2) 4463339 E-mail customerservice@ead.ae
The Center of Waste Management - Abu Dhabi	PO Box 48448 Abu Dhabi, United Arab Emirates	Tel: +971 (0) *2 818 5555* Fax: +971 (0) *2 818 5559* E-mail: info@cwm.ae

All guidelines and best practices in this plan are expected to fulfill statutory requirements during the course of construction. Apart from the above, internationally accepted best practices are considered during formulating this plan.

4.4.2 Legal Register

Reference – Project Legal Register (ARD.P2-ZZ-UEC-ZZ-ZZ-XX-PP-HS-00027-20 Mar 2024)

The purpose of this Register of Legal Compliance is to identify the relevant Federal & Abu Dhabi OSH

Laws and Regulations that have an impact on HBC activities, and to specify how HBC will addresses the requirements. (Legal register is attached as Appendix B) The Senior Management along with Operations Director has the ultimate responsibility for Health & Safety, including compliance to the applicable legal requirements.

Management will support the Operations Director for meeting any applicable legal Health & Safety requirements The Project Director, Project Manager, Construction Managers, Site Engineers, Supervisors, the Project Health & Safety Manager/ Engineer, Safety Officers, and the Foremen, all share the responsibilities for meeting the applicable legal Health & Safety requirements. Roles, responsibilities and accountability and evaluation of legal compliance will be managed, monitored and controlled by project execution team when the coordination of the HBC corporate level and legal compliance register will be review on regular basis that will be match to latest legal requirements.

4.4.3 Interested parties.

Employees	The employees of HBC general contracting, associated companies, client and consultant and contractors deployed in the project
Management and shareholders	The client management team, SECB consultants, HBC shareholders and involved with the project
External parties, contractors and service providers	The contractors, suppliers, service provides, and other external parties involved in the activities of the project
Pressure groups and nei	Other projects, contractors and work groups, the general public and local

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Key Contact details of Interested Parties

Authorities relating to this Contract

Abu Dhabi Police	800 3333 for general queries 999 for emergency
Ambulance	998
Civil Defense	997
Department of Health	800 1717
Electrical Emergencies	911
Water Emergencies	8002332
Ministry Of labor	800 60
Abu Dhabi Municipality	800850

4.4.6 Mode of Interaction Management

- OSH Policies
- Project OSH Plan
- OSH committee meetings
- OSH Induction
- Risk assessments
- Tool box talks and pre-construction briefings
- Emergency response and management plans
- Formal communication and sharing OSH information.
- OSH reporting and documentation
- Notice Boards
- Signage's

The tables below provide guidance on how OSH information is communicated through the project team.

4.4.7 Internal Communication:

Sl. No.	Topic for Communication	Personnel To Be Communicated	Responsible for communication	Mode of Communication
1	Awareness of OSH Management System	All employees	Project Manager / OSH team	Notice Boards, Induction, Toolbox Talks and on-site Walk around
2	Awareness of Project OSH requirements	All employees	Project Manager /Construction Managers/ OSH Team	Notice boards, Training Programmes, Induction, Toolbox Talks and On-site Walk around
3	OSH Policy	All employees	Project Manager/ Construction Managers/ OSH Team	Notice boards, displays, toolbox talks, inductions
	Roles &	Concerned	Project Manager	Induction, Toolbox Talks and
			Team	Prestart

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

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Sl. No.	Topic for Communication	Personnel To Be Communicated	Responsible for communication	Mode of Communication
6	Potential emergencies (i.e., major accident / incident, Environment impacts)	All employees	OSH Team	Mock Drills Notice Boards, Induction, Review Meetings, Safety Alerts etc.
7	OSH Performance	All employees	Project Manager/ OSH Team	Notice boards, E-mails, OSH Review Meetings, Toolbox Talks.
8	Non-conformances	Project Manager/ Auditee	Audit Team	Audit report/ Inter office Memos, mail correspondence, Review Meetings, and Management Review Meetings.
9	Other OSH issues	All employees	Project Manager/ OSH Team	Inter office Memos, Notice Boards, OSH Review Meeting, E-mail and Toolbox Talks
10	Legal requirements	All concerned	Project Manager/ OSH Manager/ Engineers	Inter office Memos, e-mails, monitoring of legislations, OSH Review Meetings, Notice Boards, induction, toolbox talks etc.

4.4.8. External Communication:

Sl.No	Interested Party	Topic For Communication	Mode of Communication	Responsibility
1	Client / Engineer	Any relevant Information as required by the client / Engineer.	Letter / e- mail	Project Manager
2	Local Community	Any Environmental and Health and OSH concern raised	Letter / Meeting / Displays / Seminar/ Press Release	Senior Management / Project Manager/OSH Department
3	Supplier	- Compliance to OSH requirement - Any other issues raised	Letter / E-mail.	Purchase Request Initiator / OSH Department
4	Media	Initiatives taken by organization & subsequent	Press Release, Interviews,	Senior Management/ Project Manager

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4.5. Management of Contractors

Reference – ADOSH SF Element 03,04,09 Versions 4.0 15 July 2024, Appointment, Evaluation Selection

4.5.1 Selection and appointment

HBC will manage the health and safety risks arising from engaging contractors, through implementing relevant steps of selection and appointment of contractors:

- Sub-contractor Statistics: The selection of subcontractors will be subjected to evaluation through their company yearly OHS statistics for the past 3 years and finding the history of previous projects carried out by them.
- OHS Agreement with Sub-Contractors: All sub-contractors have to follow HBC OHS Policy and procedures and they will sign the OHS Agreement during signing the contract, where they agree that they will comply with the OHS Requirement of the HBC at this project.
- All subcontractors are to follow the Prequalification procedures and signed Prequalification questionnaire to be submitted for approval.
- Welfare facilities and safety coverage shall be provided to all subcontractors as per the OHS Agreement.

Project QA/QC Manager: Shall coordinate and ensure all subcontractors will follow similar standard forms and procedures. Progress Meetings shall be held with the Sub- Contractor on a regular basis to resolve technical issues. Sub- Contractor Quality Management systems & OHSMS shall be audited by the Project QA/QC Manager & OSH Manager as and when required.

Internal Audit shall be conducted on a biannual basis for subcontractors and vendors. Subcontractors and other vendors shall undergo HBC safety induction program prior to enter the site. Selection of subcontractor and supplier shall be done after thoroughly going prequalification criteria.

UNEC shall ensure required agreement/documents are checked thoroughly and legally valid prior onboarding the subcontractor/supplier.

Welfare Facility

Site management shall control toilets, eating areas, and communal areas. All communal areas are to be cleaned daily and kept in a hygienic condition. The quantities of facilities available are enough for the levels of personnel using them. Local law is to be followed as the minimum.

Rest/Eating Areas

Shaded rest and eating areas will be provided in sufficient numbers for the personnel in the location. A bin for waste and general rubbish will be provided at these areas. The site supervision and/or OSH Representative will move personnel into the shaded areas and not allow them to rest under or near machinery. Disciplinary action will be taken against offenders.

Potable Water

An adequate supply of cool drinking water will be made available on sites areas by installing water coolers and/or thermos flasks. Thermal flask must be thoroughly checked and cleaned, by the gang Supervisors, to ensure cleanliness and avoid contamination.

Toilets

Sufficient toilets, hand-wash basins and facilities will be maintained at site. All toilets shall be cleaned daily and maintained in a sanitary condition.

The remote area toilets will be fitted with septic tanks wherever feasible. If not, self-contained units will be provided.

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cleaned, using appropriate cleaning agents, drains system is working properly, sewage tanks are emptied on a regular basis, water tanks and cooler filters are cleaned/ interval…etc.

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.4.5.2 Ongoing Management

Sub-contractors OSH Plan

Subcontractors will be asked to submit their OSH Plan, Method statement and risk assessments before starting any activity at site. These documents will be reviewed by HBC OSH Department and will be forwarded for consultant approval. Once it is approved the concerned contractor will implement the requirements at site and it will be monitored by HBC OSH Department.

Safety Improvement Notices

HBC OSH Staff will conduct daily site inspections at site and all unsafe acts/conditions will be informed to concerned project manager through inspection reports. If the corrective actions suggested in the reports are not closed out by the concerned party within the agreed period, a Safety Improvement Notice will be issued against the concerned person/contractor.

OSH Violation notices/Fines

OSH violation notice with fines will be issued to subcontractors those who do not comply with agreed site OSH requirements even after informing them through inspection reports and/or OSH Improvement Notice.

OSH Audits

Audits will be carried out to evaluate all subcontractor's effectiveness of implementation of approved OSH Plan and procedures at site. All non-compliance will be reported to the project manager through a written report. Concerned subcontractor shall take corrective and preventive action to close out the issues and send a close out report to HBC regular basis to resolve problems. Subcontractor performance is incorporated into the semi- annual performance evaluation.

4.6 OSH Risk Management

Reference - ADOSH SF – Element 02, 07, Version 4.0, 15 July 2024 and Technical Guideline – "Process of Risk Management

4.6.1 Risk Management Procedure

Activities with an initial high risk require a method statement and risk assessments defining the controls to be used to reduce the risk. Method statement and risk assessment shall be prepared and submitted by HBC to be approved by the consultant and other relevant parties before commencing the activities. The Project Team will ensure that Method statements are prepared and reviewed by a competent person. The Project Managers with OSH Manager, project engineers and site supervisors, will undertake this process. Site-specific control measures will be devised, as required to reduce risks. Project Managers will ensure all team members are trained in all control measures. The person in charge of the operation/task will give a toolbox talk to all concerned personnel on Risk Assessment. On completion, a roster to confirm attendance must be signed by all attendees and filed with the site OSH Department. Risk assessment will be prepared for all site activities and monitoring will be through the IR (inspection request) which will include at the checklist the risk assessment. Moreover, JS/HA will be conducted at working spots through site supervisors for further assessment at the workplace.

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3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

A. Elimination

Discontinue hazardous activity. Remove the hazard or modify a design to eliminat

introduce mechanical lifting devices to eliminate the manual handling hazard etc

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B. Substitution

Substitute with a less hazardous material, equipment, process or reduce the system energy (e.g., lower the force, amperage pressure, temperature, etc.)

C. Engineering Controls

Make structural changes to the work environment or equipment (e.g., install ventilation system, machine guarding interlocks, sound enclosures, etc.)

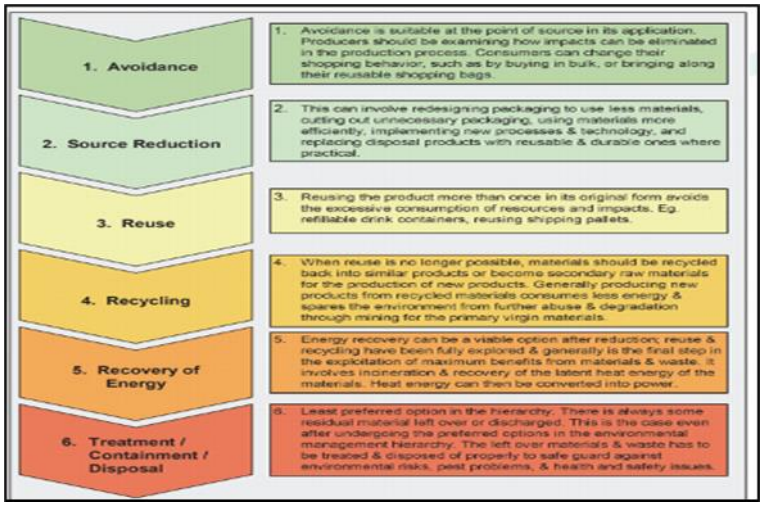
D. Signage/warning Signage / warnings and/or administrative controls

Introduce administrative procedures e.g., police, guidelines, SOPs, work permits etc. Training and awareness, Display safety or hazard sign, install warning lights/alarms, carry out equipment inspections, introduce access controls, tagging, job rotation, flexi time, implement housekeeping etc.) Personal and Environmental protective equipment.

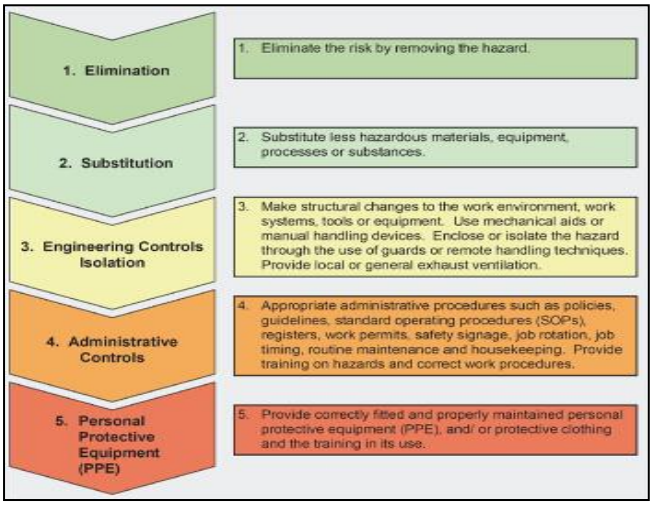
E. Personal and Environmental protective equipment.

Provide correctly fitted and properly maintained personal protective equipment's (e.g., safety glasses, earmuffs, face shields, safety harnesses, respirators and gloves.) and the training for its use.

Environmental Hierarchy of control



OHS Hierarchy of control.



4.6.1.2 Undertaking a Risk Assessment

OSH risk assessment is an on-going process and shall be undertaken at various times including:

- Prior to commencement of any activity
- When planning design or making a change to a work procedure, activity and/or practices

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- At regular or scheduled intervals appropriate to the nature of the workplace and the hazards present
- When legislative obligations change (including regulations)
- Before work activities begin.

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4.6.1.3 Assigning a Risk Rating

Following on from the analysis for likelihood and Severity, the team will assign a risk rating to the hazard. This will assist when looking at the additional control measures (if any) that are needed. Using table provides a consistent method of assessment that can be applied by different personnel and at different times. Risk management plan, manage and co-ordinate work during the design and construction phase taking account of the information contained in the preconstruction information provided by the client, and any other information provided by contractors.

4.5.1.4 Risk Grading Matrix

PROBABILITY	SEVERITY				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Rare (1)	1	2	3	4	5
Possible (2)	2	4	6	8	10
Likely (3)	3	6	9	12	15
Often (4)	4	8	12	16	20
Frequent/Almost Certain (5)	5	10	15	20	25

15 - 25	Extreme Risk	Absolutely Unacceptably High Activity or industry should not proceed in current form
8 - 12	High Risk	Unacceptably High Activity or industry should be modified to include remedial planning and action and be subject to detailed HSE assessment
4 – 6	Moderate Risk	Acceptable but must be managed at "As Low As Reasonably Practicable" (ALARP) Activity or industry can operate subject to management and / or modification
1 -3	Low Risk	Acceptable without required further action No action required unless escalation of risk is possible

4.6.1.5 Probability of Occurrence

The probability of occurrence shall be estimated as below, which provides likelihood of rating with descriptions for estimating the likelihood of each occurrence.

Term	Likely Frequency	Probability
Frequent	Occurs several times a year	5
Often	Occurs several times a year in similar industries	4
Likely	Has occurred more than once	3
Possible	Has occurred	2
Rare	Never occurred	1

4.6.1.6 Overview of Risk Management Procedure

Identify hazards.

Start the process by walking around the workplace and reviewing existing OSH information to identify the likely risk issues from the below list but not limited to

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- Incident reports
- Near miss reports
- OSH Inspections

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- Materials and MSDS of chemicals
- Existing as built drawings

The aim is to generate a comprehensive list of sources of risks and events that might have an impact on the health and safety of the workers and the adjacent community or the environment.

- Consult with the employees who undertake the task as they may have very good safety reasons for undertaking the tasks in a certain manner.
- Having identified what might happen, it is necessary to consider possible causes and scenarios. There are many ways an event can occur. It is important that no significant causes are omitted.
- Approaches used to identify risks include checklists; judgments based on experience and records, flow charts, brainstorming, systems analysis, scenario analysis and systems Engineering techniques.
- The approach used will depend on the nature of the activities under review, types of risk and the purpose of the risk management study.
- Manufacturer's instructions or data sheets can also help to identify hazards and put risks into their true perspective.

Identify who/ what can be harmed or damaged and how.

List of people and other components that could be affected by the hazards, and always ensure they are taken into account:

- Employees
- Visitors
- Contractors
- Members of the public
- Consumers of products or services
- Environment
- Specific sensitive or protected environmental areas.
- Plant / equipment / property damage.

Persons who may have additional difficulties, such as new or expectant mothers, disabled persons, young or inexperienced workers.

Identify how each group and component could be harmed by the hazards found, as this will help to identify control measures to help reduce the risks at a later stage in the assessment process.

Evaluate and control the risks.

- Evaluating risk is about developing an understanding of the risk. It provides an input to decisions on whether risks need to be controlled and the most appropriate and cost-effective risk treatment strategies.

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- The level of risk is calculated by multiplying the Consequence Score and Probability of Occurrence together.

Risk = Severity Score x Likelihood of Occurrence

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Consequences and likelihood may be estimated using statistical analysis and calculations. Where no reliable or relevant past data is available, subjective estimates may be made which reflect an individual's or group's degree of belief that a particular event or outcome will occur.

The most pertinent information sources and techniques shall be used when analyzing consequences and likelihood. Sources of information may include the following:

- Past records
- Practice and relevant experience.
- Relevant published literature
- Economic, Engineering, or other models
- Specialist and expert judgments.

Techniques include:

- Structured interviews with experts in the area of interest
- Use of multi-disciplinary groups of experts
- Individual evaluations using questionnaires.

Where appropriate, the confidence placed on estimates of levels of risk shall be included.

Assumptions made in the analysis shall be clearly stated.

For the discharge or emission of a pollutant, evaluating factors such as those listed below should help in the assessment of relative consequence:

- Persistence
- Toxicity
- Health effects
- Concentration of chemical
- Volume discharged per event
- Duration of the discharge
- Proximity to waterbodies
- Potential dilution
- The area of land/marine waters affected.
- Considering secondary consequences and existing mitigation measures.

Regarding occupational health and safety, evaluating factors such as those listed below will help in the assessment of relative consequence.

- Health effect (e.g. long / short term effects, fatality, degree of injury / illness, disability)
- Damage to assets (e.g. plant, premises).

The potential consequences shall be judged using all available information This information may include, but not be limited to:

- Control measures in place

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- Plant, machinery, powered hand tools to be used
- Size, shape, surface character and weight of materials that may be hanc
  heights to which materials have to be moved.
- Service used (e.g. compressed gas), substances used or encountered du

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- Parties carrying out the tasks (training received)
- Legal requirements.

For risk assessment, five levels of severity of consequences have been used – insignificant, minor, moderate, major and catastrophic.

Implement the Selected Control Measures

When the risk is categorized, the team should identify the corrective action in order to manage the hazard at an acceptable and "as low as reasonably practicable" (ALARP) risk level. For hazard(s) with low risk, actions may not be required.

Identified foreseeable risks will be eliminated if reasonably practicable. If it is not reasonably practicable to eliminate the risk then the hierarchy of controls will be applied (Refer to Section 4.6.1.1).

Hazards and risks must be controlled in a systematic manner with the requirement to eliminate the hazard or risk wherever practicable.

If it is not practicable to eliminate the risks, then the risks need to be reduced through substitution and/or Engineering control measures and/or administrative control measures. The last level of control is to provide personal protective equipment (PPE) against the risk.

This latter approach does nothing to minimize or alter the original risk, and any failure of the PPE exposes the wearer to the full hazard potential. This is why the control measures are referred to as a hierarchy, as one must start with the first control measure of elimination and work downwards only if it is not reasonably practicable to implement that control measure.

Once the primary control measure has been selected, then the use of various other control measures may be utilized to further reduce the risk so far as is reasonably practicable.

Monitor and review.

Hazard identification, risk assessment and control are an on-going process. Therefore, regularly the effectiveness of hazard assessment and control measures should be reviewed. Make sure that hazard and risk assessment is undertaken when there is a change to the workplace including when work systems, tools, machinery, or equipment change. Provide additional supervision when new employees with reduced skill levels or knowledge are introduced to the workplace.

4.6.1.7 Proactive Action

- Complying Client's OSH regulations & procedures
- Implementing Safe work procedures
- Enforcing Project OSH Management Manual
- Competent & Dedicated OSH Organization
- Deployment of Competent Personnel

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4.6.1.8 Monitoring Measures

- Formal & Informal OSH Inspections - Formal OSH inspections shall b
  in a month. Informal inspections shall be done on a daily, weekly, an

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- Plant & Machinery inspection - Once in a month
- Electrical inspection - Once in a month
- OSH inspection - Once in a month

4.6.1.9 Corrective and Preventive (Reactive) Action

- Accident Reporting & Investigation system
- Analyzing the accidents

4.6.1.10 Performance Measurement & Review Systems

- OSH Internal Audits – Quarterly
- Management Review meeting – Once in every 6 months
- Evaluation of Sub-contractors – Once in every 6 months

4.6.1.11 Employee Communication & Consultation

Active participation of all concerned employees is encouraged for this Risk Management Plan. Communication and consultation with employees for effective implementation of RA/JHA will be through Group OSH meetings, through incident prevention campaigns, through trainings & induction program, through Managers & Supervisors, through Safety Walks etc.

4.6.1.12 H&S Motivational Schemes

Motivation is a driving force or a stimulant that makes a person to behave or do a task. Employees must be motivated to follow OSH in their task. Employees can be motivated by:

- Recognition: Recognizing their effort to adopt OSH.
- Incentive: Giving Incentives to employees who did a good work on OSH.
- Personal achievement: Making them feel that they have achieved by adopting OSH.
- Job Satisfaction: Creating an environment such that employee feel a job satisfaction when he accomplishes a work safely.
- Safe environment: By providing Safe environment it motivates employee to adopt OSH.
- Employee involvement: Involving employees in decision making process on OSH.
- Team Spirit: By recognizing a department or team for achieving the OSH goal creates a team spirit.
- Realistic Target: By targeting realistic goal on OSH motivates the employee to work towards it.
- Management commitment: Management commitment encourages an employee to work with OSH as they feel they are also considered as part of the management and would like to be in the 'good books' of the management.
- Peer Consent: Consent of the peers would motivate a person.
- Disciplinary action: Fear is also a motivation. Employees would adopt OSH if they are aware

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representative from government bodies, health and safety representative or any member of the health and safety committee.

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- all employees under his control are informed, instructed, and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.
    - All subcontractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment. Neither contractor nor any subcontractor shall allow or permit any employee or person to enter any site unless such employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.
    - All visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment.

4.6.2 Project Risk Register

HBC recognizes that the risk register is a robust document, therefore, the mitigating/control measures shall be subject to an annual review and/or updating resulting from any of the following:

- After an incident/accident
- Changes in material/ equipment being used.
- Changes in methodology
- Changes in working hours.
- Changes in regulation, law, etc.
- Changes in design/specification
- Changes in specialized subcontractors
- for any other reason deemed necessary

Detailed project risk register with identified hazards and controls are attached in appendix C. HBC will maintain a risk register at site office, and it will be regularly updated.

4.6.3 Subcontractor Risk Assessment and Method Statement Review and Approval Process

HBC shall review and approve all prepared method statements and risk assessment submitted by subcontractors prior to commencement of works on site. Subcontractor risk assessment which will be submitted along with the method statement such activities will be reviewed and will have prior approval by HBC and then it will be submitted for Client/Consultant Approval.

4.6.4 OSH Risk Management (Design Risk Identification Assessment and Control of Hazard and Effective Management)

If applicable, HBC shall monitor the stages of design, if any, to ensure that OSH is considered during the process. This shall include control measures and mechanisms to demonstrate that OSH has been

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at early stage of a project and continue throughout project delivery.

- Early involvement and effective co-operation of all stakeholders through relevant and necessary information; and
- Clear demarcation of the roles and responsibilities of the parties responsil

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and providing relevant project data on risks at all stages of a project.

Issues to be addressed and rectified at Preliminary Design Stage

- Location and orientation of building structure - whether the design can minimize the level of impact both during construction and afterwards.
- Aesthetic appearance of project structures, with due consideration given to its likely impact to safety of maintenance.
- suitability of site ground conditions — whether there might be contaminated land, high tension cables, gas mains, tunnels, railway lines, etc. near the site which require special consideration.
- Impacts due to construction works, such as tree felling, deep excavations, dewatering,
- Increased traffic, hazardous installations, involvement of asbestos, etc.
- Impacts of the works on adjacent dwellings/schools/hospitals.
- Concerns over the build ability issues, e.g. availability of suitable location for positioning of mobile cranes for maneuvering and lifting of heavy plant and equipment.

Concerns over the maintainability, e.g. access and facilities for cleaning external facades, inspection, maintenance, and removal and replacement of plant and equipment

4.7 OSH Training and Awareness

Reference ADOSH SF –Management system Element 5 - Version 4.0, 15 July 2024, Training and competency

4.6.1 Project Specific Training and Awareness

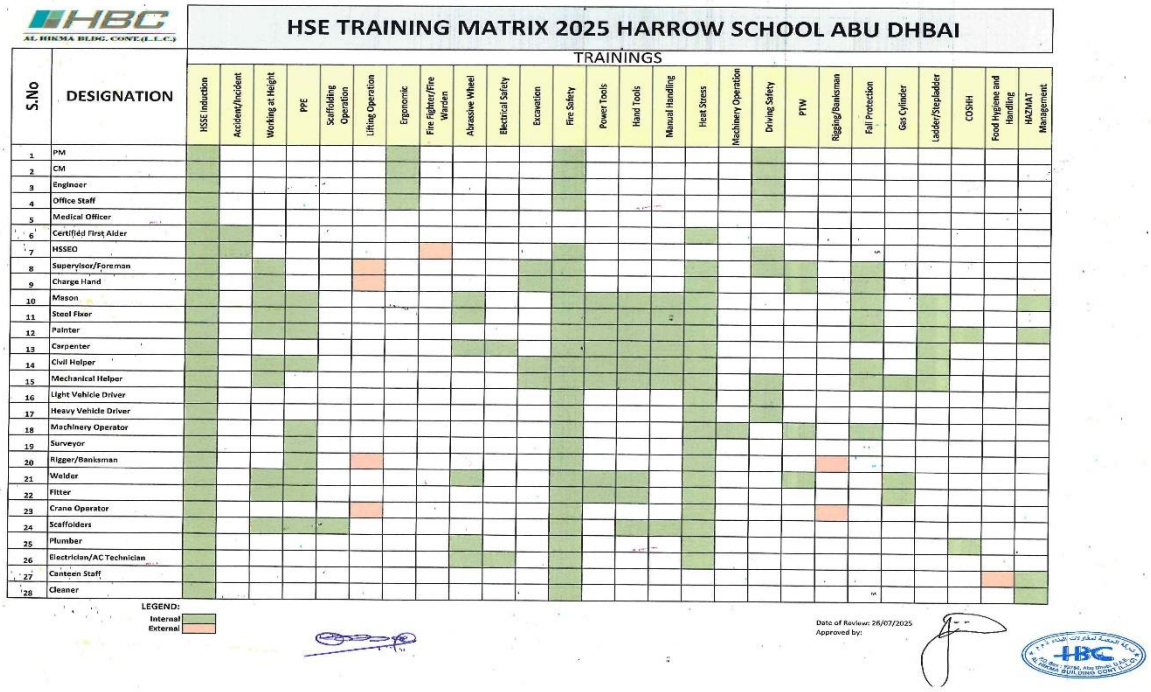
Ongoing OSH training programs shall be implemented. The OSH Engineer shall prepare training programs based on the training needs analysis.

These training programs shall include but not be limited to the following:

- OSH Induction training
- Emergency response training
- Toolbox talks
- Monthly OSH trainings
- Job Safety Training
- Other training as necessary or required.

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TRAININGS

S.No	DESIGNATION	HSSE Induction	Accident/Incident	Working at Height	PPE	Scaffolding Operation	Lifting Operation	Ergonomic	Fire Fighter/Fire Warden	Abrassive Wheel	Electrical Safety	Excavation	Fire Safety	Power Tools	Hand Tools	Manual Handling	Heat Stress	Machinery Operation	Driving Safety	PTW	Riggig/Banksman	Fall Protection	Gas Cylinder	Ladder/Stepladder	COSHH	Food Hygiene and Handling	HAZMAT Management
1	PM																										
2	CM																										
3	Engineer																										
4	Office Staff																										
5	Medical Officer																										
6	Certified First Aider																										
7	HSSEO																										
8	Supervisor/Foreman																										
9	Charge Hand																										
10	Mason																										
11	Steel Fixer																										
12	Painter																										
13	Carpenter																										
14	Civil Helper																										
15	Mechanical Helper																										
16	Light Vehicle Driver																										
17	Heavy Vehicle Driver																										
18	Machinery Operator																										
19	Surveyor																										
20	Rigger/Banksman																										
21	Welder																										
22	Fitter																										
23	Crane Operator																										
24	Scaffolders																										
25	Plumber																										
26	Electrician/AC Technician																										
27	Canteen Staff																										
28	Cleaner																										

LEGEND:
Internal
External

Date of Review: 28/07/2025
Approved by:

The effectiveness of the Trainings shall be evaluated by OSH team through random interviews, mock- up drills, and written exams. Re- trainings will be done if found that results of this evaluation are failing expectations by resolving what is the lapse in the communication and training methodology.

All managers shall ensure that staff and operatives have the necessary qualifications, training and experience to carry out the tasks allocated to them. Training needs must be identified to assure continual improvement and address gaps on specific area. Training needs shall identify based on the analysis of the following:

- Competencies – a set of behavior that describes excellent performance in a job. A major skill, knowledge, ability, attitude, and behavior considered key success factors in the workplace.
- Knowledge – a body of information relevant to job performance.
- Ability – refers to talent, a natural predisposition.
- Attitude – personality pre-disposition that may be taught, learned or altered.
- Skill – demonstration of a particular talent or ability.

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orientation, and methodology training. Whilst external trainings are arranged accordingly based on the recommendation of OSH department and approval of the Project Director, authority requirement compliance and for continual improvement of the team.

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4.7.2 OSH INDUCTION

HBC site personnel and their subcontractors shall undergo initial OSH induction training upon joining the site. The induction training program to be prepared by the OSH ENGINEER shall include core topics such as, OSH Policy, Client safety requirements, relevant OSH regulations, emergency evacuation, hazards of the site, accident reporting, scaffolding, working at heights, and other matters pertinent at the time of induction. All supervisory personnel and operatives shall attend a refresher induction course, as necessary.

HBC shall ensure that supervisory staff are conducting pre-task briefing on daily basis prior commencing the activity at the start of each shift.

Whenever a new employee joins the project the timekeeper/security will direct him to the site OSH Dept. for induction training. Site OSH will carry out the induction training on the basis of the induction training manual. HBC **s**hall ensure that employees, sub-contractors, and visitors to the site are given adequate health, safety and environmental training who enter the site and shall stick "safety induction' sticker on his/her safety helmet certifying the individual has attended the course. Re-induction shall be made whenever there are changes resulting from details indicated in the Section 4.6.2 of this manual or every 12 months.

Only trained and competent workers shall be allowed to carry out the work for which they received training.

All new workers and visitors shall receive induction training including a review of main hazards and OSH rules. Similarly, those transferring from one job or site to another shall be given any necessary safety information. The induction shall be conducted in a language of the majority of those attending.

The induction training shall cover, but not be limited to, the following topics:

- HBC & Client Policy and procedures
- General site rules and regulations
- Security arrangements
- Traffic
- Fire
- Electricity
- Responsibilities
- Environmental
- Welfare
- Emergency arrangements
- Instructions
- Training
- Permit to Work Systems - Work at height, Hot works, Confine Space, Excavation

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- COVID-19 Precautions
- Any task-specific hazards applicable to the inductees.

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An initial induction summary for site safety rules and visitor's induction is provided with this plan. **Refer to Appendix- J for Induction presentation.** Records of all inductions shall be kept using induction Form**.** Refer to Appendix F- for applicable standard forms.

For further clarification on environmental Induction, this shall include the following minimum content.

1. Definition of environment
2. Duty of care of each person involved in the site.
3. Purpose of CEMP and requirements
4. Incident Reporting
5. Waste Management Practices
6. Fuel and chemical usage and storage practices
7. Specific environmental impacts of the project
8. Disciplinary action, outcome, and penalties for failing to comply with CEMP.

Induction training for Client, Consultant & Other Stakeholders

All stakeholders (Client/Consultant/Subcontractors and visitors) entering to HBC site shall be inducted by site OSH.

It is the responsibility of stakeholders (Client/Consultant/Subcontractors and Security) to inform UNEC about any new employee joining in the project and must inform UNEC OSH department for scheduling the OSH induction. The OSH induction training schedule and timings will be coordinated and agreed with above concern parties and will be conducted accordingly.

4.7.3 Toolbox Training

The Toolbox training (TBT) shall be conducted by Project OSH team for specific areas of operation. It shall be attended by workers engaged in the activity. Separate sub-contractor's TBTs shall be conducted as per discipline and trade by the sub-contractor's OSH team.

Toolbox training are held on a weekly basis to discuss the most pertinent safe work practices and CEMP topics or Job hazard Analysis (Risk assessment).

All conducted training must have the necessary proof of record of attendance and reference document that was discussed.

4.7.3.1 Training Procedure Overview

- Step 1 Start
- Step 2 Training Types
- Step 3 Conduct Induction and Training
- Step 4 Identify Training Needs

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- Step 8 Evaluating the Training Program
- Step 9 Monitor and Review

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4.7.3.2 Third Party OSH Trainings

HBC will arrange the following third-party trainings as a minimum for employees through approved training provider (as and when required).

- First Aid training
- Fire warden Training
- Banksman/Flagman Training
- Third party certification for all plant & machine operators
- Rigger Training
- Lifting appointed Person/lifting supervisors
- Scaffold erectors/ Inspector
- Authorised Gas Tester
- Confined Space Training

Subcontractors must maintain the same level of training as prescribed in this plan and a copy of their training records are to be submitted to **HBC** OSH department to ensure compliance with requirements of this plan. Compliance will be checked through inspections and audits.

Training records and certificates will be kept by the OSH department and copies submitted to Client as required. When training is complete, the training records will include the course given, the date it was completed, and the trainee and instructors' name.

4.7.4 Training Evaluation

Competency Training

Reference ADOSH SF – Technical guidelines 10.0 Training, Awareness & competency - Version 4.0 15 July 2024

Training shall be given as and when required to maintain high levels of competency. No person shall perform any job function for which he has not been fully trained and accepted, by testing, with his supervisor. To be competent they must have the training (certified where required by law) and experience to understand when a situation is controlled and what to do if it is not.

OHS Campaign Plan.



Monthly : Example Template Each Month 2025
OSH Proactive Monitoring Program – Al Hikma Building Contracting L.L.C
Monthly Safety Awareness Campaign: Safety In The Heat Prevention

Project – Harrow School Abu Dhabi - Al Saadiyat Island
Drill: Fire Evacuation & Heat Stress Emergency Drills

Sunday-01	Monday-02	Tuesday-03	Wednesday-04	Thursday -05	Friday-06	Saturday -07
Holiday	Weekly Mass TBT , ALDAR Alert Communication'	Toolbox Talk Meeting Daily Routine Inspection	OSH Internal Meeting with TAJV Construction team & Subcon	OSH weekly Joint Inspection at 09.00 Am meeting. at 11.00 PM	Toolbox Talk Meeting Daily Routine Inspection	Internal OSH Meeting
Sunday -08	Monday -09	Tuesday – 10	Wednesday 11	Thursday -12	Friday 13	Saturday 14
Holiday	Weekly Mass TBT ALDAR Alert Communication	Toolbox Talk Meeting Daily Routine Inspection	OSH Internal Meeting with TAJV Construction team & Subcon	OSH weekly Joint Inspection at 09.00 Am meeting. at 11.00 PM	Safety in The Heat Prevention	Heat Stress Emergency Drill
Sunday -15	Monday -16	Tuesday -17	Wednesday 18	Thursday - 19	Friday- 20	Saturday - 21
Holiday	Project OSH Committee Meeting (TAJV-INNOVO) 16-06-2025 at 11.00 AM	ALDAR OSH Management Walk & Monthly OSH Management Meeting Packages 2,3&4 17 Aug 2025 at 09: Am/ 11:00 AM	Quarterly OSH Audit (Package 2&4 – TAJV) Date: 19 Aug 2025 Time: 09:00 AM	OSH weekly Joint Inspection at 09.00 Am meeting. at 11.00 PM	Toolbox Talk Meeting Daily Routine Inspection	Fire Evacuation Drill
Sunday -22	Monday -23	Tuesday –24	Wednesday -25	Thursday -26	Friday -27	Saturday -28

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Training Records
Copies of any OSH related certificates and other proof of attendance (competency) will be kept in the control of OSH Department and can be seen upon request by anyone with a genuine interest. Subcontractors will submit copies of certificates to HBC OSH Department for record. Copies will be transmitted to client/consultant in the project weekly report.

4.7.5 Deliveries

Deliveries Persons delivering plant, materials and equipment shall be given a short briefing on road safety upon their arrival at the security gate. This shall include brief information on traffic arrangements, delivery areas, and any other relevant instructions and be given by Security staff and area supervisors or their appointed representatives.

4.8 OSH Incidents

References – ADOSH SF – Mechanism 6.0 Version 4.0, 15 July 2024– OSH Performance and Incident Reporting, ADOSH SF-Mechanism 11.0 V version 4.0, 15 July 2024- Incident Notification-Investigation and Reporting, and ADOSH SF-Element 7 Monitoring, Investigation and Reporting - Version 4.0, 15 July 2024/ ALDAR OSH/OSHMS 2019 Revision 6.0

HBC will ensure compliance with Client requirements& ADOSH-SF Mechanism 11 requirements in incident reporting and investigation. **HBC** shall report immediately all incidents, work related incidents to Client / Consultant upon occurrence through mobile call, text message or similar. All incidents, including Near Misses and significant potential incidents, shall be investigated, and reported. Initial investigation reports should be submitted to Client / Consultant & SRA within the stipulated time mentioned in Client OSH requirements and ADOSH- SF Mechanisms 11.0.

Type of Incidents

SL	Category		Description
1	Lost Time Injury	Fatality	Work-Related Fatality is a death resulting from an injury or illness, regardless of the time intervening between injury and death.
		Permanent Total Disability	Any work-related injury which permanently incapacitates an employee and results in termination of employment
		Permanent Partial Disability	Any work-related injury, which results in the complete loss, or permanent loss of use, of any part of the body or any permanent impairment of function of parts of the body, regardless of any pre-existing disability of the injured member or impaired body function.

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of shift.

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2	Serious Injury		OSH Injuries requiring notification to SRAs.
3	Serious Occupational Illness / Disease		Any work-related abnormal condition or disorder, other than an injury, which is mainly caused by exposure to factors associated with employment. It includes acute and chronic illness or diseases that may be caused by repetitive motion, inhalation, infectious organisms, absorption, ingestion, or direct contact.
4	Serious Dangerous Occurrence		A significant incident arising out of or in the course of work that did not result in Serious Injuries/and or fatalities but had the potential to have done so.
5	Restricted Workday Case (RWDC)		Restricted workday case (RWDC) is a work-related injury or illness that results in limitations on work activity that prevent an individual from doing any task of his/her normal job or from doing all of the job for any part of the day.
6	Medical Treatment Case		Medical Treatment Case (MTC) is a work-related injury or illness that calls for medication, treatment, or medical check that is administered by a health-care professional and that goes beyond first aid case. Medical treatment case does not result in lost time from work beyond the date of the injury.
7	First Aid Injury		Is a minor work-related injury or illness that calls for only simple "First Aid" treatment and does not call for follow-up treatment by a health-care professional. First aid injuries do not result in lost time from work or work restrictions.
8	Equipment / Property Damage		Work-related incident that lead to Equipment / Property Damage
9	Near Miss		An unplanned event, event series or condition that occurred at the workplace which, although not resulting in any injury, illness or equipment/property damage had the potential to do so.

In the event of a category **1 to 4** incidents occurring, **Notification** "ADOSH-SF – Form G" & **Reporting** "ADOSH-SF – Form G1", will be filled and forwarded to the Sector Regulatory Authority (SRA) Department of Municipal Affairs - Municipality of Abu Dhabi City (ADM)

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HBC OSHMS Incident Investigation Procedure(s) shall be compliant with ADOSH-Mechanism 11.0 – OSHMS Incident Notification, Investigation and Reportin minimum:

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i. Address the process of recording, investigating, and analyzing OSHMS incidents; ensure investigations are performed by competent person(s) in consultation and coordination with relevant stakeholders.
ii. Ensure investigations are performed in a timely manner.
iii. Address the process to determine the root causes of OSHMS incidents.
iv. Identify opportunities for corrective and preventative control measures; and
v. Ensure effective communication of the outcomes of the investigation to relevant stakeholders.
vi. Arrangement shall be made for proper communication of incident or accident investigation lesson learnt throughout the project.

HBC will ensure that.

- All incidents will be investigated by site OSH Manager and an investigation team, which will, gathered for the purpose of the investigation.
- Upon completing the investigation, the investigation team will prepare a written report which will include but not limited to detail of injured or damage, the situation during incident, immediate and root cause of incident, and corrective and preventive action(s) required with time frame.
- The project manager HBC will review the report and forward report as per the agreed protocol to the project management consultant/ client's representative and concerned parties.
- The company investigation team will assist the authority team when a "Reportable Incident" needs to be investigated by authorities such as Police, Civil Defense, SRA OSH Inspector/ Investigator etc.

Incident Investigation Guidelines:

❖ **Incident Investigation**

- Investigation of the incident is led by the OSH team and depending on the category; a member of the operation/ construction team will also be involved. Generally, categories **1 to 4** require inputs from the Site Team throughout the investigation phase.

❖ **Examine the Scene**

- This involves the use of photographs / sketches where necessary to record details of dimensions. The record of the incident scene serves three purposes, firstly it gives the investigator a real idea of the circumstances of the incident, secondly, the information gathered can be used to enhance the investigation report and thirdly it can be a useful tool when carrying out interviews.

❖ **Interviews**

- Conducting interviews on site is preferable as interviewees can point to locations, machines and not have to describe them. Ideally, all interviews will be conducted on site wherever possible.
- In the majority of incident investigations, the main source of information will be the people involved which may include any or all of the following.
  - Those who sustained injuries.
  - Those who caused damage to assets.
  - Witnesses to the incident
  - Managers / Supervisor of personnel involved.

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- Start the interview of the interviewee's home ground (start with things familiar to the interviewee and then move on to det once the rapport has been established)

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- Use language which is appropriate to the interviewee. (vocabulary / sentence structure that matches the intellectual level and verbal competence of the person being interviewed)
- Avoid Multiple Questions
- Avoid Leading Questions
- Keep a positive and uncritical manner throughout the interview.
- Interviewer to begin with a general type of enquiry 'tell me what happened...?'
- The opening description by the interviewee may be disjointed, however it will usually contain those items of information the interviewee considers important. The interviewer to take detailed notes throughout the interview.
- Only when the interviewee has had the opportunity to describe the circumstances in his / her own words should the interviewer try to establish and collect additional information. This is best done by trying to get a chronologically ordered description, ideally from an established timeline prior to the incident occurring.

❖ **Draft Incident Report**

- A draft report is prepared to ensure that nothing has been omitted from the investigation. In particular statutory notifications, suggestions on measures for preventing reoccurrence should be focused on.
- Common weaknesses occur during the preparation of the draft report. Insufficient attention is paid to underlying causes and insufficient creative thought is given to the suggestions for corrective / remedial action.

❖ **Final Report**

- The final report will be issued to the required bodies which may include the Client, Regulatory body, Clients Representative etc. Associated documents may include third party certificates, clinical reports, photographs, police report, sketches, training records, witness statements etc.

❖ **Incident Register**

- The incident register is maintained both on the Project plus in the Head Office.

❖ **Corrective/ Preventive Action(s)**

- Corrective/ Preventive Action(s) are implemented further to the completion of the investigation. All personnel who are accountable for the corrective/ Preventive action(s) are required to take ownership – close out the action(s) plus communicate the information to the project OSH Manager. Additionally, wherever a member of the operation / construction team is a part of the investigation (Dependent on the scale of the incident) that person will lead the close out meeting.

- First aid
- Restricted workdays
- Medical treatment case
- Near miss
- Property/equipment damage

4.8.1.2 Reportable Incidents

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- Serious injury
- Serious dangerous occurrences
- Serious occupational diseases or illness

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4.8.1.3 Preserve the Incident Site and Evidence

- HBC will, as far as reasonably practicable, preserve and not disturb the site where a "Reportable Incident" has occurred until the relevant authorities (Police, Civil Defense, SRA OSH Inspector/Investigator, ABU DHABI CITY MUNICIPALITY, ADOSH Centre Inspector/Investigator, etc.) arrives on site or directs us to take other action.
- But under circumstances if preserving the site may lead to further damage of property or becomes dangerous to workers working around, necessary steps will be taken to restore the site.

4.7.2 Reporting Protocol (OSH Incident reporting)

The OSH Investigation Program defines the procedures which are utilized by HBC in Conjunction with ADOSH/ADPHC- Mechanism 11-OSH Incident Investigation and OSH MS Rev 07 Section 1 Element 10 Hazard, OSH Incident Reporting and Investigation

Incidents need to be relayed through proper notification to the appropriate people. The feedback received will provide information that will help determine the next course of action.

The name and number of Emergency Contact numbers shall be prominently posted, together with the arrangements for notification of accidents (e.g., Contact details for emergency services). Where operations extend outside the normal working hours, a 24-hour number shall be displayed.

HBC shall officially notify of relevant incidents by completing and submitting ADOSH-SF Incident reporting form – Form G (as a minimum) within 24 hours of an incident occurring at workplace which results in fatality and within 3 working days from the date of an incident occurring at a workplace which results in following incident types 9Serious Incidents)

1. Serious dangerous occurrence (Schedule A)
2. Serious Injuries (Schedule B); and
3. Receipt of a written diagnosis or other knowledge of the occurrence of a serious
4. Occupational Illness or Diseases arising out of and in the course of work (Schedule C).

The actual severity and consequences of the notified injury / illness once established based on investigation and diagnosis by licensed health care professional and supported by medical report shall be reported in the incident investigation report to the SRA (Form G1) within 30 days as well as in the entity performance report to the SRA (Form E/E2). This report must always be copied to the Client/Consultant. Any obligatory reporting requirements including all necessary forms and contact numbers shall be identified in the project OSH Management Manual.

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OSH Management System - Section 1 Element 10, 5.3

Hazards and Incident Reporting:
All hazards (Unsafe action or Condition) and incidents (serious OSH and Non-Serious Incidents) shall be reported as

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Thus, to answer the question 'Why report incidents?' three distinct reasons emerge:
• To prevent a reoccurrence by taking appropriate remedial action.
• To comply with legal requirements.
• To provide statistical information for OSH trend analysis.

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In addition, information concerning the causes etc. will be required to bring, prosecute or defend legal proceedings.
and to process insurance claims in respect of injury or damage. It is the responsibility of the SECB and Consultant to
ensure the Principal Contractor is using the appropriate incident investigation report template and the report shall
contain comprehensive information such as but not limited to the following,

- Day, date and time of occurrence.
- Details of person(s) injured/property damaged, name, age, nationality, etc.
- Name of the company who the injured person was working for.
- Project Title.
- Incident brief description.
- Location of the incident.
- Type, location and severity of injury sustained, (location means, which part of the body has been affected)
- Record of witnesses (as applicable).
- Analysis of the immediate, root causes including contributary factors and conclusions.
- Action already taken and further action required.

INTERNAL NOTIFICATION TIME FRAME TABLE

Type of Incident	Classification of Incident	How to Be Notified	Who Must Be Advised		Time Frame
			FIRST: *	SECOND:	
Personnel Accident	Fatality	By the fastest means of available communication, followed by the submission of Notice of Incident Form (NOI) within 24 hours	Project Director Project Manager Construction Manager OSH ENGINEER Emergency Coordinator	Vice Chairman/ CEO Executive Director HR Head Insurance Dept.	Immediately or right after the incident
Personnel Accident	Medical Evacuation Disabling Injury	By the fastest means of available communication, followed by the submission of Notice of Incident Form (NOI) within 24 hours	Project Director Project Manager Construction Manager OSH ENGINEER Emergency Coordinator	Vice Chairman/ CEO Executive Director HR Head Insurance Dept.	Within the next working day Immediately or right after the incident.
Personnel Accident	Non – Disabling Injury (First aid, RWC, replacement.	Notice of Incident Form (NOI) followed by the submission of Notice of Incident Form	Project Manager Construction Manager OSH ENGINEER Emergency Coordinator Workshop Division	Project Director HR Head Insurance Dept	Within 48 hours

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Type of Incident	Classification of Incident	How to Be Notified	Who Must Be Advised		Time Frame
			FIRST: *	SECOND:	
		(NOI) within 24 hours			
Equipment Damage/Loss Property Damage/Loss	Less than 50,000 amounts of repair or replacement	Notice of Incident Form (NOI)	Project Manager Construction Manager OSH ENGINEER Workshop Division	Vice Chairman Project Director HR Head Insurance Dept.	Within 48 working hours
Near Miss	Potential for severe loss	By the fastest means of available communication, followed by the submission of Notice of Incident Form (NOI) within 24 hours	Project Manager Construction Manager OSH ENGINEER	Project Director	No later than 24 working hours
Environmental Impact	Potential for severe loss or damage	By the fastest means of available communication, followed by the submission of Notice of Incident Form (NOI) within 24 hours	Project Manager Construction Manager OSH ENGINEER Emergency Coordinator	Project Director	No later than 24 hours
Other Incidents	Examples: Third Party involvement but not falling under any of the above classifications, un-usual phenomenon, natural occurrences, etc.	By the fastest means of available communication, followed by the submission of Notice of Incident Form (NOI) within 24 hours	Project Manager Construction Manager OSH ENGINEER Emergency Coordinator	Project Director to decide who to notify in the head office.	Within 48 working hours

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Emergency Contact Numbers

Role	Contact Name	Contact Number
Ambulance		998
Fire		997
Police		999
HBC Emergency Contact Details		
Emergency Controller	Mr. Damodhar Zamuni	056-8287679
Sr.Project Manager	Mr. Jan Kuhn	055-1441288
Construction Manager	Mr. M Ibrahim	056-8286965
HSE Engineer	Mr. Damodhar Zamuni	056-8287679
Fire Coordinator	Mr. Sandip Kumar	058 2429396
Site Engineer Office		
Site Engineer	Mr. Abdul Kareem	050-7097056
QA / QC Engineer	Mr. Moustafa Mahmoud	054-7411088
Abu Dhabi Municipality (ADM)	Emergency Number	993

4.7.2.1 Recommendation/ follow-up

Recommendation/s made shall be implemented on the project where the incident happened, and similar activity/is will be done on projects where it has a potential to occur. The Project Manager and OSH Engineer shall make regular follow-ups on the progress of implementation/s of recommendation/s.

The incident shall be highlighted on all projects by publishing Safety Alerts or Bulletins and will be discussed in the next safety meeting. The Project Manager and OSH Engineer shall ensure that everybody will be informed about the incident and ways of preventing its recurrence.

4.7.2.2 Accident Bulletins

To effectively communicate important accident features, an accident bulletin or safety alert shall be issued and posted at all site safety notice boards. Where necessary, this bulletin issue shall need to be forwarded to the head office for circulation to other sites.

4.7.3 Hazards & Near miss reporting

Near Miss is an event that has occurred but has not resulted in injury or a reportable dangerous occurrence but has recognizable potential to escalate or reoccur (possibly with more severe consequences) if no. action is taken to correct or prevent it.

All Near misses must be reported immediately to the relevant supervisor and Project OSH Engineer by the person who observed the hazard or who was involved in near miss. If circumstances prevent

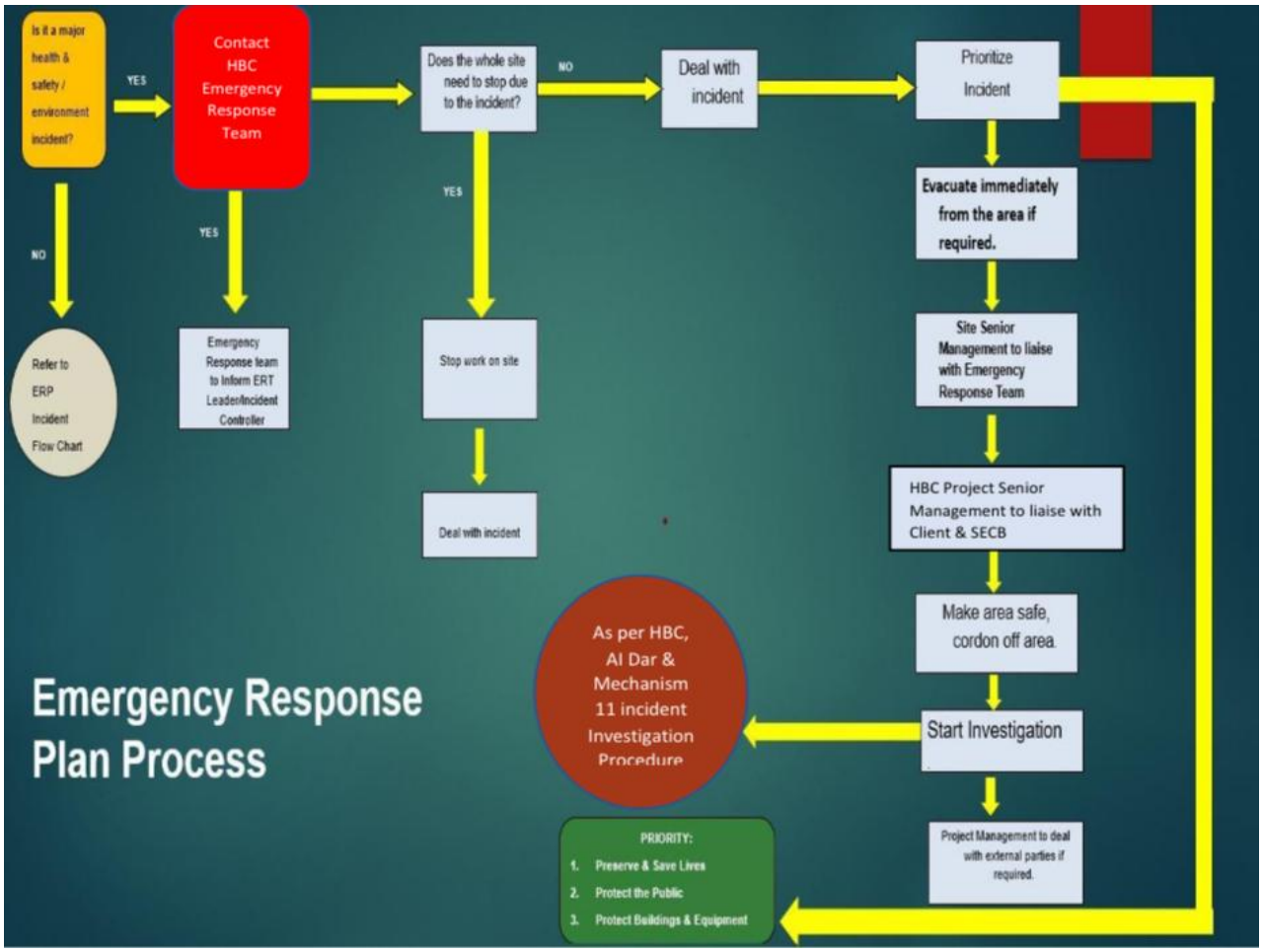
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manager of the work unit.

HBC will conduct training to workers to identify near miss & reporting. ADOSH-S
07 will be followed.

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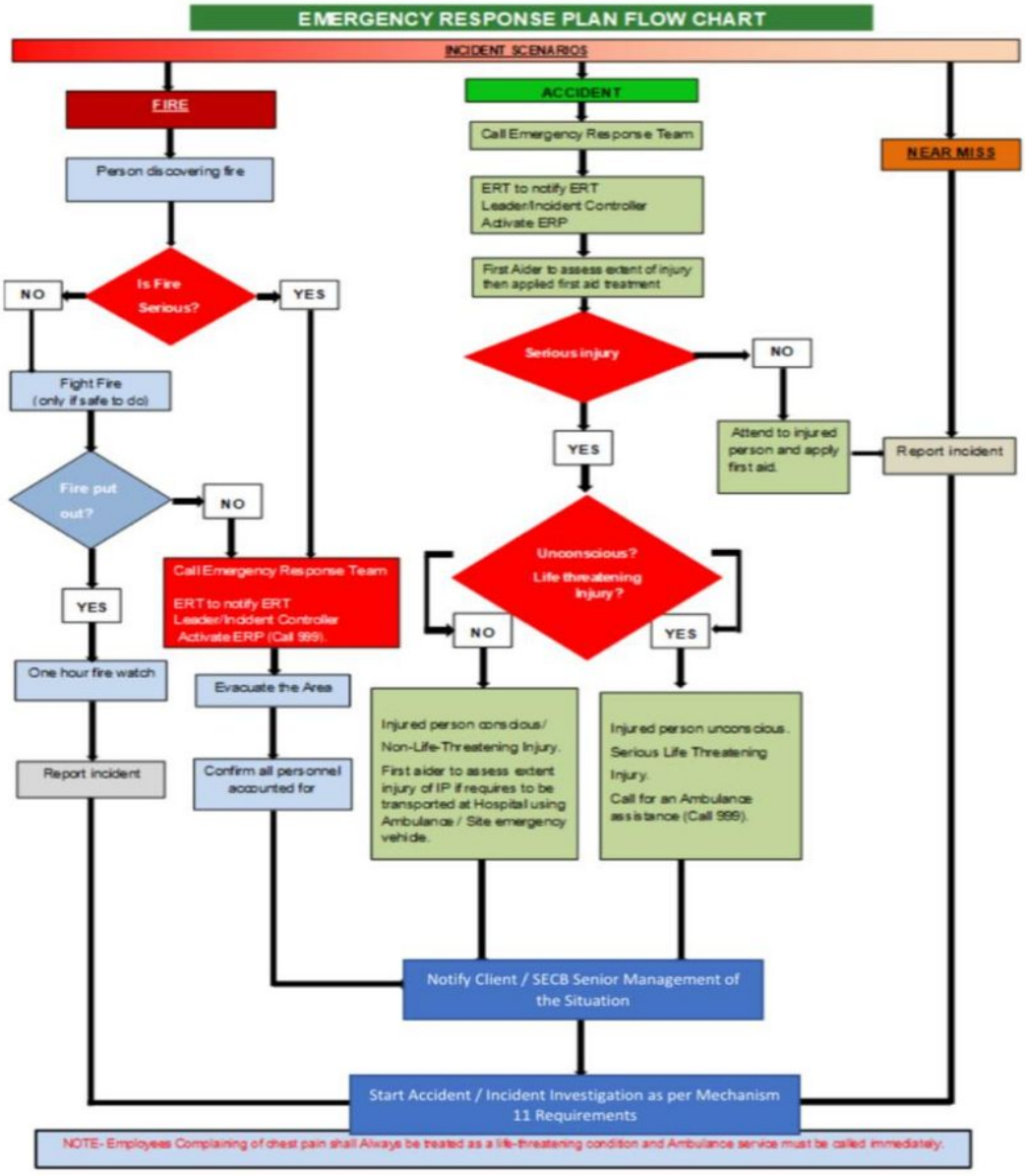
Emergency Response Plan Process



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4.7.4 Incident Process Map



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decisions rests with the management, consultation provides the opportunity for the experience of employees also will be utilized. Consultation also allows for employees to make how to access amenities and accommodation. These will be genuinely considered i meetings.

HBC Managers will follow processes to communicate pertinent health, safety a

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information to and from employees and other interested parties. This will include employee involvement and consultation arrangements to ensure that employees are;

- Involved in the review of procedures and actions to manage health, safety and environmental risks and
- Are consulted about changes affecting work place health and safety
- Have access to safety representation.
- Aare aware of the documentation of these systems and follow up.
- HBC shall ensure their worker competency by choosing the right person for the right job, adequate internal and external training to raise awareness, Daily TBT, regular assessment of the workers shall be carried out.

4.8.1 Employee/Workforce Involvement

A joint project OSH committee shall be formed getting representatives from different workforce level (e.g., worker representative, construction team and project manager, OSH team, subcontractor representatives) and shall have the following functions:

- To involve workforce in OSH related matter
- To get feedback/suggestions/complaints and ideas for improvement from workforce
- To promote OSH culture within the workforce
- Involvement in hazard identification and risk assessment
- Involvement in the incident investigation process
- Involvement in development and review of OSH policy and objectives
- Consultation and Changes that affect OSH conditions.

4.8.2 OSH Meeting

Employee Meetings

Employee Meetings will be conducted on a weekly basis at site induction hall and will be attended by all supervisory staff and OSH team. Health and safety issues and workers welfare issues will be discussed in the meeting. Areas of concern which require management involvement will be highlighted in construction/management meetings.

Regular meeting shall be held during the project lifecycle as follows:

Medium	Frequency	Participants	Record
OSH Induction	At commencement on site	All personnel and Subcontractors	Induction Record Form
Daily Work Prestart Briefings	Daily	Supervisors/ Foremen/Operatives	STARRT Forms/Permit Registers
Tool Box Meeting	Weekly	Project personnel & Subcontractors	Attendance Sheet
Project OSH Site Meetings	Weekly	OSH/ PM/ Project OSH Representative /Supervisors/Foremen/Subc	Minutes
System Review	Quarterly	Team/Supervisors	Minutes
OSH Notice Board	Date posted and date of removal indicated	Project OSH Representative, Project personnel & Subcontractors	Displ prom

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Newsletters	As required	Project OSH. Representative, Project personnel & Head Office	Letter drops, Displayed prominently

4.8.2.1 OSH Committee Meetings (MCM)

Reference: - PROJECTS OSH Management System – Elements SEC 1 Element 6 Communication and consultation

These meetings shall be chaired by SECB/HBC HSSE Engineer and attended by all sub-contractors to review any accidents, Safety Violation, Safety Audits, training program, emergency procedures and other safety specific topics. Minutes from these meetings shall be distributed by HBC to all parties identifying specific action required.

4.8.2.2 Weekly Safety Tour (WST)

A safety tour shall be conducted by HBC Project Management team and Safety Team under the supervision of Client/SECB/Consultant Management/OSH Team. Attendance by the sub-contractors Safety Representatives, site Engineers, trade superintendents and foremen for each site shall be mandatory. Any safety violations or accidents shall be reviewed, and corrective action initiated. Potential safety and environmental hazards shall be analyzed for enforcing preventive measures.

4.8.2.3 Daily/Weekly Toolbox Training (TBT)

The TBTs shall be conducted by OSH Team for specific areas of operation and concerns raised in the OSH meeting. It shall be attended by the workers engaged within the area.

Separate sub-contractor's TBTs shall be conducted discipline-wise and trade-wise, by the sub-contractor's Engineers / safety officer. All records of the subcontractor's TBT shall be submitted to HBC OSH Team.

These toolbox talks shall be held daily prior to start of work for a maximum of 10 minutes. It shall be attended by all operations teams wherein they will discuss coordination works, possible hazards and required mitigating measures to avoid incidents. Subsequently, work permits shall be issued by OSH team based on the outcome of this meeting.

All conducted training must have the necessary proof of record of attendance and reference document that was discussed.

4.8.2.4 Weekly/Monthly Meeting with Consultant & Client

The meeting shall be chaired by a SECB /consultant and/or client and OSH Manager along with key members shall attend. Minutes of these meetings shall be distributed to the Site team

Minutes of the meeting is prepared and issued by the Consultant for this project.

4.8.2.5. Incentive Program.

A gang will be selected by site OSH team based on gang's OSH performance at site and shall

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4.8.3 External/Internal Communication

4.8.3.1 General Communication

To ensure proper dissemination of information derived from internal and external sources throughout the Company. HBC shall describe the methods by which information shall be disseminated by nominated staff as follows:

Internal Communication		External Communication	
Downwards	**Upwards**	**Inwards**	**Outwards**
Policies	Monthly Reports	Fines/penalties	Monthly Reports
Procedures	Incident Investigation	Violation Notice	Incident Investigation
Standards	Inspection/audit Reports	NCR/CAR	Corrective Action
Job Description	Suggestion/Complaints	Complaints	

Proper Communication protocol for above issues is to be followed as indicated in the Project Quality Management Manual either via, transmittal, submittal, memo, or correspondence.

4.8.3.2 Site OHS Notice Board

Effective posting and positioning of posters are essential for efficient information dissemination in elimination of hazards and risks at work and for the promotion of safe working environment. UNEC shall undertake an intensive Poster and Slogan Campaign program.

1. Every month or whenever required by the nature of work, each of the posters shall be replaced with a new and different message; if possible, compliment with the national &/or local observance and activity for the month. Required posters are determined by the OSH Manger/Engineer in coordination with the OSH Committee depending on its appropriateness and effectiveness.
2. Upon a certain length of time, the worksites shall change its type of schedules and activities; further re-evaluation of the posters shall be done in relation with the changes in the operation of the workplaces.
3. All posters shall be registered to a master file that is responsible for monitoring the type, duration, location and the nature of work and the person it deals with. Once the poster needs are identified, the existing ones will be removed or relocated accordingly, and the new materials shall also be posted where it is effective and visible.
4. The following changes will be recorded in the master file. These series of events shall continue pre-qualification, identification, posting, monitoring, assessment, and evaluation onward the project and/or work cycle.
5. Poster materials are pre-qualified or identified according to the type and nature of the project, which includes here the activities, emergency

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Duties and Responsibilities

Implement program and over-all head of the system.	Responsibility
Pre-qualify posters or information needs of the worksite.	OSH Manager
Identify the relevant posters and suitability to worksite and OSH objective.	OSH Committee
Posting of materials to strategic locations. Choosing of areas where it is visible and effective.	OSH Engineer/ Construction Team/ Subcontractor
Monitor, record and update the master file. Documenting the proposals for changes.	OSH Manager
Conducts a study on the effect of the messages and identifying what training and advertisements should be added.	OSH Engineer
Carry out orientation and meetings on the topics or functions of the posters.	OSH Manager/Engineer/ Subcontractor
Assess further and evaluates the effectiveness of the existing posters and the proposed new materials.	OSH Manager/Engineer

4.8.4 Consultation

Involvement of respective stake holders by having collective approach in developing, managing and monitoring of OSH management system shall lead to continuous improvement in providing safe working environment at the project. It shall require an active commitment from all parties to be effective in making sustained improvements. To achieve this consultation shall be process which aims to

- Discuss Health & Safety issues in an open and transparent manner.
- Raise and listen to concerns.
- Seek and share feedback, views and information.
- Enhance decision making by gathering a wider source of ideas and knowledge.
- Agree on solutions.
- Support and strengthen HBC Health & Safety culture.

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- To involve workforce in OSH related matter
- To get feedback/suggestions/complaints and ideas for improvement from workforce
- To promote OSH culture within the workforce
- Involvement in hazard identification and risk assessment
- Involvement in the incident investigation process
- Involvement in development and review of OSH policy and objectives
- Consultation and Changes that affect OSH conditions.

HBC is committed to comply with Client & Consultant and follow with effective implementation as

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dissemination and shall include the following:

- Construction License (within 1 year).
- OSH Policy Statements; Contractor's & Client's.

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- Incident Reporting Procedure.
- Action in the event of Major Incident Notice.
- Site emergency and evacuation Plan.
- Visitors Notice.
- Site Rules; and
- Lost Time Injury Rate (as per ADOSH-SF)

4.9 Monitoring, Inspection and Auditing

Reference - ADOSH SF –Management System Elements 7 and 8, Version 4.0, 15 July 2024

4.9.1 General

To effectively monitor and evaluate the implemented OSHE management system, HBC employees following actions:

- Ensure a systematic and standard approach to OSHMS Audit and Inspection methods.
- Ensure regular OSHMS Audit and inspections are conducted.
- Ensure that OSH non-Conformances are identified, and appropriate corrective action plan is implemented as early as possible.

4.9.2 Internal Audits and Inspection

All management and supervisory personnel are required, as part of their responsibilities, to carry out continual health and Health & Safety surveillance as they go about their day-to-day business and take immediate steps to remedy any defects or unsafe practices, they observe by reported non-conformances and stopping where necessary unsafe working practices. They will not adopt the 'head down-eyes forward' approach.

Formal Health & Safety inspections designed to identify defects, unsafe conditions and practices, and breaches of statutory or Health & Safety Plan requirements will be carried out regularly by the Project Team. In addition, all subcontractors will undertake their own inspections and audits as discussed and stipulated at the Health & Safety meetings. The HBC will additionally require details of short and long term remedial and mitigating actions taken to prevent re-occurrences and will monitor to ensure compliance.

Daily and weekly inspection shall be implemented to verify and subsequently ensure that we are complying with our OSH Management Manual. All records shall be filed as per our project filing system. Below are the list of inspection and subsequent actions to be made:

- Daily site inspections, the observation report shall be submitted to Construction team for arranging the immediate rectifications.
- Weekly OSH site walks and preventive site walks ahead of client/consultant visit shall be with the Project Manager or his deputy, OSH representative, the observation found shall be

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- Fire prevention system shall be inspected monthly by OSH Engine serviceability.

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- Daily inspection and routine maintenance shall be performed on all vehicles, equipment, lifting gear and power tools on a regular basis.
- Non-routine maintenance and inspection shall be done whenever needed.
- The related test and inspection certificates and related records shall be maintained to ensure the safe working conditions are complying with legal conformity.

All inspection regime and inspection reports will comply with HBC SOP and COP, Client/Consultant SECB and also to appropriate local laws and regulations and incorporate a follow up Audit/inspection closeout procedure within acceptable timescales to ensure that any defects identified have been promptly and satisfactorily remedied.

Inspections will cover, as a minimum, the following areas (The Four 'P's):

Property

- Access and Egress
- Housekeeping, including Waste management.
- Services (gas, electricity etc.)
- Working environment, including dust and noise controls
- Fire precautions, escape route and Fire Fighting equipment.
- Adequate and sufficient lighting levels at nightshift work faces

Plant and substances

- Machinery guarding
- Tools and equipment
- Local Exhaust Ventilation (LEV)
- Correct use, storage, handling and separation of materials and chemicals

Procedures

- Safe systems of work, Excavations, Work at Height etc.
- Permits to work, Hot Works etc.

People & Personal Protective Equipment

- Use of the correct PPE, including maintenance People

4.9.2.1 Audits

A schedule of management system reviews and audits will be implemented to ensure that the management system becomes established and is operating effectively. Audit findings shall be collated, and a report produced identifying audit findings and recommendations for the development of the company system. The report of findings and recommendations shall be reviewed with management during the review meetings.

Internal Project specific Audit plan will be developed by Project OSH Team and corporate Projects management office. The approved plan will be provided to Client/Consultant SECB for information

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NCR shall be handled the same way as indicated in Project Quality Management Manual section 5.1 non-conformance report and client complaint handling.

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Identification of non-conforming product initiates a Non-Conformance Report which identifies the nature of the problem, the proposed corrective action, and actions to prevent recurrence of the problem. The NCR will record verification that the agreed actions have been carried out.
Any non-compliance with the requirements of the management system shall be reported on a Corrective Action Request (CAR) Form detailing the nature of the non-compliance, the agreed. corrective action, action to prevent recurrence and verification that action has been taken.
CAR categorized as major shall be closed within 7 days, whereas minor category shall be on agreed date between Auditor and Project Director. CAR approval rate is set at 100% every six months from date of audit.

4.9.4 OSH Monitoring Requirements

Reference - ADOSH SF –Management System Element 7 V 4.0, 15 July 2024

This section shall be read in conjunction with the 4.9 Monitoring, Inspection and Auditing Procedure. Applying reliable monitoring and measurement methods, the conformance of the organization's activities and operations to the applicable occupational health and safety requirements is guaranteed. The OSH monitoring includes many facets like monitoring health & Safety KPI's, describing the workplace environment and describing the infrastructure and the level of prevention. is committed to developing and maintaining the highest practicable standards of occupational health, safety and welfare management, through teamwork and in partnership with employee's clients and consultants.
Any findings resulting from any internal or external audit/Inspection will be evaluated for acceptability tracked, which will include the following information:

- Location
- Action
- Description
- Action source
- Priority level
- Responsible person
- Action taken.
- Target date of completion

Status of audit concerns shall be discussed and monitored during OSH Committee meetings. Copies of signed report noting progress of completion of corrective actions shall be submitted to the consultant on a quarterly basis. Where an action proposed to correct or prevent non-conformity(s) identifies a new hazard or the need for new or changed control measures, the proposed action shall undergo a risk assessment prior to implementation.

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Inspection Regime:

Item	Type of Inspection	Person-In-Charge	Frequency
1	Lifting Machines (Tower Cranes, Mobile Crane)	• ADM Approved 3rd Party Authorized Representative • Plant Supervisor	• Once every 12 months and whenever changes are made. • Daily before operation.
2	Vehicles	• Driver • Plant Supervisor/*site logistic team*	• Daily Inspections before Journey • Once every 3 months
3	Earthmoving Equipment	• 3rd Party Appointed Person • Plant department appointed Person.	• Once every 6 months. • Daily Inspection before operation.
4	Mobile Cranes	• 3rd Party Approved Person • Lifting Supervisor and Operator	• Once every 12 months and whenever changes are made. • Daily before operation.
5	Lifting Equipment	• 3rd Party Approved Person • Lifting Supervisor	• Once every 6 months and whenever changes have been made. • Monthly
6	Mobile Elevating Work Platform	• 3rd Party Appointed Person • Plant department appointed person.	• Once every 6 months. • Daily Inspection before operation.
7	Power Tools and Electrical Equipment	• Competent Electrician	• Monthly • After it has been repaired.
8	Scaffold	• 3rd Party Approved Scaffold Inspector (On-Site)	• After it has been erected. • Whenever changes are made. • After an adverse weather condition. • Every seven days.
9	Excavation	• Engineer • Supervisor	• Right after excavation • Daily • Weekly recorded
10	Temporary Electrical Facilities	• Competent Electrician	• Monthly
11	Fire Fighting Equipment	• Fire Marshal • Safety Officer	• Monthly
12	Fire Detection and Alarm System	• Electrical Engineer	• Monthly
13	Toilets	• Appointed Cleaner	• Daily
14	Site Kitchen	• Appointed Cleaner	• Daily
15	Environmental	• Safety Officer	• Daily

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- OSH Internal Audits – Once in every 6 months
- Management Review meeting – Once in every 6 months
- Evaluation of Sub-contractors – Once in every 6 months

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4.9.4.2 Active Monitoring and Auditing Program

HBC realizes that the key to effective active monitoring is the quality of our health and safety performance standards and specifications which have been established. These provide the benchmark against which the HBC performance can be measured. The HBC measurement process gathers information through the direct observation of conditions and people's behavior, talking to people to gauge views/opinions and by examining written reports, documents and records. These include:

- The systematic inspection of premises, plant or equipment by supervisors, maintenance staff, management, Health & Safety representatives and other employees to ensure continued effective operation of workplace precautions.
- Environmental monitoring and health surveillance to check the effectiveness of The HBC control measures and to detect early signs of harm to health.
- Systematic direct observation of work and behavior to assess compliance with risk control systems and associated procedures and rules, particularly those concerned with risk control.
- The operation of recognized audit systems.
- Consideration of regular reports on health and Health & Safety performance.

4.9.4.3 Health Surveillance

Health surveillance allows for early identification of ill health and helps identify any corrective action needed. HBC will Comply with CoP 5.0 and administer required health surveillance and health screening program. HBC has developed Occupational health screening and medical surveillance based on ADOSH SF CoP 5.0, Refer to Appendix-L.

4.9.5 OSH Reporting

Reference - ADOSH SF –Management system Element 07 Version 4.0, 15 July 2024, monitoring investigation and reporting

HBC project team will adhere to all reporting systems and reports as specified by ADOSH-ADPHC and the client. This includes but not limited to the reporting to the project consultant/Client, Weekly Report, Monthly Reports, Incident Reports and Corrective Action Report. Monitoring shall be ongoing and will be done both by the construction & OSH Team. The ongoing inspection program by the OSH Team Random inspection by joint construction & OSH team Project will be audited by HBC Audit team.

4.9.5.1 Pre-Operation Compliance Reports

Records of hazard control installations, MSRA, PPE Issuance records, Inspection/ Compliance Reports for Plant and Machineries with Competent Certificates, Safety devices calibration reports will be maintained at site.

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The Annual and monthly Health & Safety report will include details of accidents and dangerous occurrences, health and Health & Safety training undertaken, Health & Safety cor

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Safety inspections and audits and any other pertinent matters. The UNEC shall submit an annually/ monthly report detailing the following:

- Number of employees worked on the project.
- Total number of hours worked on the project
- Total number of Fatalities, injuries and illnesses,
- Total number of First Aids cases and Near-Misses (including environmental issues)

Other information as requested by the client.

4.9.5.4 Audit Reports

Audit findings shall be collated, and a report produced identifying audit findings, recommendations, and good practices for the development of the company system. The report of findings and recommendations shall be reviewed with management during the review meetings.

4.9.5.5 Non-Compliance Reports

Identification of non-conforming product initiates a Non-Conformance Report which identifies the nature of the problem, the proposed corrective action, and actions to prevent recurrence of the problem. The NCR will record verification that the agreed actions have been carried out.

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CAR categorized as major shall be closed within 7 days, whereas minor category shall be on agreed date between Auditor and Project Director. CAR approval rate is set at 100% every six months from date of audit.

4.9.5.6 Complaints management reports

HBC shall ensure that employees shall be allowed to communicate their views and complaints within the project OSH Committee Meeting. Duties of the OSH Committee shall include Review of issues and circumstances in the workplace which may affect the health or safety of persons in the workplace, including OSH aspects and impacts; and Promoting co-operation between Management and employees in achieving and maintaining healthy and safe working conditions.

4.9.5.7 Any special reports required by government agencies.

HBC will comply with any special requirement by the Government Agency and prioritize submitting details of any specific reports demanded or required by authorities.

4.10 OSH-CMP Review and Update

OSH-CMP is a live document and shall be reviewed at least every 6 months or after any major accident or major organization changes. It is the Corporate HSSE Engineer responsibility to ensure

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to reflect these changes. This shall include, but not limited to;

- Demonstrate how the company intends to keep the OSH-CMP as a live
  of modification during the project's life cycle and as circumstances dicta

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- Indicate who will review, update, and develop the OHS-CMP as construction progresses.
- Outline procedures for the periodic review of the OSH-CMP to ensure that its, contains are correct and that is being appropriately implemented.
- Any change or update in the OSH CMP shall be communicated to all the concerned parties.

4.11 OSH File

HBC will develop OSH file for the project and shall hand over to the client upon practical completion of the project. The OSH file may form part of the operation and maintenance (O&M) manual developed for the project. The Osh file will be developed in line with the project phasing and shall be reviewed on a continual basis by competent person. The minimum contents for the file shall include:

- A brief description of the work carried out.
- Residual hazards and how they have been dealt with, (Risk assessments, environmental aspects)
- Project directory listing all key parties involved in the project.
- Key structural principal incorporated in the design of the structure (For example bracing, sources of substantial stored energy, including re post tensioned members) and safe working loads for floor and roofs.
- Any hazards associated with the material used.
- Information regarding the removal or dismantling of installed plant and equipment.
- OSH information about the equipment provided for cleaning or maintaining the structure.
- The nature, location, and markings of significant services, including firefighting services.
- Information and as built drawings of structure, its plant and equipment.

5. PROJECT SPECIFIC INFORMATION

5.1 Site Logistic plan and access control arrangements

5.1.1 Control of the boundary of the Project

The Entire project shall have perimeter fencing as per Logistics plan approved by Client/Consultant. The fencing is to be lit inside and will form a solid barrier. The gap underneath the panels are to be filled to prevent access.

No unauthorized signage or display boards are to be erected along the perimeter. HBC will arrange that the fencing is cleaned on a regular basis to ensure a clean site policy is adopted.

Each subcontractor is required to demark their storage areas using a similar fencing. The exact location of compounds or other facilities will be subject to approval from HBC Logistics and OSH

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Project Security Teams 24 hours a day. Contractors will be required to use only t

The gates will have a barrier for access and will be positioned to allow vehicles t

safely.

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5.1.3 Security Checks

- Site Security Will be monitoring the yard for any security hazards, or safety violation and report the same to Project OSH team.
- All the site materials will be checked at the security gate for proper documentation and then only will be allowed to put in the laydown/site area.
- Any material going out of the project will be checked by the security for proper documentation and authorization.
- All vehicles will be checked by security.
- All the employees will be subject to check when going outside the site area.

5.1.4 Visitor Control

All staff should notify the relevant security gate personnel that a visitor is to be expected. Visitors should always carry their entry permit and a means of positive identification and know the name of the person that they are visiting.

Visitors who arrive without notification or without adequate identification will be asked to wait in the Security Compound. Security will attempt to contact HBC and arrange for them to collect the visitor. If security cannot contact the appropriate person, then the visitor will be asked to leave the project. All visits by VIP's should be notified to the HSSE Engineer or Project Manager as early as possible before their arrival on site. Security will arrange to escort any such VIP during their tour of the Project.



5.1.5 Shift work Control of Night Work

- Site Security will Conduct regular site inspections and periodic checks.
- Conducting perimeter patrols of fence lines and patrols of building, public areas to ensure

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- In Case of Emergency as per the requirement, adequate no. of Security Guards will be provided in the working site entry/exits.
- During the time of emergency, security guard will notify or Act upon ap Management Plan.

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5.2 Permit to Work Procedure

ADOSH SF- COP 21 V 4.0, 15 July 2024 Permit to Work Systems

Permit to work procedure will be placed for high-risk activities including but not limited to; Work at Height, Lifting Operations, hot works, excavations, cartridge operation, work on electrical systems, confined spaces.

Activity	Definition	Examples
Work at Height	All work at heights including precast erection, Work near balconies, Work on scaffolds and Roofs including MEP activities	• Scaffold erecting and dismantling, precast erection, MEP activities on first floor/roof etc.
Lifting Operations	All lifting activities where a mobile/tower/crawler Crane used	• Precast Lifting, lifting of MEP fittings. Unloading of steel and other materials etc.
		•
Hot Work	Hot work where a source of ignition is present or where non-intrinsically safe equipment is being use and there is a risk of fire or explosion	• Welding, cutting, grinding. • Use of explosive devices • Any heat or spark producing work
Confine Space	Work in a Confined Space	Personnel entry into a confined space
Cold Work	• Work that could affect the safety of personnel, equipment or risk to the environment. • Any work the does not include a source of ignition	• Ground disturbance / excavation / trenching • Isolation of plant and equipment • Working at heights • Electrical work • Scaffolding (Erection and dismantling) • Pressure testing • Removal / isolation or relocation of safety critical equipment. • Lifting activities

5.2.1 Authorized Personnel for Permit Issuance

People given authority to issue permits to work need to be chosen carefully and they MUST:

- Have an intimate knowledge of the activity and the hazards likely to be encountered
- Have demonstrated a responsible attitude to safety.
- Be a person who is prepared to admit ignorance and consult if in doubt.
- Be mature and senior enough to resolve the conflicts arising between the pressure to produce and the need for safety.

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5.2.2 Permit Request for Planned Works

Permit Requester is advised to submit the work permit request form one day prior to the scheduled day of work as not to delay the commencement of work. A copy of this request should be given to the Supervisor before any kinds of work take place.

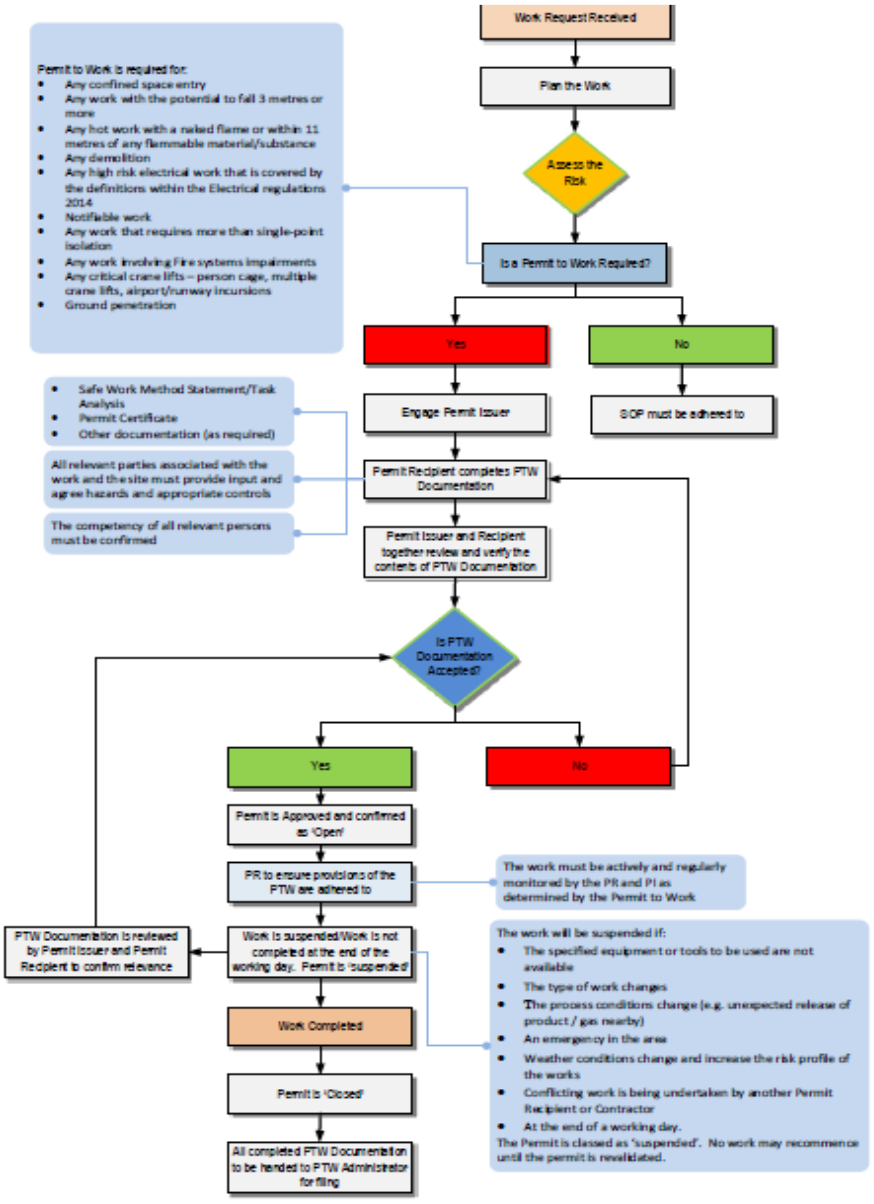
The purpose for one day ahead submission is to allocate sufficient timeframe for the operation personnel to prepare the equipment and area. For a complicated nature work, prior discussion should be held between the permit Requester and the permit issuing parties to outline various hazards involved and the precautionary actions to be taken to eliminate them, before any request is made. The permit Holder should make subsequent arrangement to have the necessary safety and protective equipment on site as soon so that the permit can be issued without delay.

The OSH staff shall counter- review and verify thoroughly the preparation (including safety precautions taken and fire- fighting measures) before he is satisfied and agree to issue a PTW to permit holder.

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PTW FLOW CHART



5.3 Traffic Management Plan

Reference - ADOSH SF COP 25.0, Driver Fatigue Prevention V 4.0, 15 July 2024, COP 44.0, Traffic Management and Logistics V version 4.0, 15 July 2024 and 53.0 - OSH Management during Construction Work V 4.0, 15 July 2024

5.3.1 Construction Vehicle Movement

The effective management of construction vehicle movements on site and throughout the road

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measures for minimizing and/or restricting use of local roads by heavy vehic
reasonable and practicable. Detailed Traffic management plan in reference to AD
be developed and submitted for Client approval prior to implementing on site.

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The types of construction vehicle movements may include:

- Deliveries of materials, supplies, plant, or equipment to site.
- Transportation of loads.
- Haulage of materials on and off site associated with earthworks operations.
- Deliveries of concrete \ from batching plants
- Regular trips by construction personnel in work trucks and utility vehicles.

5.3.2 Vehicle Hazard Control

- Educating drivers; and
- Regular toolbox meetings are held to discuss on-site vehicles movements.
- Installation of warning devices on vehicles
- Design and implement safe access points.
- Provide an efficient and well-maintained vehicle fleet.
- All plant is fitted with the appropriate flashing yellow lights, reversing alarms, horns.
- Access tracks are clearly defined, and sign posted.
- Pedestrian tracks and crossing points are defined and clearly sign posted.
- Pedestrian and vehicles routes shall be segregated, one-way traffic systems shall be implemented so far as is reasonably practicable.
- Where possible, large plants, are separated from small plant item.
- Workers do not operate within 10 meters of moving plant.
- Spotters and Traffic Controllers are positioned when workers are operating in close proximity to access tracks and plant.
- Appropriate warning signs are installed on the approach to hazards.
- Where necessary appropriate temporary traffic controls are installed.
- Consideration is given to the installation of reduce on-site speed limits (i.e., maximum of 20km/h whilst passing workers on foot).
- As necessary, delivery vehicles are to be escorted whilst proceeding on-site.
- Reversing is prohibited unless under competent supervision.

5.3.3 Pedestrian Access

Identifying Pedestrian access and crossing needs When planning construction activities, HBC will maintain an accessible corridor that provides at least one safe path of travel for all pedestrians so far as is reasonably practicable. While planning the pedestrian access the Project team will consider the:

- Number of pedestrians.
- Type of pedestrian activity
- Origin and destination points of the pedestrians, and their desired travel path

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physical access to hazardous areas and for site security, which will be appropriat

- Various types of temporary and semi-permanent fencing may be insta
  water filled plastic delineators, and the like. All physical barriers must be

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the Project and appropriately secured to prevent injury to the public.

- Providing Temporary Footpaths where the work areas restrict access to existing footpaths, HBC will be required to develop and implement alternative routes and facilities.
- Alternative facilities may include footpath protections such as barriers or a speed reduction to ensure adherence to minimum lateral clearances to traffic.
- Provision of temporary footpaths through the work area. All temporary footpaths will be required to be:
    - Clearly defined.
    - Signposted appropriately to indicate the direction of the footpath constructed of an all-weather surface, free of trip hazards; Designed to accommodate the type of pedestrians to be encountered within the area.
    - Provided with pram ramps, handrails and street lighting where required.

5.3.5 Signage

All signs are required to be maintained in good condition for the full period of display and are required. This issue requires the project team to address the location of the following:

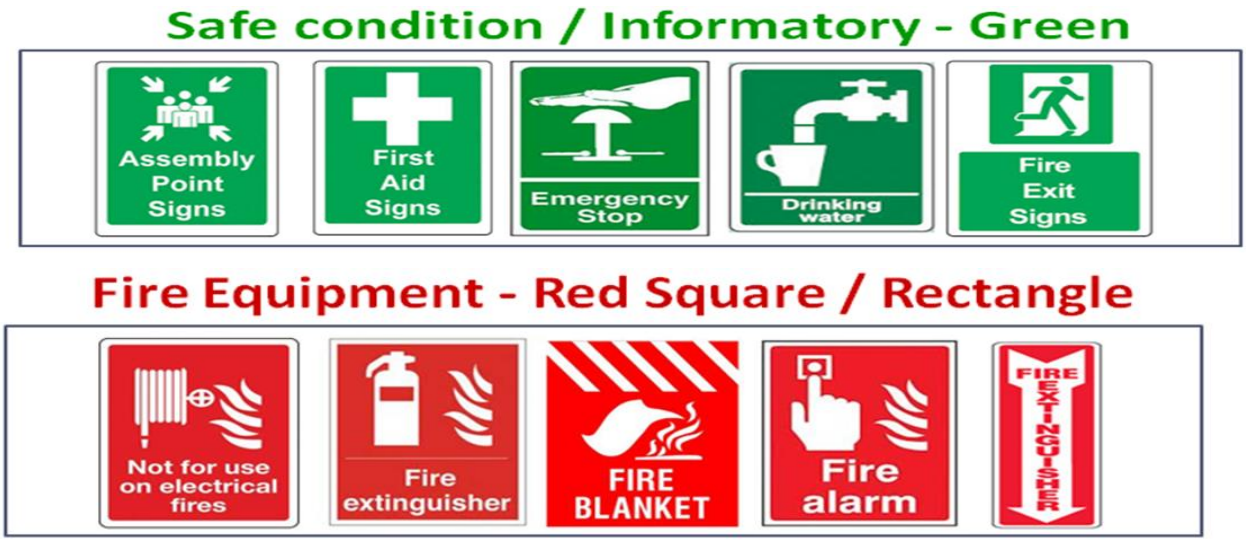
- Information Signs
- Distance Information Signs
- Advance Warning Signs

HBC shall manage the speed of traffic approaching and passing through a work site and address the varying of speed limit signage through construction speed limit signs.



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5.3.6 Vehicle Access

All vehicles working on the project are required to display their access pass on the windshield. These will be checked by the Security Team.

Vehicles not displaying an access pass will be stopped by Security and the occupants will need to validate their reason for wishing to access the Project site. Vehicles may be requested to wait in the Security Compound area until verification of the authority of the occupants to be on site. To prevent this delay, it is advised that any visitors are notified to bring appropriate identification, and their visit is notified to the Security Team in advance. You will be denied entry if you are not in the scheduled entry log.

Any vehicle that in the opinion of the Security Staff, fails to meet reasonable roadworthiness standards will not be permitted to access site. Visual checks will include.

- All lights and indicators complete and in working order.
- Tires in good order
- Chassis not buckled.
- Load secured safely and not overloaded.
- Mirrors in place and not damaged
- Rotating amber beacon on all plant working and to be used at all times on site.
- Reversing beeper working on all plant

Large or heavy loads must be coordinated with the OSH Teams. Notification should be made in writing in advance so that necessary alteration to road layouts or work plans can be accommodated, if required. Delivery timings and applicable restrictions will be implemented as per project management and client protocols.

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construction or work area. Vehicles and plant will enter and exit these ar
direction, as far as possible. In addition, Subcontractors will ensure th
vehicles are equipped with audible reversing alarms.

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- Clear signs, flagmen and signals will be set up where necessary.
- Access will be maintained, and speed limits will be established and enforced over all construction traffic rules.
- Ambulance and fire services will be consulted regarding road diversions. Road diversions will not increase the response time of these services to local communities.

5.3.8 Traffic Rules and Regulation

- You must not drive a vehicle more than the posted permissible speed limit.
- Reduce your normal speed limit in traffic congestion or bad weather conditions.
- Always keep a proper distance from the lead vehicle to avoid accident.
- When overtaking, ensure that there is sufficient gap in front of the opposite lane where you intend to move
- Before changing lanes, indicate correctly and make sure that the move can be done safely. Indicate for 2 to 3 seconds then change lanes gradually, then turn off indicator once you complete the lane change.
- The driver and the person seated beside the driver must Wear their seatbelt at all times
- Use of cellphone while driving is prohibited.
- At an intersection, stop and check if it clear before crossing.
- Always give way to pedestrian and equipment
- Always obey the directional signs
- Do not drive if you are exhausted or tired.
- Do not turn on your hazard lights while driving in fog, hazard lights should only be used when the vehicle is stopped for emergency purposes.
- Never drive on hard shoulder, these are provided only for the use for emergency vehicles.
- Always turn on headlights while driving at night/ low- lit conditions or when the view is unclear.
- Do not directly look at oncoming headlights.
- High beam lights should only be used on roads that do not have overhead lights
- Always slow- down while driving through a work zone.
- Always follow the work zone speed limit and try to maintain a consistent speed with the traffic flow.
- When an emergency vehicle is approaching (e.g. police, ambulance, and fire truck) is approaching you from any direction and is sounding the siren, you must give way for it to pass safely.

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- Do not park in the following conditions:
  - At places where there is no permission to park
  - At pedestrians crossing
  - Next to curves, In a one lane road

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5.3.9 Buggy/ Desert Bike Operation

- Buggy/Desert Bikes are not allowed at site currently.

5.4 Material Storage Plan

Reference - ADOSH SF COP 44.0, Traffic Management and Logistics - V 4.0, 15 July 2024

5.4.1 On- site materials storage

The Construction Manager will closely coordinate with relevant departments to ensure long lead items are brought to the site at the correct time and not stored on site, which makes them vulnerable to damage or being constantly relocated.

Material storage plans will be produced and agreed with all contractors. The construction manager will sign any delivery requests to ensure the correct amount of material is brought to the site and at the correct time.

No materials shall be stored on access roads or pedestrian routes or outside the project boundary.

5.4.2 Material Handling

All materials shall be packed in a suitable manner so that it can be moved using the plant on site. Contractors and suppliers shall be instructed use pallets as practicably as possibly for all items.

Stacking of pallets can only be 2m high and on level ground. Block pallets must be fully banded before moving. Pallets must not be overloaded. Excess empty pallets are to be removed from site immediately.

5.4.3 Overloading

Loads should be carried in accordance with the appropriate local Regulations and any necessary signs etc., are to be in accordance with any statutory requirements. The appropriate documents shall be available in the cab. Loads on vehicles shall be adequately secured and the vehicle shall not be overloaded.

Following additional control measures will be followed for material storage.

- A concrete hard-standing area is provided for the storage of palletized materials.
- Palletized materials are stacked no more than 2 pallets high or in accordance with manufacturers recommendations (whichever is less).
- Appropriate space is allowed around storage areas for employees to move around safely without the risk of being trapped between stacked materials and walls or barriers.
- Storage areas are defined using barriers and signs.
- Arrangements are made to ensure the safe loading and unloading of materials to and from storage areas
- Storage areas are maintained in good order at all times.
- Ensure all hazardous substances are stored in accordance with the manufacturer's

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5.5 Identification and management of Asbestos & other hazardous substances

Reference - ADOSH SF COP 1.0 Hazardous Materials V 4.0, 15 July 2024,OSHMS Rev. 6

In the HBC project scope we are not using any Asbestos based materials for construction

and use of ASBESTOS is banned on Projects.

Asbestos is hazardous and its use has been banned. It is particularly hazardous when it erodes and

the fine fibers enter the atmosphere to be inhaled by unprotected personnel. Asbestos related

products should not be brought onto the construction site unless specifically approved by Company.

If any asbestos-based material is noticed on site, it should be immediately reported to Project OSH

department, client/ Consultant to ensure ADOSH/ADPHC CoP 1.1 Compliances.

5.6 Site OSH Cardinal Rules

All employees shall adhere and abide by the following safety rules:

- This is a hardhat site.
  - Eye, ear and respiratory protection are to be issued when the task requires and must be worn.
  - Trousers and short sleeved shirts are the minimum dress code requirements for the office staff and overalls for all labors
  - Safety footwear must be worn (minimum requirement of toe protection).
- High visibility jackets must be worn as an outer garment by all Site Staff and labor.
- Where there is a risk of cuts and abrasions to hands gloves must be worn.
- Know the Emergency evacuation procedure and where the assembly points are.
- Access to the site can only be obtained with relevant security passes.
- All personnel are to attend HBC 'Toolbox Talks' on a weekly basis
- All injuries, however trivial, must be reported and recorded in the Site Accident Book. First aiders - Know who and where located and how they are identified.
- Diabetics, asthma, epilepsy sufferers and persons using drugs for medication are required to report their condition to their managers to allow suitable work to be allocated. This information will be treated confidentially.
- Alcohol, Drug and Solvent abuse is not permitted on site at any time. Anyone suspected of being under the influence of alcohol/drugs/solvents whilst attempting to enter the site will be refused permission. Anyone found on site under the influence of alcohol/drugs/solvents will render the offender liable to disciplinary action, which will involve removal from site.
- A high standard of housekeeping must be maintained with rubbish and debris being cleared from the building to skips on a daily basis. Keep welfare facilities clean and tidy, and put all

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welfare facilities.

- Radios and Walkman, personal stereos or any other activity that can dist from activities on site, etc. are not permitted on site.

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- Do not indulge in horseplay.
- Urinating or defecating on site except in the toilet facilities provided is strictly prohibited.
- Have due regard for others safety, workplaces, and respect another contractors' work.
- Keep your workplace tidy and do not leave materials or equipment where people can fall over them.
- Do not attempt to lift any load which is too heavy for you. Get help.
- Under no circumstance must any person interfere with or misuse any item of plant or equipment provided for the Health, Safety and Welfare of site personnel.
- Any person found abusing or damaging any work, equipment or the welfare facilities will be removed from site.
- Anyone who discovers faults with any plant, machinery or working areas must report this immediately to an HBC supervisor.
- Method Statements which cover the health, safety and environmental requirements for each operation are to be issued to all Site Operatives. If you are in any doubt, please ask to see a copy of the Method Statements for that activity.
- Plant is only to be operated by trained, competent, qualified personnel aged 18 or over. Copies of Certificates of training and ID are required to be maintained in HBC offices.
- The Project has a speed limit of 20km/h on the approach road and 10Km/h on site.

5.6 Emergency Management

Reference - ADOSH SF COP 4.0, V 4.0, 15 July 2024, First Aid and Medical Emergency Treatment, ADOSH SF Management system elements Element 6- Emergency management & OSHMS Rev 7

Type of emergencies can be but not limited to:

a) Fire/Explosion
b) Medical emergencies
c) Major Spillage (Chemical/Fuel)
d) Major Vehicle/plant accidents
e) Collapsing of work platforms, excavation, fall from height, suspension trauma…etc.
f) Natural calamities such as heavy sandstorm, thunderstorm…etc.
g) Any other activity/ occasion/ may require evacuation

Procedure

All employees will be fully inducted before entering site and are fully aware of evacuation plan and nearest escape route. In case of an emergency the following actions will be carried out by fire warden:

- Assess the situation, raise alarm system and inform chief fire warden of the area.
- Assess the situation and evacuate all staff/operatives from the affected area/building
- Stop all activities, as per the Emergency and Evacuation Plan.
- Turn off all equipment, if safe to do so, direct all people through the safest route to the assembly point.
- Ensure that you are safe and no harm may come to you before trying to help others

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- Project Manager will inform consultant, client and company management…etc.
- Emergency services such as ambulance, police and civil defense will be Project Manager or by site OSH Engineer as per the situation
- Site OSH Engineer will alert all gate security to receive the emergency tea to the location.

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- Safety Driver will guide the emergency team from gate to emergency area

5.6.1 Facility Layout (Floor Evacuation Plan)

HBC shall ensure display of facility layout map that shows sufficient detail to enable rescue services, workers, and the employees to find power shutoffs, fire protection devices and emergency exits. Maps shall be reviewed and updated on a regular basis.

5.6.2 Emergency Coordinator

An Emergency Coordinator (from HBC) and deputy coordinator (from any other company) shall be voted by the OSH Committee. The Emergency Coordinator and in his absence, the deputy coordinator, will oversee the Emergency Action Plan. The Emergency Action Plan shall include contact information of the Emergency Coordinator, deputy coordinator and all members of the emergency response team.

Emergency Coordinators should:

- Review the Emergency Response Plan
- Know the locations of evacuation map and Assembly Points.
- Primary and alternative evacuation routes, fire alarm pull stations, fire extinguishers and emergency exit nearest to your work area.
- Quickest route to nearest hospital
- Monitor and replenish first aid supplies
- During evacuation do headcount / attendance sheet and maintain the records

The Emergency Coordinator shall build the following team for this Plan:

1. **Core Committee**- shall be composed of the Construction Manager, OSH Engineer, Safety Advisor, Administration Officer and one representative from major subcontractor and the Consultant. This team shall be responsible for formulating the emergency program which will include training and awareness, determining supplies required, leading the drills, evaluating effectiveness and re-assessments of plans depending on site conditions.
2. **Contingency Team-** these are the people recommended/ nominated by the Core Committee to be trained and subsequently certified to be the first- aiders, fire marshals and fire inspectors for the project. Contingency team must have the following basic characteristics:

- Can perform well under stressful conditions
- Can lead and decisive
- Takes responsibility seriously
- Mentally and Emotionally- stable
- Quick- thinker and always have presence of mind

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OSH Engineer shall ensure that the latest Emergency Action Plan is distributed on time to all concerned parties working in the site to minimize danger to life, damage to property in the event of an Emergency. Transmittals shall be maintained as proo

The Emergency Action Plan shall consider health, safety and environment risks c

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- Serious or life-threatening injury
- Entrapment
- Fire e.g. Rubbish fire, electrical fire, oil fire, gas fire.
- Radiation
- Chemical spill
- Natural disaster
- Power failure
- Civil disorder
- Security Risks

5.6.4 Emergency Response Team

OSH Core Committee Shall Ensure that an Emergency Response Team is assigned with specific responsibilities in the event of an emergency. The responsibilities of the Emergency Response Team within its premises shall include, but not limited to:

- Procedures for shutting of utilities in coordination with qualified UNEC electrician.
- First Aid.
- Contacting emergency services
- Control of traffic, onlookers, security.
- Medevac

The Emergency Coordinator shall direct the Emergency Response Team and coordinate activities of Emergency Plan. The contact details of Emergency Response Team shall be indicated in the Emergency Plan.

During emergency situations the Emergency Coordinator will request all assistance be given by all parties involved in the project and it is expected that they will become instantly available. The Contingency Team are to be equipped with a minimum of the following equipment to enable them to carry out the tasks:

- Service vehicle
- Light Torches
- first aid equipment/ Spill kits
- flashing amber lights
- cell phone with Camera
- 4x rolls warning tape

All the equipment must be kept in the vehicle which must be always available without delay

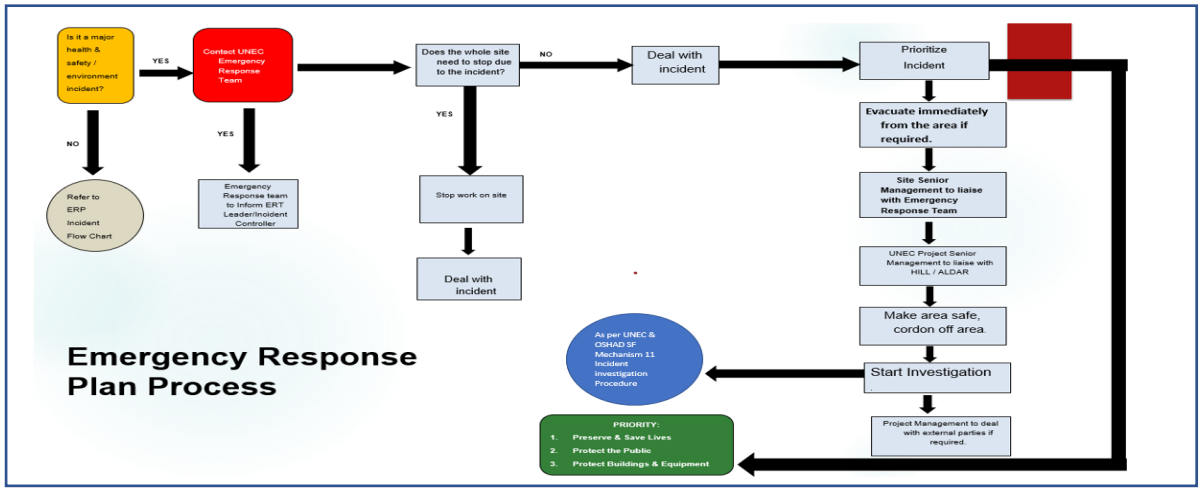
5.6.5 Emergency Communication

HBC shall ensure that employees are able to respond and report emergencies. Basic information for

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- Urgency of the emergency (out of control, nearby, explosive materials, etc.)

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5.6.7 Security

Security procedures must be adhered with that address facility access, crowd control, security staff needs, and traffic control.

- Depending on the level of threat or Emergency and on receiving authorization from HBC Project Director or Manager, HBC reserves the right to check baggage and/or vehicle of any person, staff and visitor entering the site and if required restrict access.
- Any person working during unscheduled hours and at nights, which is not part of the night-shift team, within the site must inform security of their presence within the premises.
- Any party involved in the project shall ensure that during or after an emergency, only authorized personnel are permitted to enter the site and facilities. This condition is not applicable for authority representative involved in the emergency. E.g., police, ambulance, Civil Defense, etc.
- Ensure no press access the site.
- Maintain one lane for emergency traffic flow in and out of the site as required.
- Assist in the control of the Inner Security Area
- Guide Emergency vehicles to the incident where required.
- Maintain communication with Emergency Coordinator where required and notify of any approaching emergency vehicle.

5.6.8 Emergency Training

HBC And Its Subcontractors shall implement an educational program based on this section. This program shall include an overview of the components of the emergency preparedness plan and

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conducted upon reporting to their assigned company or group. All companies shall ensure that a minimum of 1 trained fire warden and first aider is available, and all their emplo

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with orientation and training in terms of their responsibilities during an emergency, the locations of exit routes, alarm signals, fire extinguisher locations as well as hazardous material information.
All subcontractors shall forward the training records and names with contact details of their fire warden and first aider to the QOSH Department for inclusion in our Emergency response team.

5.6.9 Emergency Drills

- All project staff, visitors, Contractors, and subcontractors are required to participate in the emergency drills as scheduled, coordinated and conducted in coordination with the Consultant and Client on site.
- Following each drill, observations will be made to suggest improvements to the Emergency Response system and to identify any additional training needs.
- All participants must ensure that corrective actions for observations made during drills are completed with the stipulated time frame and communicated to OSH.
- These drills will be conducted to allow employees to practice emergency procedures under simulated conditions.
- In addition, all participants must ensure that they are familiar with Emergency procedures and must coordinate and participate in all planned / unplanned Exercises organized by the OSH department. Non-compliance with emergency procedures will be contravening Civil defense regulations.

5.6.10 Emergency Mock drill Schedule

SN	Emergency	Frequency
1	Fire and evacuation	Minimum twice a year
2	Medical Emergencies	Minimum once a year
3	Labor Strike	Once in 2 years
4	Spill of hazardous material	Minimum once a year
5	Any Other as per Project OSH Objectives & Target Plan	

Periodical mock drills to be conducted to check the effectiveness of the management procedures and records to be maintained and documented. Project Specific Drill Schedule will be prepared and shared with client/ Consultant for information and records.

5.6.11 Preparedness

The ability of all involved in the site to act quickly and decisively at the time of an emergency is dependent, in a large part, on the actions taken before an emergency occurs. Staff, both direct and indirect, and subcontractors are encouraged to implement the preparedness actions listed below, and to become familiar with their roles and responsibilities during an emergency and in the

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5.6.12 Emergency Specific Guideline

Emergency events include natural disasters (Heavy rains, Dust Storm, Strong wir
events such as fire, medical emergencies, and labor strike. This section outli

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mitigation and response actions that will be taken for those emergency events most likely to impact HBC and its Stakeholders.

5.6.13 FIRE- General Emergency Evacuation

Person discovering the Fire should:

Step	Description
1	Alert others in the area.
2	Notify Direct Supervisor for the Area.
3	Supervisor to Call Emergency Contact persons as per Emergency Plan. Provide the following information: - Zone and Building number with Exact location - Name and Company of caller - Size and type of fire.
4	Attempt to extinguish fire with fire suppression equipment only if it is small fire and you can do so safely. If the fire cannot be readily extinguished, evacuate immediately and await the designated emergency team to quickly guide them to the area.
5	Emergency Coordinator to contact the necessary authorities if beyond the control of our emergency Contingency team. See Appendix C for contact details.
6	General Evacuation Procedure
	Upon Activation of sounding Alarm, all concerned should: - Leave the area immediately using the nearest emergency exit. - Close all doors as you exit. - If you encounter smoke, find an alternate exit or place cloth over mouth and nose to make breathing easier. Crawl along the floor, close to walls to help provide direction to the exit. - If you are trapped in a room, place cloth material (dampened if possible) around or under door to prevent smoke from entering. Use masking or other tape (if available) to mark a large 'X 'on a window which will serve to notify emergency team of your presence. - Before opening any door, place hand one inch from door (DO NOT ACTUALLY TOUCH DOOR) near top to check for heat. If the door feels hot to touch, fire or smoke is on the other side and the door should not be opened. - If forced to advance through flames, move quickly, cover head/hair; keep head down and eyes closed as much as possible. - Once you have safely evacuated, move away from building, and proceed to the designated assembly points and report to your emergency coordinator. - Do not re-enter the area until advised it is safe to do so by your emergency coordinator or by government rescue officials
7	Report the incident to Authorities, Client/Consultant immediately and carry out investigation, as needed. Refer to OSH Incident Reporting – Section 4.7.2 of this Plan

5.6.14 Medical Emergency/ Medical Injury/First Aid Cases

Person discovering the Medical Emergency should:

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	- Zone and Building number with Exact location. - Name and Company - Nature of Emergency

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3	Emergency Coordinator to contact the necessary authorities if beyond the control of our emergency Contingency team. See Appendix C for contact details. Do not hang up until advised to do so by the dispatcher
4	First-Aid Contingency team to be mobilized by the Emergency Coordinator to provide first-aid care until emergency services arrive.
5	Designated person shall meet arriving medical aid unit and direct them to the scene.
6	Emergency Coordinator to arrange for immediate securing of the scene for investigation purposes and crowd control. Care should be practice by the OSH team to do behavioral observation of all personnel who witnessed the incident to adequately address any obvious psychological/ emotional effect of the accident.
7	Report the incident to Authorities, Client/ Consultant immediately and carry out investigation, as needed. Refer to OSH Incident Reporting – Section 4.7.2 of this manual
8	Once collection of evidence necessary to provide appropriate Accident report. Emergency Coordinator to send for clean-up and disposal of blood contaminated items.

5.6.15 Labor Strike

Strike: means the partial or complete concerted refusal to work, or the retardation or obstruction of work, by persons who are or have been employed by the same employer or by different employers, for the purpose of remedying a grievance or resolving a dispute in respect of any matter of mutual interest between employer and employee, and every reference to "work" in this definition includes overtime work, whether it is voluntary or compulsory.

Person near a labor strike:

Step	Description
1	Notify Direct Supervisor for the Area and Leave the area immediately. Do not argue or engage in conversation with participant(s)
2	Emergency Coordinator shall call the authorities directly if the labors are causing damages and misbehaving towards non-strikers. Otherwise, with the approval of the Project Director, attempt to discuss their demands and how to go about resolving it.
3	Security and Protection - Consider whether there is a need to alert the police department. - Consider services required from local law enforcement and fire prevention agencies to protect working employees and property, including maintaining access to the worksite and cars in the parking lot. - If the situation turns violent or weapons visible, immediately lock all doors. - Remain in your office or work area. Stay away from windows and exterior doors - Remain inside building/ offices, unless instructed by Security or Abu Dhabi Police. - Always carry your company ID, as most buildings are placed in surveillance during duration of the event
4	Administrative and Personnel Matters a. Analyze the cause of the strike or work stoppage. b. Determine whether to go for emergency suspension of operations. Remind employees in the work area of their no-strike obligation and advise them that a work stoppage violates, law, and subjects them to legal penalties, including discharge from employment and terms c. All Supervisors shall record the names of all persons in their team that joined the labor strike for subsequent submission to the Project Director d. Determine how to handle paychecks for striking employees
	c. Copy the exact wording of any signs carried or displayed by pickets. d. Identify strike ringleaders and persons who engage in violence. e. Obtain signed statements from witnesses in the event of incidents.
6	Communication

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	- Inform employees (both strikers and non-strikers) of the plans made and/or steps taken to continue operations and advise them that grievances will be discussed under established procedures after the work stoppage has ceased.
7	Non- striking Employees. a. Determine the best means of communicating with non-striking employees. b. Be prepared to advise non- striking employees as to whether they should report to work, whether and under what conditions they should enter the workplace (either when no act of violence has occurred or have been threatened, or when acts of violence have taken place), what entrance to use, how to obtain assistance in transportation to work, etc.
8	Striking Employees Do not take any action or make any statements which would constitute a commitment that the employees will be absolved of responsibility for any violation of law, Executive Order, or regulation.
9	Documentation and Evidence a. Carefully document all developments and collect evidence. From the time a work stoppage is threatened, gather detailed information (who, what, when, etc., including whether the incident relates to local matter or appears to be part of a widespread situation) and maintain a chronological record of events and actions (daily strike record). b. If specifically authorized to do so, record factual data concerning the actions of individual employee. c. Keep copies of all newspaper clippings, handbills, or other literature published in connection with the strike. d. Maintain a complete record of strike damage, if any, loss of production and manhours, and the results of such losses on the project.

Guidelines for Supervisors in Recording Work Stoppage Information These guidelines are to be used ONLY WHEN AUTHORIZED by Project Director. If authorized, the following information should be recorded (to the extent possible) for each employee you supervise, in the event of a strike or other work stoppage affecting your work area
1. Name of employee and position. 2. Is employee a labor organization official or representative? If so, what is his title? 3. Briefly describe actions of employee during initial phase of work stoppage. - Did he terminate work--encourage others to do so? At what time was this? - Did he obey order to return to work; if so, what time was it? - What did you tell employee when advised of illegal nature of action and ordered to return to work, what did employee say or do? - What, if any, reasons were given for work stoppage? - What, in your opinion. Caused the work stoppage? 4. Was employee prevented from reporting to or returning to work by conditions beyond his control? If so, what were conditions or alleged conditions? 5. What statements, if any, did employee make to you or fellow employees during work stoppage? 6. List other pertinent observations or statements you made to employee in connection with the work stoppage. 7. What other supervisors or employees were witnesses to statements or actions of this employee? 8. Signature of supervisor and title. 9. Dates covered by above data. 10. Date this information was recorded

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and clean up the spill timely to prevent accidental injury or other damage from occurring. Small spills will be contained by site personnel if they are able to do so without risking

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Spill kit's location will be indicated in the first- aid rooms. Any change in location will be re-advised during toolbox talks.

If a hazardous material spill is witnessed,

Step	Description
1	Notify Direct Supervisor for the Area, evacuate the spill site and warn others to stay away
2	Supervisor to Call Emergency Contact persons as per Emergency Plan. Provide the following information: - Zone and Building number with Exact location. - Name and Company - Nature of Emergency - Name and description of material and extent of spill.
3	If determined that the spill is not life-threatening, Contingency team to follow procedures outlined Contain and control. Other Emergency Coordinator to follow the following protocol, contact detail in Appendix C: a. Notify HBC approved environmental Consultant, seek advice to minimize impact and if requires the notification of authorities. b. If spill cannot be contained using the spill response material or equipment on site, or material has escaped onto drains or watercourse, call Civil Defense for help. c. Call EAD Environment department to take appropriate action
4	CONTAIN AND CONTROL - Wear appropriate PPE as required by COSHH and get spill kit - Stop the flow of hazardous material from the source. - Stop the liquid from entering drains, waterways, sewers od other receptors. - Place barrier around the source with absorbent material. E.g. (particulate, socks, mats) **NOTE**: never use sawdust as an absorbent, as it increases fire hazard. - Divert material into another container or an area where it can be contained (with a sealed base) - Continue to monitor seepage of material at and in the vicinity of the incident site and replace absorbents until no further environmental risk.
5	CLEAN UP - Collect all used material ad soil in a safe method as indicated in the COSHH. Including PPE and other associated waste and put in sealed contained for disposal at hazardous landfill. - Residual oil on hard surfaces may be cleaned up by leaving powder absorbent for a period to absorb the oil. - Ensure spill clean- up materials are properly characterized before disposal in accordance with relevant regulations and EAD requirements.
6	POST- INCIDENT - Restock spill response materials/spill kits. - Return equipment to normal storage location. - Prepare the Environmental incident report within 24 hours and submit or mail to EAD through Nominated Environmental Consultant - Update incident register with corrective and preventive actions, and responsibilities for implementing these.

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in case of severe weather conditions. The following is a general action plan fo

weather conditions in UAE.

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Minor or area flooding on site could occur because of overflowing of the marina, loss of power to pumps, or major multiple rainstorms.

Condition	Description
HIGH WINDS	**ON SITE:** - Issue alerts to employees. - Remove all personnel from elevated equipment. - Review any work at height and outdoor working when the wind speed reaches or gusts higher than 38km/h to ensure it is safe to continue. This review should be based on a risk assessment considering the current and anticipated wind speed, weather conditions, altitude of work being undertaken and any other conditions (hazards) that may affect the safety and health of those undertaking the work or affected by the works. - Lower all extension of heavy equipment. Check your equipment-specific guidelines in the owner's manual or manufacturer's recommendations, bulletins or equivalent for applicability. - Undertake inspections of buildings and projects to ensure any loose material removed and items are secured. - ensure all windows are closed and doors only opened as required (high winds can easily cause door to break off their hinges). - Tie down and secure all loose equipment. Remove lightweight or loose objects from open areas. - Be aware and protect your eyes from potential injury - Do not attempt to return to the area until OSH has given an "all clear" signal.

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SANDSTORM	**IN A VEHICLE:** Pull off the road while you can still see, pulling off as far as possible. - Turn off your car lights, inside and outside. At the onset of the storm others may see your lights and follow them assuming you are on the road. - Set your emergency brake. Take your foot off the brake to assure your brake lights are not on. - Close all windows and doors tightly. - Close all the air vents to help prevent outside air filled with dust from coming into the car. - Cover your nose and mouth with a bandana, mask, t-shirt, or other fabric to reduce the amount of dust your breath in. If you moisten the cloth, it will be even more effective and easier to breathe. - If you are unable to safely pull of the road, keep your headlights and hazard lights on. Continue to drive slowly sounding your horn every minute or so. You can use the highway's centerline to guide you until you reach a place where it is safe to pull. **IN THE OFFICE** Get inside as quickly as possible. - Close all windows, blinds and shut all doors and windows. - Take shelter in a room without windows. - Cover your nose and mouth with a bandana, mask, t-shirt, or other fabric to reduce the amount of dust your breath in. If you moisten the cloth, it will be even more effective and easier to breathe **OUTSIDE AND FAR FROM ANY SAFE AREA** - Curl up into a ball and protect your head and face. If possible, cover your head and face with a sweater, coat, or anything else you may have handy. Winds from a dust storm can pick up and propel other objects, so make yourself as small as you can and cover up. - If you have a mask, put it on immediately. If you don't have a mask, lightly moisten a bandana or some other piece of fabric and tie it over your nose and mouth. If you don’t have fabric, pull the front of your shirt up over your nose and mouth to reduce the amount of dust you breathe in. - Eyeglasses and sunglasses offer minimal protection from blowing dust or sand but are better than nothing. If you have more cloth you will want to cover your eyes. Otherwise, put on any glasses you have, close your eyes tightly and face away from the dust. NEVER rub your eyes. If they become irritated rinse with water. - If you are with a group, stick together. You can easily become disoriented and lost. If you are trying to get to a protected area hold hands or lock arms while walking.

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THUNDER STORM	**DO NOT DO THE FOLLOWING:** - Never shelter under an isolated tree or metal structure. - Use the phone and electric devices and equipment. - Stand under high trees. - Stay outside or in elevated places. - Touch metallic objects. - Get close to metal fences, pipes, and railways. **DO THE FOLLOWING:** - In open spaces, stay on lower grounds, for example in a place where shrubs grow densely. - In open spaces, curl up by crawling on the floor. - If you are driving a vehicle or equipment, step away from it. - If you are gathering with other people, go your separate ways. **IN THE OFFICE** - Avoid taking a shower because the pipelines and bathroom installations may conduct electricity from lightning. - Avoid using telephones with cords, except in case of emergency. Cordless and cellular phones are safer to use in such conditions. - Unplug electric devices and equipment (such as computers) from power sources **ON SITE:** - Ensure appropriate signage is in place. - Review the use of electrical installations or plant and equipment during heavy rainfall. - Review any activities that involve excavations. - Undertake additional checks of any scaffolding, ladder, heavy equipment etc. that may become unsafe due to heavy rainfall. - Review the need to undertake outdoor work during heavy rainfall. - Provide staff with appropriate wet weather clothing if working outdoors. - Stop work outdoors during electrical (lightning) storms. - Ensure any chemicals or hazardous materials are secured and covered. - Check temporary roads and pathways to ensure they are safe for use. - Check any areas where work at height may be undertaken and ensure it is safe to do so.
HEAVY RAIN/ FLOODING	**IN A VEHICLE** - Only drive if safe to do so. - Postpone their journey if not essential until the heavy rain subsides. - Reduce their speed. - Pull over in a safe place if visibility becomes very poor, until it improves. - Not to use hazard lights. - Ensure tires and windscreen wipers are in good condition. - Not drive close to other cars and increase the braking distance. **ON SITE** - Ensure appropriate signage is in place. - Review the use of electrical installations or plant and equipment during heavy rainfall. - Review any activities that involve excavations. - Check temporary roads and pathways to ensure they are safe for use. - Check any areas where work at height may be undertaken ar to do so.

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FOG	**IN A VEHICLE** - When driving in the fog, keep an eye on your speed and ensure you have your fog lights on, for a safe journey. - Vehicle speed to be reduced, keeping a longer gap from the vehicle in front. - If visibility becomes very poor, driver to pullover in a safe place until it improves. - For your safety and that of others while driving in the fog, use your vehicle signals when necessary to warn vehicles coming from behind. - Warning alarms (audio and visual) for plant and equipment - Do not drive in the fog with your high beam lights as it reduces the visibility, instead drive with your fog lights on.
SUMMER WEATHER	Always comply with local authority guidelines. COP 11.0. An annual hot weather working plan is where required, approved by the Engineer, implemented by contractor and in compliance with any local legislative summer working directives. A risk assessment is performed to determine where heat stress hazards exist and who is at risk from developing heat related illness. • An effective heat stress program is implemented for worksites where high temperatures and humidity may pose a health risk. • HBC will Implement a process for assessing the environmental conditions and comparing it to the TWL heat stress index and implementation of the relevant work zone control measures. • Adherence to the UAE Ministry of Labor requirements for a midday break during the summer months for employees working outside. • Education is provided to employees on the hazards of consuming alcohol, tea, coffee and caffeinated drinks. • Appropriate availability of appropriate fluids • An allowance is made for self- [acing of work and appropriate rest breaks is provided to exposed employees.

5.6.18 **Earthquake**

Inside the Building

- DROP, COVER AND HOLD under study desk or table holding on to one of the legs or the top. Be prepared to move with the table or desk.
- Do not evacuate building unless instructed to do so or if the fire alarm sounds. If instructed to evacuate, follow the evacuation guidelines.
- Remember, most earthquake related injuries occur from falling objects outside the building.
- Assess the condition of your coworkers. Be a calming example for your coworkers. Call your

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- Do not attempt to leave work until you are instructed to do so. Make sure roads you access to get home are in fact undamaged and traffic is moving.

Outside the Building

- Move away from trees, signs, buildings, electrical poles, and wires.

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- Protect your head with your arms from falling bricks, glass, plaster, and other debris.
- Move away from fire and smoke.
- Proceed to the Emergency Assembly Area if safe, or proceed to a pre -designated alternate assembly area; and
- Stay alert for further instructions.

5.7 Manual Handling

Reference - ADOSH SF COP 14.0 Manual tasks involving people - V 4.0, 15 July 2024

HBC shall undertake roles and responsibility in accordance with the general requirements of ADOSH SF Cop 14.0, ADOSH-SF Element 1 and ensure that all necessary risk assessments being performed in accordance with –SF –Element 2 to determine the risks associated with manual handling.

HBC Will;

- Assess worksite / work areas, or coordinate for their assessment, to ensure ergonomically safe layouts/ setup.
- Develop and implement control measures and safe work practices to reduce employee's exposures to manual handling and ergonomic risks.
- Ensure maintenance is performed on equipment's used in manual handling as per manufacturer's instructions and preventive maintenance plan.
- Provide employees with information about their work environment, the load, the safety and health risks and the preventive and protective control measures in the place to prevent injuries and illnesses.
- Assess the employee's capability to perform manual handling operations which may create safety and health risks if applicable.
- Ensure compliance with requirements of ADOSH-SF-COP 14.0- manual tasks involving the handling of people, if applicable.
- Ensure equipment utilized in manual handling or a person is fit for the purpose.
- Ensure equipment's utilized in manual handling is inspected, tested, certified, and maintained as per the manufacturer's requirements.
- Monitor the use of equipment used in manual handling to ensure employee are using the equipment appropriately.

5.8 Lifting and Lowering

Each box in the diagram is a guideline maximum weight for lifting and lowering in that

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- Weight of object to be lifted must be known before start lifting. If over 25kg assistance is required for men and 16 kg for women.
- If weight is between 25kg and 50kg a lifting belt is required, and correc
given to all personnel on the lifting task.
- Small items should be put into cages or pelletized for ease of movement

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- Consideration should be given to reducing the weight although this may mean increasing the frequency of handling.
- Where the size, surface texture or nature of a load makes it difficult to grasp, consideration should be given to the provision of handles, handgrips to improve the grasp.
- Any loads to be handled should not have sharp corner, jagged edges.
- The individual's state of health, fitness, height and age must be considered before assigning the task.
- Manual handling technique must be taught to all handlers.
- Floor, which is uneven, slippery and unstable, should be well maintained.

Travel with the load must be restricted; trolleys or other vehicle/plant must be used for long distance.

5.9 Work at Height

ADOSH SF COP 23.0 Working at Heights, V 4.0, 15 July 2024shall be complied for all work at height activity.

HBC shall undertake roles and responsibilities in accordance with the ADOSH SF Cop 23.0 Working at Height, ADOSH-SF- Cop 22.0 Barricading of Hazard and ADOSH-SF- CoP- 37.0 Ladders. The **HBC** shall carry out a risk assessment for all works that are carried out at height where there is a risk of people or materials / objects falling.

HBC shall ensure:

- Provide proper working platform and safe access, such arrangements shall be in accordance with all legal requirements, and relevant to the site standards.
- While working on unguarded areas all working personnel must wear full body harness with double snap hook and proper shock absorber. Snap hook must be fastened to lifeline or any other solid structure and ensure all personnel abide by 100% tie off at all time.
- While working on full guarded certified areas all working personnel must wear full body harness with single snap hook and proper shock absorber and fasten to the guardrail.
- Access arrangements interfere shall not be permitted without prior approval.
- Any work which results in openings being created where persons can fall through, or removal of side walling / barriers where persons can fall from must be effectively protected to prevent any incident.
- Materials, equipment or plant shall be properly secured to prevent falling from height. Where there is a danger of falling material, effective steps that are solid barriers and warning notices must be taken to prevent such danger and to warn people concerning the hazard.
- Any works on fragile and other roofs where personnel can fall through or from the roof must use crawling boards and proper edge protection.
- No loose materials shall be left on the heights. ϖ Front edge of all platforms shall not be

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5.10 Fixed and Temporary Electrical Installations

Reference - ADOSH SF COP 15.0, Electrical Safety V 4.0, 15 July 2024

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HBC shall undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, –SF-Cop 15.0 – Electrical safety on Construction site, and electrical safety requirements contained in the procedures, NOC, guidelines, and licensing requirements of competent authorities (ADM & ADDC). HBC will ensure that all necessary risk assessments being performed in accordance with –SF –Element 2 shall be completed to identify all hazards that may be present from the work on or in the vicinity of electrical system.

HBC will ensure safe system of work and safety rules shall be developed and implemented for all work activities involving electrical systems, such that identified risks are reduced to acceptable levels and ensure emergency response plan is developed, implemented.

- All temporary electrical equipment and installations shall be in accordance with recognized National & international codes, standards, and regulations.
- Work or repairs on electrical equipment shall only be carried out by qualified electricians.
- Any electrical power supply cables exceed 110 volts shall be equipped with 30 mA RCD. Cable shall be buried under ground.
- Damaged cable insulation shall not be tapped over. The damaged section shall be removed and the cable to be spliced with a proper insulated cable connector or plug.
- Power supply source shall be shutdown prior to making any repairs or adjustments.
- With the exception of double insulated equipment, all electrical tools and equipment shall be grounded.
- HBC personnel shall not interfere with work on any of Client's or others electrical installations or equipment without written permission.
- All electrical installations and equipment must comply with standard safety regulations.
- Any work in the vicinity of electrical equipment shall take all necessary precautions to avoid incidental contact with live conductors.
- All equipment shall be treated as "live" unless isolated/locked off and tagged.
- All temporary cables shall be protected properly wherever possible, raised above the ground. Portable lighting shall have the lamps protected by cages.
- Keep all electric equipment dry and clean. All electrical power tools shall be color coded and in good condition fit for use.
- All junction boxes and distribution boards (DB's) shall be covered and protected properly. External Elect: DBs and fixtures shall be weatherproof type.
- The responsible supervisor shall conduct toolbox talk prior to starting the task.
- Company shall provide suitable fire extinguisher to use on electrical apparatus and in good working order.
- Use appropriate PPE like rubber soled shoes, insulated hand gloves and rubber mats if it is

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    - Ground pin is on a male plug
    - Not stapled or hung by nails

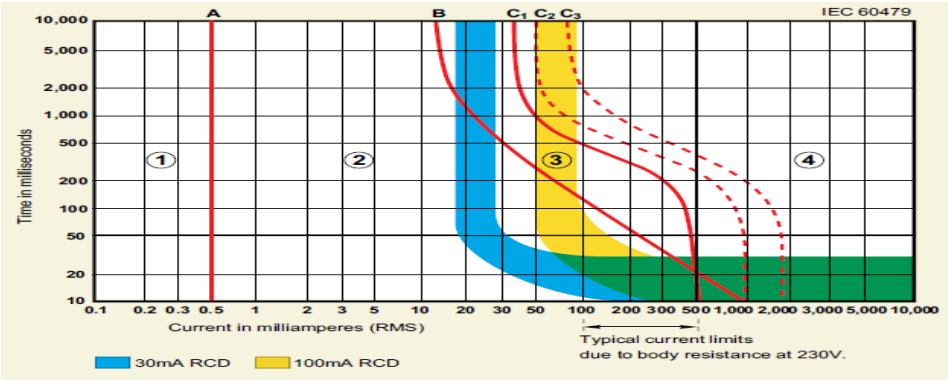
- Cover all electrical outlet and wall switches with cover plates.

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- Protect the distribution board by using plastic safety covers during rainy conditions.
- Keep all electrical cables away from water.
- Application of lock- out / Tag- out as required by authorized employer.

HBC will establish and maintain adequate controls to manage underground and above ground services safely during the construction of the project. Each year a number of accidents involving contact with high-voltage lines occur, often resulting in serious injury or death. Allegheny Power is committed to distributing electricity safely, but we need your help to ensure your safety and the safety of your co-workers. The following safety tips will help prevent accidental contact with overhead power lines; the Power line contacts can kill.

- Always LOOK for electric power lines before beginning any type of construction work. Pre-job Planning is a major factor in preventing accidents.
- Never work closer than 10 ft. from an energized overhead power line
- LOWER truck beds, aerial lifts, booms and other construction equipment before passing under electric lines.
- Keep ladders, scaffolding, and other equipment more than 10 ft. AWAY from power lines.
- Ensure relevant PTW /NOCs for working under an overhead power line.
- Conduct site survey and identify overhead line crossings and communicate to all concerned.
- Make contact with the utility owner (ADDC, Water Electricity Authority, Telecommunication etc.)
- Protect the line with Goal post and adequate warning line
- Ensure training for the crew working under power line. Provide competent supervision.
- Equipment traversing under overhead power line must be accompanied with Pilot vehicles, Banksmen under Supervision



Response of human body vs. RCD characteristics:

Zone 1: usually no reaction
Zone 2: shock sensation, but usually no harmful effects
Zone 3: likelihood of muscular contraction, and temporary cardiac arrest without ventricular fibrillation
Zone 4: in addition to the effects of zone 3, the probability of ventricular fibrillation is increased

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Electrical injuries and the severity of electric shock are mainly due to the followir

- The **amount** of current that flows through the body.
- The length of **time** that the body receives the current.
- **Part** of the body which receives the shock.

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- Body **resistance** through its dryness.

Death or injury from electric shock may result from the following effects of current on the body:

- Contraction of chest muscles, which leads to asphyxiation and in turn to death.
- Temporary paralysis of the nerve center, which may result in failure to breathe, even after the victim is freed from the circuit.
- Interference with the normal rhythm of the heart, causing ventricular fibrillation, i.e., loss of heart's pumping action.
- Hemorrhage and destruction of tissues, nerves, and muscles from heat due to heavy current along the electrical circuit's path through the body.
- Severe burns may result from contact with current carrying conductors.
- Burns due to electrical flashes, which may involve large areas of the body. Even persons at a reasonable distance from the arc may receive eye burns.

Range & Effects of Electrical Contact (Milli-Amperes):

- 0 – 06 mA No shock.
- 06 – 10 mA Painful shock.
- 10 – 16 mA Loss of muscular control.
- 20 – 60 mA Breathing defect and severe muscular contract.
- 60 – 200 mA Ventricular fibrillation.
-

Layout drawing shall be prepared for electrical distribution, Cleary define location of main generators and DB's this drawing shall be updated regularly as per the site status and changing. Main generator shall be appropriately secured and isolated to prevent unauthorized persons and to be provided with ELCB and grounding system. Never Hung cables on structure formwork or scaffold tube. Use only industrial type of plugs/socket. All used power tools shall be 110 voltages except the equipment required 220 and more this should be linked to PTW, monthly inspection by competent person and color-coding system.

Electrical installations shall be installed & maintained in accordance with the manufacturer's instructions. Wherever feasible, electrical equipment shall be installed in less congested areas or in dedicated rooms to which only designated electricians have access. Adequate barrier shall be provided to electrical installations to prevent personnel / vehicle / equipment from coming in contact with it.

Extension cords shall not be used for any permanently installed equipment, however for temporary purpose industrial type extension cords may be used with an independent earth conductor.

Routing of extension cords shall be kept away from places / routes where the cord could be at risk or could cause a hazard to personnel. Cables shall not be allowed to lie on ground but shall either be buried underground or laid overhead. Where required to pass on ground it shall be laid in such a way as to avoid pathways to prevent tripping hazards or damage to cables by moving machinery.

Fuses used should only be of the right type suitable for which it is designed. Wrong type or size of fuse may cause injury to personnel and damage to equipment. Plug adopters shall not be used in any industrial installations. All equipment shall be fitted with the correct plugs to fit in its corresponding socket.

Switches, regardless of their function, must have approved voltage and ampere ratings that are compatible with their intended use. Permanently installed electrical equipment shall also be fitted with isolation switches, disconnecting both line and neutral conductors. Such isolation switches, if remote from the equipment, shall be fitted with effective lockout devices such that they may be pad locked and made safe while undergoing maintenance or repair. In underground electrical distribution systems armored cables shall be used and route of the underground cable should be marked on cable route marker. In the areas where there is a fire hazard, flame proof electrical equipment shall

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Electrical appliances shall be of approved make, inspected, tested, serviced and u
with the manufacturer's instruction. Only designated electricians shall be allo
electrical appliances.
Portable electrically powered tools shall be fitted with adequate fuse protectior

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body or its electric plug. Similar type and current rating male plug and female socket shall be used always. Portable electrical tools getting power supply from the generator integrated with RCD (30 mA) system shall be grounded.
Power extension leads shall not be exposed to physical damage i.e. routed through doorways and hatches, across walkways or corridors, over or in contact with hot surfaces or piping, sharp or abrasive surfaces.
Personnel in the site should be trained on how to deal with electrical shocks and also the use of correct fire extinguisher for electrical fire. Switches of electrical rotary tools shall be of self-releasing type that releases automatically when hand is removed from the machine. Electrically operating tools shall not be kept on the ground so that it's moving / rotating part touches soil.

Due care shall be taken to ensure that no electrical equipment is being overloaded as continuous overloading may introduce operational hazards by causing fires, short circuits, circuit failures or mechanical failures.

Whenever required, the facilities shall be de-energized before any inspection. As an additional safeguard, the switches and breakers should be locked open, grounded and tagged so that they cannot be energized until the tests are completed an electrical circuit shall always be assumed as live until it is proved dead. When the electrician leaves a circuit being tested before the test is complete, he should leave it in locked state and on return shall check all markings, breakers and switches to be sure that they are not altered by any means.

Before the inspections the rotor or armature shall be blocked in the machinery connected to blowers, water wheels or pumps without check valves, as it may start turning even when the current to the motor is disconnected. Faults such as cracked plugs, frayed or damaged leads or faulty sockets shall be reported and the equipment shall not be used until repaired. In emergency situations, when the areas around fuse boxes are wet, maintenance workers should use wood platforms, insulated tools or rubber boots.

5.11. Personal Protective Equipment (PPE)

Reference - ADOSH SF COP .2.0 - V 4.0, 15 July 2024, Personal Protective Equipment

All people working for UNEC, visitors and sub-contractors on the Project will be appropriately dressed. Minimum PPE for site areas (Helmet, Jacket, and shoe) are:

Safety Shoes	(BS EN 344- Protective and occupational footwear for personal use
Hard Hat	(BS EN 397:2012 - Industrial Safety Helmet)
Hand Gloves	(BS EN 16350-Glves against electrostatic risks
	(BS EN 388:2003 – Gloves against Mechanical risks)
	(BS EN 407:2004 – Gloves against Thermal risks)
	(BS EN 12477:2001 – Protective gloves for welders
	(BS EN 420:2003 – General requirements and test methods)
Eye Protection	BS EN166:2002- Personal Eye Protection
	(BS EN 169:2002 – Filters for welding and related techniques)
	(BS EN 170:2002 – Ultraviolet filters)
	(BS EN 171:2002 – Infra Red Filters)
Ear Protection	(BS EN 352 – 1 Earmuffs)
	(BS EN 352 – 2 Ear Plugs)

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Full Body harness	(BS EN 361:2002 Full body harness)
	(BS EN 355:2002 Full body harness

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Those PPE will be controlled at security gates as for visitors whom coming without PPE will be issued PPE and daily check for site personnel at gate itself about complying with PPE.

Each supervisor of the workers will be requiring it and must be provided additional job specific PPE. In turn the employee must maintain and use the correct PPE that is provided to him. It is the responsibility of the site store Keeper to ensure adequate supply of PPE for the number of workers on site.
HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, –SF-Cop 2.0.
It is mandatory that basic Personal Protective Equipment, i.e., hardhat, overall, reflective vest and OSH shoes shall be worn at all times in all work areas, other than offices, offsite vehicles and *inside Plant equipment (e.g., crane, backhoe, grader, etc.). In addition, OSH glasses shall be worn in all areas where machining, welding, grinding, grit blasting takes place and other areas where potential eye hazard activities exist.
PPE, in addition to the above basic items, shall be dictated by the kind of activity carried out. Foremen, supervisors and OSH Engineer before any start of activity, shall be responsible in determining the required PPE. They shall review the work procedures and perform a Job Hazard Analysis (JHA), in order to identify the PPE needed to complete the task. As a minimum:
•Respiratory protective equipment shall be used when the atmosphere contains or is suspected of containing harmful / toxic dust, gases, spray, fumes, or smoke.
•Hearing protection shall be utilized whenever the employee is exposed to excessive noise levels.
•Gloves suitable for the material being handled shall be worn when appropriate.
•Fall arrestors (SRL, Full Body harness, etc.), shall be worn whenever work is carried out where a risk of falling a distance of more than 1.5 meters (including when work is carried out on a platform or approved scaffold).
Every employee of the Company shall be issued the required Personal Protective Equipment in accordance with the provisions stated in the section of PPE Issuance. It shall be the responsibility of the employee to take care of his PPE as stipulated in the section of Care and Maintenance.
No compensation will be allowed to an employee or his / her dependents if his / her injury, sickness, disability or death is due to:
•His / her drunkenness.
•His / her willful intention to injure or kill himself / herself or another; or
•His / her notorious negligence.

5.12 Plants and Equipment's

Reference –Portable power tools ADOSH SF COP 35.0 V version 4.0, 15 July 2024, Plant and Equipment ADOSH SF COP 36.0 V version 4.0, 15 July 2024, Plant and Equipment, COP 47.0, V 3.0, July2016 Machine Guarding and COP 51.0 – V 4.0, 15 July 2024, Powered Lift Trucks

All plant and equipment provided for use by the Contractor shall be suitable for the contract in accordance with the ADOSH-SF-CoP 35.0, ADOSH-SF- CoP 36.0, ADOSH-SF- CoP 47.0 ADOSH-SF-CoP 51.0. OSH risks

HBC shall assign one person who will be the plant-in-charge who will be responsible for:

- Always Providing safe plant in compliance with OSH requirements on the site
- Ensuring timely renewal of third-party certificates of all lifting equipment and other heavy equipment's only by the registered Certification bodies.

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- Enforce the Occupational OSH Management Manual in the Site Workshop Premises

The following list is provided for ease of reference on what equipment and which a
be used for:

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Equipment	Activity
Dozer	Earthmoving
Wheel Loader	Earthmoving
Hydraulic Excavator	Earthmoving
Vibratory Compactor	Earthmoving
Tractors trailers	Hauling
Trucks	Hauling
Tipper	Hauling
Roller	Road making
Road paver	Road making
Asphalt Concrete	Road making
Batching Plant	Concreting
Mixers	Concreting
Concrete pumps	Concreting
Transit mixers	Concreting
Dumpers	Concreting
Concrete Placers	Concreting

Equipment	Activity
jackhammer	Pneumatic
Pavement breaker	Pneumatic
Compressor	Pneumatic
Forklift	Lifting/handling
Crane	Lifting/handling
Hoist	Lifting/handling
Tackles	Lifting/handling
Generator	welding
Transformer	welding
Automatic welding set	welding
Welding machine	fabrication
Bar bending machine	fabrication
Planer/shapers	fabrication
Drilling machine	fabrication
Cutting/shearing machine	fabrication
grinding	Fabrication

Related to plant and equipment shall be managed through the application of a care and maintenance.

- Program that complies with the manufacturer's recommendations.
- All mobile operated plant and equipment that are not intended for transportation such as JCB, Excavator, lifting equipment including, but not limited to, cranes and forklift trucks shall be subject to Examination and inspection by a competent third-party agency. certificate of suitability
- All lifting equipment / gear must be clearly marked (color coded) allowing the date of the last recorded thorough examination to be visually determined.
- All lifting equipment / gear must also display the safe Working load (SWL).
- All operators of plant and equipment are required to provide a valid UAE license and a third-party Certificate of competency, which is specific to the plant or equipment they are using.
- Plant & Equipment usage and maintenance records shall be subject to periodic audit from Client or their representative during work execution.

5.13 Housekeeping Arrangements

Reference - ADOSH SF COP 8.0 - V 4.0, 15 July 2024, General Workplace Amenities, ESTIDAMA PVRS

Housekeeping means to have "A place for everything and everything in its place". Slipping, falling, tripping, hitting against, fire accidents and accidents due to poor lighting are some common types of accidents which occur due to bad housekeeping. Good housekeeping also results in better space utilization, inventory control, waste minimization and good appearance.

Good housekeeping shall be considered as one of the fundamental defenses against injuries in the

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debris / unwanted material. Work areas shall be maintained clear of debris, waste and other rubbish, which shall be disposed as soon as the work is completed.

Stockpiles of materials shall not be allowed to accumulate in the workplace witho storage facilities.

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Spillage of liquids, especially of oily or greasy liquids, shall be immediately cleaned up by absorption in inert sand or other suitable materials.

Emergency exits, walkways, passages, alarm points, firefighting equipment, first aid sets etc. shall be kept clean, unobstructed and in good working order.

A housekeeping team under supervision of a General Foreman (TBA) with adequate manpower and machinery will be working at site for clearing all construction waste from villas and common areas. This waste will be sent to waste segregation area and segregated and reused/recycled and/or disposed as per waste management plan. Authority approved agency "RSP" is assigned to carry the waste from the site.

The project is Targeting 2 Pearls which means 50 Percentage of recycling is required (SMR-2):

S. No	Category	Source	Unit	Approx. Total Qty.	Recycle/ Reclaim	Potential Recycle/ Reclaim haulers
1	Concrete Waste	On site construction	Ton		Recycle/ Reclaim	Al Dhafra Crusher
2	Steel Waste	On site construction	Ton		Recycle	Scrap collector
3	Wood Waste	On site construction	Ton		Recycle at site prior to send to recycling facility	
4	Plastic Waste	On site construction	Ton		Recycle	
5	Paper Waste	Mainly from fittings packing waste	Ton		Recycle	
6	Aluminum Waste	False Ceiling works	Ton		Recycle/ Reclaim	Scrap Collectors
7	Organic	Food waste from labor rest areas	Ton		Recycle/ Reclaim	Al Mafraq Compost plant
8	Medical	NA	Ton	NA		
9	Hazardous	NA	Ton	NA		
10	Others (cables, wires, gypsum board etc.)	Construction activities	Ton		Recycle/ Reclaim	Landfill
Total estimated amount of recyclable waste				Total estimated amount of waste		
Expected Percentage of recycling						

HBC believes that the safety and Health of personnel will be enhanced through the reduction of risk associated with poor housekeeping.

The 5S Housekeeping Program is meant to create a working environment where there is "a place for everything and everything is in place."

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SO		moved to a separate, common, storage area. • Items that are not used should be discarded	spa

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SYSTEMATIZE	To organize, arrange, and identify everything in a work area for the most efficient and effective retrieval and return to its proper place	• Storage areas, cabinets, and shelves should be properly labeled. • Put everything in its proper place and setting up a system so that it is easy to return each item to its proper place • Place things in such a way that they can be easily reached whenever they are needed	Improve profitability and efficiency by reducing time wasted looking for things needed.
SWEEP	To maintain a clean workplace	• Regular, usually daily, cleaning is needed. • Inspect machines, tools, equipment, and supplies you work with • Keeps things clean and polished; no trash or dirt in the workplace.	To create a pleasant working environment
STANDARDIZE	Maintain high standard of housekeeping	• Create a maintenance system for housekeeping. • Develop a work structure that will support the new practices and make them into habits. • Update and modify the standards to make the process simpler and easier.	To achieve work standardization
SELF-DISCIPLINE	To sustain the benefits from the 5S Program	• Continue to educate people about maintaining standards. • Develop an environment for continual improvement. • Maintain a personal commitment for the habitual implementation of the 5S practice	

5.13.1 Clean as You Go Program

To ensure and maintain the cleanliness and hygiene of the workplace, HBC shall implement this program. The clean as you program places the responsibility on all workers to maintain the working environment in a clean, tidy, and safe conditions always when carrying out duties in their specific area. Below are examples:

- Work areas to be left in clean, safe, and tidy condition.
- Tools, to be cleaned and returned to the storekeeper straight after use.
- Equipment and machineries to be cleaned prior leaving the site.
- Floors to be kept clear of waste
- All items to be kept and arranged in a proper storage area to keep floor space clear Waste/rubbish resulting from their work activity shall be placed at disposal area provided.

5.13.2 General

- All places including passageway, storeroom and service rooms shall be kept clean and orderly and in a sanitary condition.
- Floors shall be maintained in a clean and so far as reasonably practicable dry condition

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- Workspaces shall be free from excessive storage of paper, materials and trash that could cause health issues, create hazards, or promote infestations of rodents a
- Gather up and remove debris to keep the work site orderly.

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- Plan for the adequate disposal of scrap, waste, and surplus materials as per waste management Plan
- Keep the work area and all equipment tidy.
- Designate areas for waste materials and provide containers.
- Keep stairways, passageways, ladders, scaffold, and gangways free of material, supplies, and obstructions.
- Secure loose or light material that is stored on open floors.
- Keep materials at least 2m (5 ft.) from openings, roof edges, excavations, or trenches.
- Remove or bend over nails protruding from lumber.
- Keep hoses, power cords, welding leads, etc. from laying in heavily travelled walkways or areas.
- Ensure structural openings are covered/protected adequately.

5.13.3 Flammable Materials

- Store flammable materials such as gasoline, oil, and cleaning agents apart from other materials
- Keep flammable materials in proper container with contents clearly marked Dispose of greasy, oily rags and other flammable materials in approved containers
- Store full barrels in an upright position
- Store empty barrels separately
- Posit signs prohibiting smoking, open flames, and other ignition sources in areas where flammable materials are stored or used.
- Store and chain all compressed gas cylinders in an upright position
- Mark empty cylinders with the letter "mt" and store them separately from full or partially full cylinders
- Ventilate all storage areas properly
- Provide the appropriate fire extinguishers for the materials found on site. Keep fire extinguisher stations clear and accessible.

5.14 Lifting equipment and lifting operation.

Reference - ADOSH SF COP 34.0 - V 4.0, 15 July 2024, Safe Use of Lifting Equipment and Lifting Accessories

All activities must be carried out in accordance with ADOSH-SF-Cop 34.0- Safe Use of Lifting Accessories. Every lifting operation will be started with a Risk assessment by a competent person and the lifts must be properly planned. Relevant PTW and lifting plan should be prepared as required.

A third party trained rigger must be appointed with all lifting operation and the Crane operator must

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approved third parties are employed for the certification of lifting Equipment an lifting accessories are inspected, and color coded by a competent person (R quarterly. The lifting equipment and accessories are inspected by the op

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respectively prior to start the lifting operation. The lifting area must be secured, and nobody present under a suspended load. Competent supervision to be ensured during any lifting operation. **Detailed Project specific Lifting Plan in accordance with the Cop 34.0, will be developed and submitted to Client/ Client Representative for the approvals.**

Lifting Equipment
Lifting equipment such as cranes, Hiab's, jacks…etc. used in the project shall be inspected annually for its safe working condition and Load Test every four years and certified by an external inspection agency approved by AD Municipality. Copies of inspection certificates shall be made available in the equipment and with OSH Department for verification.

Mechanical handling of materials includes chain hoist, pulleys & ropes, slings, etc. and due consideration shall be given to its proper care and maintenance. Defective accessories shall not be used and be scrapped off.

The safe working load of the equipment should not be exceeded. Due care shall be paid to the braking devices and the limit switches at all times.

Lifting Gears
Lifting Gears such as Chain sling, webbing slings, shackles, clutches, wire rope slings…etc. shall be inspected by third party and certified every six months. Lifting gear in use shall be color coded. Lifting gear shall also be inspected prior to every use and those with signs of wear & tear shall be removed from use. This also applies to chains & straps used for restraining load.
Truck Mounted Crane

Truck fitted with lifting equipment is hazardous equipment mainly because of it carrying lifting equipment on it, which has got several limitations to its stability while being used for shifting of load. Almost all the safety devices as well as safe handling precautions of a crane are applicable to a truck fitted with lifting equipment.

The equipment must be inspected and certified by a 3rd party approved by authority and the operator must hold competency proof in addition to his driving license.

Safety devices shall not at any time be made inoperative or tampered with. Lifting shall be carried out only after positioning the fully extended out riggers properly and raising the cab till the front tires are well off the ground.

While lifting the load, the driver shall be positioned at the controls in such a way as not to be harmed by the load or the boom.

5.16 Mobile Crane Operations

Crane operations will be carried out with Local Legislation and client consultant requirements, for the correct type of crane, in mind. Any crane brought to site must have the crane checklist completed (by the Safety Officer, Supervisor and Crane Operator) prior to commencement of work. Operators are responsible for carrying out daily operational checks, and keeping records, as per manufacturer's instructions. All mobile cranes older than 15 years to carry out NDT before putting into operation at site.

- All lifting operations and areas will comply with the risk assessment and method statement

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- Only competent rigger will be authorized to sling loads and bank the crane.
- It is the responsibility of operator to ensure that his crane and equipment operate.
- Crane operator will carry out pre-operation checks before every operation.
- Clear communication is to be maintained between the crane operator and

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Before and during crane operation, the crane operator must:

- Check no unauthorized persons are present on the crane.
- Inspect the area, including the ground condition.
- Monitor the ground condition during repetitive crane lifts in one location.
- Complete the daily inspection checklist.
- Avoid carrying loads over people.
- Do not operate with kinked, twisted or damaged chain.
- Never lift the load over the rated capacity
- Never leave the suspended load unattended
- Initially lift the load only a few inches to test the rigging and balance.
- Do not carry personnel on the load while the load is being lifted.
- The outrigger is fully extended, and pads (750mm x 750mm) are used.
- Check clear view between operator and Rigger with the mode of communication familiar to both.
- Shall not leave the seat when the load is in the lifted position. Controlling from outside the cab is not permitted.
- Unknown load should not be lifted e.g. uprooting of tree, concrete / steel pipe supports, objects trapped in mud etc. Load should be free from all restraining forces on it

Before and during crane operation, the Rigger must:

- Ensure that the load does not come in contact with any obstructions.
- Make sure the sling is well balanced. Avoid tip loading and loading on hook latch.
- Hooks shall meet the manufacturer's recommendations and shall not be overloaded.
- Determine the weight of the load. Do not guess.
- Determine the proper size/capacity for slings and components.
- Do not use slings, eye bolts, shackles, or hooks that have been cut, welded, or brazed
- Determine the center of gravity and balance the load before moving it
- Loads should be well secured.
- Slings should be adequate to the task.
- No loose items on load or crane before lift.
- While any employee is touching the load or hook, there shall be no hoisting, lowering, or traveling.
- Tag lines are used to control the load.

The following unsafe practices (misuse / abuse) shall not be permitted:

- Overloading and improper loading.
- Pulling / pushing / dragging the load (Crane is meant only for vertical lifting).
- Persons riding on the load or hook.
- Driving the crane with lifted load.

In lift situations involving the coordination of two or more cranes, an agreed system of communication among them shall be established for the safe control of multi-crane operations. The instruction of Rigger shall be strictly adhered to. A specific method statement shall also be in place for such operations.

- Lifting plan will be submitted/reviewed separately in line with Cop 34 in case of any critical lifting.

<u>Lifting plan will consider following hazards.</u>

I. Competency requirements of operators / signaller / slingers

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to each other.

VIII. Visibility and weather conditions
IX. Communication
X. Fatigue
XI. Employee being stacked by load or lifting equipment.

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XII. Manual handling
XIII. Maintenance hazards and its chemicals
XIV. Contact with moving equipment.

Lifting plan will mention in detail following:

I. Details of the person in overall charge of all lifting operations (the appointed person), including relevant experience of this person in planning lifting operations
II. A list of responsibilities of those involved in lifting operations including, person in overall control, crane operator and signaller.
III. An overview procedure detailing how lifting operations shall be planned, supervised, monitored and reviewed.
IV. Details of the crane(s), capacities at various radius
V. Diagrammatic representation/ sketch of the lift – including equipment and personnel placement, distances, maximum weight capacity, radii, and other relevant measurements.
VI. Copies and a register of all crane operator competency certificates issued by an approved third-party training provider.
VII. Copies and register of all crane operator competency certificates issued by an approved third-party training provider.
VIII. Copies of all test certificates for lifting equipment and accessories to be used, issued by a third-party engineer.
IX. A schedule of common lifts to be undertaken by the crane detailing what is to be lifted, weight of load and how connections between the load and the crane shall be made.
X. A written procedure detailing how special lifts shall be planned to ensure they can be carried out safely.
XI. Written procedure detailing how special lifts shall be planned to ensure they can be carried safely.
XII. Copies of all risk assessments undertaken for crane lift operations.

General requirements for lifting operations:

I. Plan for the task through gather information regarding (crane capacity, load, crane position and boom length)
II. Check the lifting area nature (soil nature, compaction status, nearby structures, weather)
III. Check the used gears and accessories visual inspection and certifications as per AD requirements.
IV. If all requirements are available adhere engineer and OSH department to obtain lifting permit and copy of the lifting plan and risk assessment for routine lifting operations.
V. For critical activities or new tasks, new plan and risk assessment shall be planned.
VI. During the lifting activities all the area shall be barricaded, and competent rigger shall be available.

5.17 Welfare and site accommodation

Reference - ADOSH SF COP 18.0 - V 4.0, 15 July 2024 Employer Supplied Accommodation General Requirements
& COP 18.1 V 4.0, 15 July 2024 Temporary Employer Supplied Accommodation

The company sites and camps will ensure compliance of –SF –CoP 18.0 Employer supplied accommodation – General requirements, Article 5 of UAE Ministerial order number 32 of 1982 and local order 61/1991.

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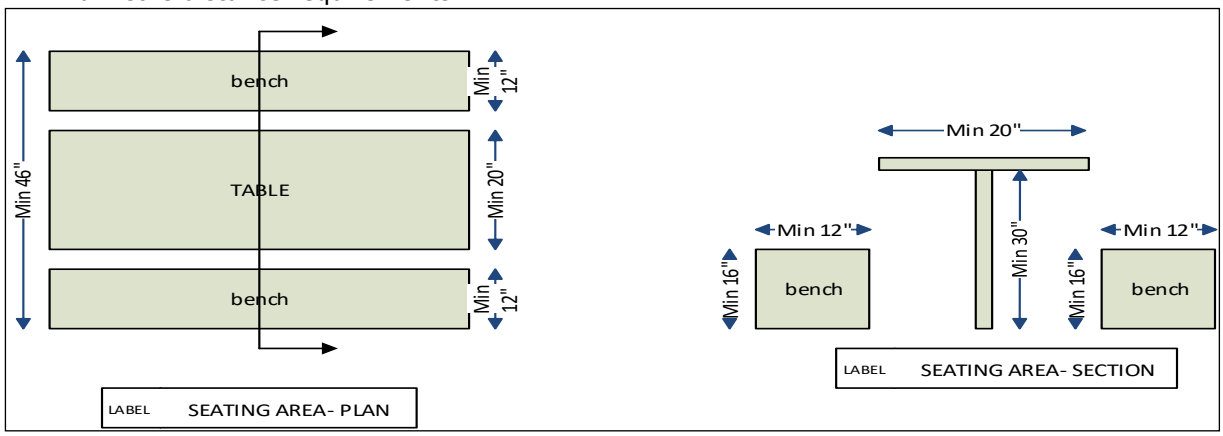
- Protected against sun rays, dust, and rains
- Well- ventilated to ensure air is circulated and illuminated.
- With solid and cleanable floors.

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- Provided with potable water, enough number of tables, seats, and garbage bins with cover. Solid
  and liquid wastes shall be removed promptly to keep a healthy environment.
- Kept free from obstructions and articles and substances likely to cause slips, trips or falls.
- Spacious enough to comfortably walk freely without bumping into each other.
- Arranged with pest control to ensure hygienic conditions are maintained.
- Provided with 28" Aisle width clearance for life safety purposes.
- Appropriate waste management provisions have been developed, implemented, and maintained as per ADOSH-SF-CoP 54.0- Waste Management., Appropriate recycling containers / facilities shall be provided for separation.

HBC Construction Managers shall arrange break- time shifts to ensure that size of available mess hall is able to accommodate the number of labors at any one period to fit comfortably. All employees must wipe clean the space they used and throw their garbage in the designated bin before leaving the mess hall.

Table and seat arrangements are as follows: Seating arrangements will consider the Covid-19 minimum safe distance requirements.



5.17.2 Sanitation Facilities

HBC shall provide sanitation facilities as follows:

No of employees	Minimum number of sanitary facilities		
	Toilet	Urinal	lavatory
20 or less	1	1	1
21- 200	6	6	6

Additional (1 toilet +urinal +lavatory) per 50 employee sequence or part thereof for employees above 200 nos.

- Toilets shall be separated with partitions and lockable doors for privacy purposes.
- Sanitation facilities shall always be made accessible and near proximity to the worksite and

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- Sanitation facilities shall be always maintained and kept clean. Cleaned daily and sanitized twice a week.
- Sanitation facilities shall be provided with adequate lighting and ventilati

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- Wastewater shall be directed into approved municipality holding tanks and regularly disposed-off by licensed hazardous materials collectors.
- All sanitary location shall have appropriate tissues, bidet, and soap for each lavatory.

5.17.3 Potable Water

HBC shall supply potable water from approved municipality suppliers. Potable water shall be:

- Cold during hot weather conditions
- Adequately provided in all places and shall be distributed in such manner as to prevent contamination between water consumer and supply source.
- 1 point per 50 people.
- Dispensed using anti- corrosion tank with taps and labelled with "Safe drinking water."
- Distributed using closed containers such as water cooler or bottles.

5.17.4. First Aid

- A first aid room is established and maintained at site offices and manned by a competent male nurse. Abdu Dhabi CoP 4 Version 3.0 and Article 4 ofUAE Ministerial Order No. 32 in the year of 1982 and 37/2 of 1982 will be complied for all first aid requirements. First aid room and site first aid boxes supplies will be replenished on a regular basis, as reported by a First Aider to ensure the supplies are maintained to meet the legal requirements. First aid boxes will be checked and recorded monthly by the male nurse to ensure compliance.
- All first aid cases shall be recorded in the first aid log sheet by the male nurse/first aiders. Male nurse and Personnel trained in first aid shall be identified with green stickers for their hardhat and work areas as well as a list of names, complete with contact numbers, being posted next to the first aid box and on the site notice boards

5.18.0 Existing structures / structural issues

HBC will assess the impact of the work of all existing structure as well as from starting Compressive, tensile, bending and buckling are the basic types of structural failure for construction elements. These are caused due to faults in design and construction. Barricades are erected to separate the hazardous area either by integration with existing structures or stand-alone installation barricading may make use of existing structures where reasonably practicable however, barricading shall not be tied off to electric cables, flexible air hoses, etc.; and where concrete barricades are used, they shall be accompanied with signs to communicate the hazard information in accordance with Employer requirements.

5.19.0 Scaffolds and Ladders

Reference - ADOSH SF COP – 22.0 Barricading of Hazards V 4.0, 15 July 2024, ADOSH SF COP - 26.0 V 4.0, 15 July 2024 Scaffolding and 37.0 - V 4.0, 15 July 2024, Ladders

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

platform that can be used to support materials, slab, plant or equipment.

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5.19.1 Fixed Scaffold

All scaffold erected during the project for use by any site personnel will be erected by competent scaffolders, who have attended a third party approved scaffold erectors course.

It will be the construction manager's function to:

- Scaffolding erection shall be performed by approved third-party trained and certified scaffolders as per procedures.
- Supplying materials that are both of sound construction and adequate amounts.
- Nominate a scaffold inspector to inspect all erected scaffolding following initial erection and all subsequent weekly checks, formally recording details in the Register. Scaffolds will be re-inspected whenever there is any risk of change such as after adverse weather or after unauthorized interference.
- Before any work is started which involves the use of scaffold platforms it is the responsibility of each respective construction manager to ensure the scaffold is fit for purpose.
- When each scaffold structure is completed, the Scaffolding Inspector will duly inspect and attach a 'Scaff tag' in a prominent position in the vicinity of the access ladder.
- The 'Scaff tag' system will be explained to operatives during induction. Only approved scaffolders are permitted to alter/dismantle any scaffold structure.
- Under no circumstances will any company, or sub-contractor's operatives interfere with scaffold.
- Incomplete scaffolding shall not be permitted to perform any job; cautionary Scaff tags (Red Tag) shall be placed to prevent unauthorized use.
- Access ladder to be secured properly 4:1 or 75º angle on firm level base and ladder end to be extends at least 1meter or 36" above the platform.
- Provide proper fall protection (close all edge and floor opening) while working on scaffolding.

5.19.2 Ladder

The safety of personnel will be enhanced through the implementation of controls for the use of ladders on project sites.

The following should be undertaken for this activity:

- The use of ladders complies with ADOSH-SF – CoP 37.0 – Ladders.
- Straight ladders shall be used or access only.
- Podium ladder or scaffold shall be used on well compacted ground or/ on floor.
- All ladders shall be of the proper length for the job to be done.
- Metal ladders with reinforced side rails and which are wet never be used near electrical equipment with exposed live conductors.
- Each ladder shall be examined before use. Never use any damaged ladder.

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shall be replaced at the first sign of wear or deterioration.

- Ladder shall not be supported on their rungs or cleats shall not be used planks.

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- Ladders shall be erected at an angle of 75 degrees. 4:1 ratio whenever possible
- Where there is a possibility of a ladder being struck by moving vehicles or equipment, men shall be placed on guard or a space at the base shall be securely fenced off.
- Men ascending or descending from ladder shall not carry any tools or materials in his hands.
- Short ladders shall not be spliced together to be make a long ladder.
- All straight ladders shall be erected on firm level base and secure properly.
- Ladders shall not be placed against movable objects.
- Ladder used for access to a floor shall be extended at least 1 meter/ 36" above the landing platform.
- Stepladder shall be fully opened to permit the spreader to lock.
- Identification numbering and register to be maintain for ladder inspection.

5.20 Cantilever and Platforms

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, ADOSH –SF-CoP 40.0

HBC will ensure

- An assessment of the various risks is undertaken, and a safe system of work is established. Ensure documented safe system of work is developed, implemented.
- All false- work erection is appropriately planned, organized, and supervised.
- Those involved in false- work erection is trained and competent.
- The place where false-work erection is carried out is safe.
- False-work equipment and material are appropriately inspected.
- Inform interested parties of the selected method for false-work erection and equipment to use.
- Obtain the necessary work permits and authorization and provide all necessary notifications concerning the work.
- Appoint a competent person to supervise the work at all times.
- All false-work platforms, plant and equipment shall be inspected prior to each use by a competent person.
- Maintenance of false-work and associated components shall only be carried out in accordance with the manufacturer's recommendations.

5.21. Formwork and structures

Reference - ADOSH SF COP - 40.0 V 4.0, 15 July 2024, False Work (Formwork)

HBC will undertake roles and responsibility in accordance with the general requirements of

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collapse of the permanent structure. This could cause injury or death to those working on or near to it, as well as loss of time and money. The causes of many past failures were fore have been prevented by proper consideration when planning, erecting, loading Falsework. Investigations into Falsework collapses have identified a lack of coordi

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various trades and suppliers of Falsework as a major cause. Formwork is the surface, supports and framing used to define the shape of concrete until it becomes self-supporting and includes the forms on which the concrete is poured, the supports which withstand the loads imposed by the forms and concrete, the bracing which may be added to ensure stability and the footings.

The following should be undertaken for this activity:

- All formworks shall only be erected as per design specifications, with copies of the design details kept on site.
- The strength of the structure shall be checked as per the design to ensure that the loads applied can be safely resisted.
- Only trained and experienced operatives shall be allowed to erect and dismantle formwork.
- Where retractable platform double side wall formwork is to be used special training in the erection and dismantling is be organized and recorded before works proceed.
- A full method statement containing the design details shall be in place and briefed to all undertaking the works prior to start works.

5.22. Roofs

Reference - ADOSH SF CoP - 23.0 - V 4.0, 15 July 2024, Working at Heights

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, ADOSH –SF-CoP 23.0 – Working at Height

HBC will ensure:

- proper lifeline and anchorage points must be installed must be certified for third party. Third party must be registered in Abu Dhabi Municipality.
- Evaluation of each operation to determine if fall hazards are present and workplace assessed by using risk assessment and risk management is in place.
- When undertaking a risk assessment for task that are to be completed 'at height'. The hierarchy of control is adopted.
- All work at height is appropriately planned, assessed, organized and supervised.
- All work at height takes account of weather conditions that could endanger health and safety.
- Those involved in work at height are trained and competent.
- The place where work at height is done is safe; equipment for work at height is inspected.
- The risk from fragile surfaces is appropriately controlled, risk of falling objects is appropriately controlled.
- Establish exclusion zones and enforce them, prevent unauthorized access to area. Make sure employees required to be in the exclusion zone including persons holding ladders and banks

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5.23. Excavation and Trenching

Reference - ADOSH SF COP - 29.0 - V 4.0, 15 July 2024, Excavation Work

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The project/construction manager will arrange for a competent person to supervise any excavations that may be necessary after carrying out a site survey and marking out the location of known underground services. Excavations may contain trapped gases or fumes caution needs to be exercised, any gas tests conducted in narrow service trenches.

The construction/supervisor will inspect the excavation(s) daily and undertake a thorough examination within every 7 days in accordance with the Regulations which will be recorded in the register.

A risk assessment should be made of ground conditions, material, etc. and where necessary the excavation must be supported or battered back to prevent materials and soil falling into the trench. A safe means of access and egress must be available into the trench and the supervisor will ensure that stop blocks are utilised where vehicles have to approach the trench edge and that adequate hard barriers are properly placed around all excavations.

All excavating and trenching operations and work conducted must conform to established standards. Trenches 1.5 meters (5 feet) or deeper must be shored, use a drag box, or other worker protection system, or be sloped back to the angle of repose. Materials must be placed 0.6 meters (2 feet) or more from the edge of the excavation. Precautions must be taken to prevent such materials from falling into excavation.

Where vehicles or equipment operate near excavations or trenches, the sides of the excavation must be shored or braced as required, withstanding the forces exerted by the superimposed load. In addition, stop logs or other substantial barricades must be installed at the edges of such excavations.

Safe access must be provided into excavations by means of ladders, stairs, or ramps and must have two access egress points. Open pits, trenches and other excavations shall be marked or flagged with high visibility flags or barricade warning devices. Do not cross-barricades or barriers without permission from supervisor.

HBC construction team must prepare a detailed method statement and risk assessment based on the geo graphical study and as build drawings of previous works in that area. The excavation area must barricade/ fence off before starting excavations. Trail trenches should be made to check the existing underground services. Before starting excavation, a detailed work permit (Excavation permit) must be prepared. Communication of method statement and risk assessment should be conducted to the people working in the excavation. No parallel excavation shall be carried out unless adequate excavation protection system installed.

HBC ensure to undertake their specific roles and responsibilities in accordance with ADOSH SF

COP 29.0 Excavation Work considering the Following requirements:

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Verification of the location and condition of all underground tanks, vaults, wells, voids and structures, and ensure that any chemicals, volatile fuels and gases cont completely removed.

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- In excavations greater than four (4) feet in depth, or where oxygen deficiency or other hazardous atmospheres could reasonably be expected to exist, testing must be performed prior to the entry of employees.
- That effective procedures and control measures are in place, refer to ADOSH-SF– CoP 21.0 – Permit to Work Systems, which are implemented in order to manage activities safely and without risk to health.
- HBC ensure that all foreseeable emergency situations are identified, and appropriate emergency procedures developed to manage these situations.
- If the ground is appropriate, one of several ground dewatering techniques may be used. Such methods involve either shallow well pumping or well-pointing. In either case, the pumping out of water has the effect of lowering the ground water table to a level below that to which the excavation is to be taken.
- HBC ensure to Comply with the requirements of ADOSH-SF – COP 22.0 – Barricading of Hazards.
- Cable locator Equipment must be used by a Trained/competent person and its frequency must be checked and adjusted to default value prior to use (so that it may not miss the cables located at higher depths or not shown in the drawings).
- Where a service is located in any excavation, any instruction issued by the relevant authority must be strictly adhered to

5.23.1 Temporary Safe Slopes

(a) Battered sides or benches will generally provide temporary stability if the slopes are as given in Table 1 below:

Ground conditions	Safe Temporary Sloes (degrees from the horizontal)	
	Dry Site	Wet Site
Boulders	35/45	30/40
Cobbles	35/40	30/35
Gravel	30/40	10/30
Sand	30/35	10/30
Silt	20/40	5/20
Stiff clay	40/45	25/35

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Table: safe Temporary slopes

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5.23.2 Support Systems

- HBC shall provide timbering or shoring for trenches or excavation greater than 1.2-meter-deep where there is a danger of any material falling or collapsing.
- HBC shall ensure, for larger excavations, a survey of the soil prior to excavation by a trained and experienced person shall be conducted which will provide determined and decided by a competent Engineer.
- HBC Engineer shall ensure appropriate supplies of support materials are available before the excavation commences which shall be sound, free from defects, of appropriate strength, good construction, appropriately maintained and:
- Site securely to prevent displacement.
- Only be erected/altered/dismantled by competent employees under supervision.
- Conventional timber shuttering or steel trench sheets and adjustable props shall be used.
- Props may be mechanical (jacks or a crow props) or hydraulic.
- Precautions to protect employees and others taken before and during any excavation.
- Temporary framework on supports, or a protective box or cage may be needed to protect employees while they put in permanent timbering.
- A box or cage can be moved forward as timbering progresses such as in the case of a `drag box` and
- Care shall be taken to see that excavation work does not jeopardize the stability of any adjacent structure.

5.24 Confined space Procedure

Reference - ADOSH SF CoP - 27.0 - V 4.0, 15 July 2024

Contractors shall always consider doing work without personnel entry into confined spaces. When working in a confined space is unavoidable a risk assessment will be carried out, Confined spaces shall be categorized as Non-permit and Permit required Confined Spaces. Arrangement for. emergency rescue systems will be arranged in case permit required confined space is attended. HBC ensures to undertake their specific roles and responsibilities in accordance with ADOSH SF COP 27.0 Confined Spaces considering the following requirements: UNEC ensures that all activities that require persons to work within a confined space, are identified and recorded. An assessment of the various risks is undertaken, and systems of work are established which are safe to all parties involved or affected including the public. HBC ensures to develop a safe working procedure (Permit to work procedure) for each identified confined space which his employees enter.

5.24.1 Permit-Required Confined Space (PRCS)

This is required if one or more of the following characteristics are met:

- Contains or has a known potential to contain a hazardous atmosphere. Three of the most common atmospheric conditions that constitute hazards are oxygen deficiency, presence of combustible gases and vapors, and toxic gases and vapors
- Contains a material with the potential for engulfment of an entrant

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required space. Only employees who are trained as an entrant and have obtained a permit signed by the entry supervisor may enter a permit required confined spa

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- Attendant - An individual who is stationed outside and monitors authorized entrants. At least one individual must be stationed outside the permit required confined space.
- Entry Supervisor – is a supervisor or foreman responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry, for overseeing entry, and for terminating entry.

5.24.3 Required Equipment

The following equipment is to be provided and maintained to ensure their proper use:

- Testing and monitoring equipment
- Ventilating equipment
- Communications equipment
- Personal protective equipment
- Lighting equipment
- Barriers and shields
- Ladders
- Rescue equipment
- Other equipment necessary for safe entry

5.25.0 Demolition and decommissioning

Reference - ADOSH SF COP - 53.0 (3.5Management of Demolition/Decommissioning Work) - V 4.0, 15 July 2024

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, –SF-CoP 53.0 – OHS Management during Construction Work. Competent workers are assigned the task. Demolition / decommissioning work is considered a high-risk activity and as such specific consideration shall be given to these risks prior to any demolition / decommission works commencing. A specific OSH demolition / decommissioning plan that is appropriate to the scope of works, risks and hazards associated with the demolition / decommissioning activities will be developed by HBC before work is to commence.

HBC will ensure that a site-specific risk assessment is prepared considering:

- The ADOSH-SF-CoP 53.0
- Safety requirements contained in the procedures, NOC, guidelines of competent authorities
- And structural details including plans and drawings of the structure.

When sub- contracting the work, licensed and approved contractor from competent local authorities will be used with proved track records to execute the job and will be stringently supervised by HBC.

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as possible ergonomic principles and be properly maintained and certified by the Local Authority approved third-party with copies available at work area for review at any ti

- Piling shall be carried out by suitably competent contractors, with all op supervision of competent person(s), performed by trained and competent p

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- A Safe System of Work and Risk assessment for piling will be designed and communicated to regulatory bodies if required. for acceptance before works commence.
- The Piling operator shall ensure that a minimum 1.5 m clearance to any identified underground service shall be always maintained.
- All Piling work areas within the project site shall have full barriers, primarily concrete, in areas in close proximity to live traffic routes and where vehicles could inadvertently access with no gaps. No protection barriers to be removed without prior approval from HBC Construction Management and Local Authority as applicable.
- Plant stop blocks shall additionally be installed as required on access routes, a flagman shall be designated to each rig or crane.
- The rig siting ground shall be levelled and compacted with aggregate as required to ensure adequate stability with due consideration given to the soil structure. Concrete planks or steel plates may be considered to ensuring stable ground.
- All Rigs shall have all guards fitted to all rotating parts and trap points and secured at all times.
- Safe working distance between rigs/cranes to be maintained.
- All piling operations shall be indicated on a specific logistics plan, designed, and communicated to concerned parties for each pile group, indicating the crane, rig and rebar cage positioning and lift path especially within collapse radius of live roads control and other critical zones. Designated safe distances to structures shall be always maintained.
- All exposed services shall be clearly marked with warning tape and signage and communicated to all personnel and always avoided. Any unidentified services found during piling shall be immediately communicated to management on discovery and marked.
- All spoil to be temporarily removed to designated area until removal if required.
- All drilled bore holes to be covered with mesh guard.
- Signage and adequate night-time lighting to be installed.
- Precautions shall be taken if it is necessary to use piling equipment in dangerous proximity to electrical conductors, overhead lines etc. to ensure they are first isolated if practicable. Safe working distances shall always be maintained regarding live equipment.
- The protection of marine life and environment shall be considered and suitably controlled during all marine piling operations.
- Workers employed in the vicinity of piling equipment shall wear mandatory PPE, such as ear plugs, safety shoe, coverall, safety helmet, safety goggles. Workers handling sheets and equipment shall wear gloves.
- To prevent danger from wind or other sources, hand/tag lines shall be used to control any loads (for rebar cages).

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permitted to be done using handheld tools.

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5.27 Electrical and Gas Welding

Reference - ADOSH SF COP - 21.0 - - Permit to work systems, ADOSH SF COP - 28.0 - V 4.0, 15 July 2024- Hot Work Operations (e.g. Welding and Cutting), ADOSH SF COP-49 version 4.0, 15 July 2024 - compressed gas and air

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, –SF-CoP 21.0, –SF-CoP 28.0, –SF-CoP 49.0

HBC will ensure:

- A specific hot work risk assessment to be developed, implemented. Competent workers are assigned the task. While assessing various risks shall be considered such as; Fire explosion, burns, fumes, gases and ventilation, electricity, radiation.
- PTW to be obtained for such activity.
- MSDS for electrodes, fluxes and coating are made available to employees required to perform welding.
- Appropriate fire prevention measures and controls are implemented.
- Appropriate barricading and signage are available in area.
- Proper protection and PPE's arrangements to be implemented for welders and other persons in the area.
- Proper waste management arrangements to be mad for hot waste.
- Competent welder, supervisor and first aider to be available in area. Arrange designated welding area with all appropriate safety arrangements.
- Appropriate control measures are utilized to reduce as far as reasonably practicable, the exposure level of personnel to harmful fumes and gasses.
- Electrical and radiation hazards are eliminated or significantly reduced through adherence of safe system of work.
- Regular inspections to be conducted to ensure safe system of work are in place.
- Protect nearby combustible materials from sparks that might escape through openings in floors or walls.
- Fire Extinguishers must be ready for instant use.
- Fire Watch lasting at least 30 min after welding or cutting operations is required if more than a minor fire might develop and if certain combustible materials are present.
- Authorization: A responsible individual must inspect the area and designate precautions, preferably by written permit

5.28.0 Gas Cutting

Reference - ADOSH SF COP 21.0 V3.1, July 2019, Permit to Work Systems & COP 28 V 4.0, 15 July

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ensure:

- A specific hot work risk assessment to be developed, implemented. Comp
  assigned the task. While assessing various risks shall be considered such
  burns, fumes, gases and ventilation,

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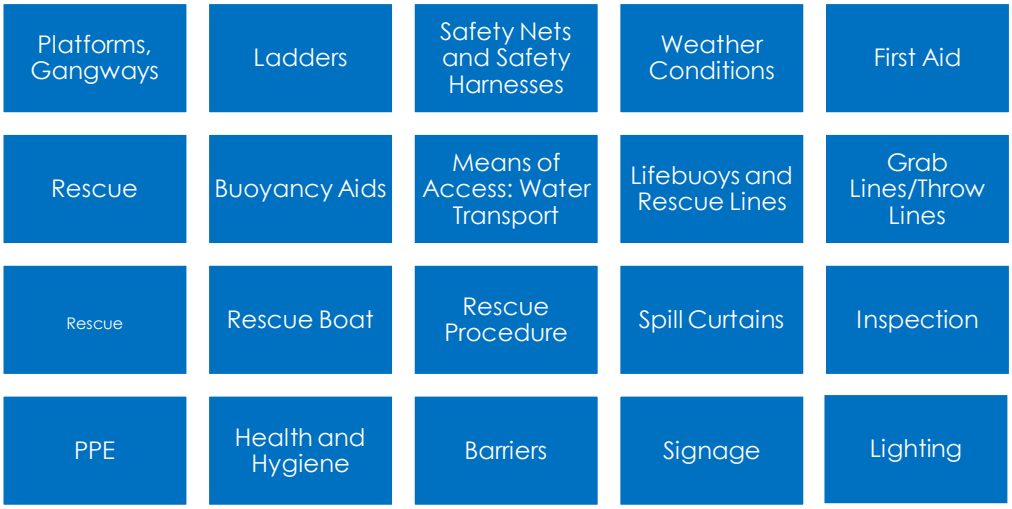
- PTW to be obtained for such activity.
- MSDS for electrodes, fluxes and coating are made available to employees required to perform welding.
- Appropriate fire prevention measures and controls are implemented.
- Appropriate barricading and signage are available in area.
- Proper protection and PPE's arrangements to be implemented for welders and other persons in the area.
- Proper waste management arrangements to be mad for hot waste.
- Competent welder, supervisor and first aider to be available in area. Arrange designated welding area with all appropriate safety arrangements.
- Appropriate control measures are utilized to reduce as far as reasonably practicable, the exposure level of personnel to harmful fumes and gasses.
- Regular inspections to be conducted to ensure safe system of work are in place.
- Protect nearby combustible materials from sparks that might escape through openings in floors or walls.
- Fire Extinguishers must be ready for instant use.
- Fire Watch lasting at least 30 min after welding or cutting operations is required if more than a minor fire might develop and if certain combustible materials are present.
- Authorization: A responsible individual must inspect the area and designate precautions, preferably by written permit.
- Under no circumstances any fittings on oxy-acetylene equipment are allowed to contaminate with grease or oil.
- Regulators are daily checked. Employee shall never use equipment witted with a regulator in which a creep condition is known exist.
- The use of correct color and type of hoses and fittings recommended by the manufacturer.
- Flash back arrestors are fitted to all oxy-acetylene equipment's.
- Oxy-acetylene equipment is not left near hot equipment or material which could burn leads.
- There is no smoking when welding or near welding activities.
- All gas cylinders are stacked vertically, whether full or empty and are secured against falling.
- Full cylinders are kept separate from empty ones.
- All cylinders are shielded from direct sunlight or other heat.
- Oxygen cylinders are kept at least 6 meters away from acetylene or LPG.
- Ensure visual checks are carried out by users on welding and cutting equipment's before use.

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Element 1, ADOSH SF-CoP- 31.0- Working on, over or Adjacent to Water-Underg
will ensure: A specific Method statement risk assessment to be developed, implen
workers are assigned the task.

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5.29.1 Working on or Adjacent to Water Method Statement Suggested Content Topics



5.30.0 Mobile Equipment /Plant & Equipment management Procedure

Reference - ADOSH SF COP - 36.0, Version 4.0, 15 July 2024 Plant and Equipment & COP - 51.0, Powered Lift Trucks

All mobile equipment used at site will be visually inspected and the documents verified by the safety staff before assigned for work at site. The machine will have valid Registration certificate, third party inspection certificate and the operator will hold a valid USE License and competency proof.
Competent banks men will be assigned to control the manoeuvring vehicle/plants and control pedestrian and construction vehicle traffic. Banks men should be suitably clothed to stand out from others on site e.g. wearing high visibility/reflective vest, specific coloured safety helmets etc.
Pre-mobilization checklist and gate pass system shall be implemented prior to use any mobile equipment at site along with implementing daily inspection check list and this shall be carried out by operators/weekly inspection check list this shall be carried out by HSE team and monthly equipment log shall be submitted to consultant for review.
All vehicles and equipment's refuelling will be through diesel tanker, at early morning hours which will be provided with portable drip tray to be laid below the refuelling points.
All malfunction/ break down equipment will maintain through mobile workshop at designated area.
The banks men will check and make sure the following:

- Give clear and precise messages and signals.
- Ensure that construction vehicle drivers/operators can be seen during all manoeuvres, and vice-versa.
- Warn and stop any pedestrians from entering the area of the manoeuvre.
- Always wear the required high visibility clothing... etc for the site
- Ensure safe access and egress for the vehicle and themselves.
- Report any known or potential hazards to their supervisors.
- Stop the movement of any construction vehicle that is being driven with disregard to the safe systems of work for the site.
- Stop directing the movements of pedestrians.

The following equipment's will be used at site:

• 360° Excavators	• Dozers	• Truck mounted crane

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- If it is necessary for anyone to go into the machine's working radius whilst it i
  machine operator must be made aware by signals by banks man.
- No person should be permitted at any time to be within the machine's work
  obtaining permission from the operator and banks man.

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- No excavator bucket or load should be slewed directly over personnel or vehicle cabins.
- Vehicles should be loaded over the side or rear, and the material should not be dropped from an unnecessary height.
- The manufacturer's recommended bucket size must not be exceeded.
- It may be possible to lift the load with the bucket in close to the machine at ground level but, as the load radius and elevation increases, the lifting capacity of the machine decreases.
- A workface below the level of a machine must never be undercut so as to affect the stability of the machine.
- Excavator must never be permitted to travel in a confined area, or around people, without a banks man to guide the driver.
- On wheeled excavators, it is essential that the tyres are in good condition and correctly inflated.
- If stabilising devices are fitted, they should be employed when the machine is excavating.
- When the front shovel is being employed, the backhoe attachment should be in its "travel" position, with the safety locking device in place.
- When operating the backhoe in poor ground conditions, the stabilisers tend to sink into the surface of the ground, reducing stability. Frequent checks should therefore be made of the stability of the machine.
- The loading shovel should always be lowered to the ground to stabilise the machine when the backhoe is employed.
- A grader is essentially a high-speed machine, and its speed of operation must be adjusted to suit site and job conditions. It is important that the operator is alert to other road users, particularly while on reverse. Flag men/banks men will be assigned when the grader is working on haul road. These men will control other traffic in the area .

Mobile Elevating Work Platforms (MEWP)

MEWP are used at site as temporary working platform for external finishing work of villas such as wall surface preparation, painting Fixing work…etc. Scissor lifts and Telescopic boom or jib are the two types of MEWP used at site.

Major hazards assessed with MEWPs are:

- Collapse or overturning of the MEWP.
- People falling or being thrown from the carrier or basket.
- People in the carrier being trapped against fixed structures.

Factors in collapse or overturning incidents typically include:

- Equipment failure
- Ground Conditions
- Outriggers not being used or faulty.
- MEWP being struck by a vehicle or other mobile plant.
- Overloading a carrier
- Carrier struck by a load.

Factors in people falling or being thrown from the carrier typically include:

- Sudden movements caused by an impact.
- Ground movement
- Overreaching from the carrier
- Climbing in or out of an elevated carrier

Safe Operation Procedures

The project engineer/supervisors must make sure that following points are considered before starting work with MEWP.

- Check that the MEWP has been thoroughly examined by a competent person and valid certificates available with machine.
- Only competent persons should be allowed to operate a MEWP. Operators should have received

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- Check the ground is firm and will support loadings. Where possible, eliminate ground risks by phasing the work to avoid uneven ground or excavations etc. or by compactin adequate packing, if necessary, under outriggers.
- Check machine is level or can be leveled. If it is necessary to operate a MEWP or edge, ensure that suitable barriers are used.

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- Traveling on inclines must only be carried out within the limits specified by the manufacturer. Most MEWPs have very low gradient tolerance and are fitted with tilt alarms to warn when the limits are exceeded.
- The safe working load must be clearly marked at the base of the machine and on the working platform. The load specified must not be exceeded.
- Telescopic and articulating machines are normally designed to carry operators and tools only, while scissor lifts may have the capability to carry some materials. Manufacturers' instructions must be followed.
- MEWP's must only be used within the manufacturer' recommended wind speeds. This may necessitate a wind speed indicator being available. Remember that conditions can change even when working within a building e.g. if roller doors are opened.
- Persons should not leave the working platform whilst in an elevated position, nor should materials be transferred.
- Stepladders or hop-ups must never be used on the working platform to gain extra reach or height.
- MEWPs are fitted with emergency (auxiliary) lowering controls and an emergency stop switch. Before using a MEWP, the operator(s) and another responsible person on site (who is not working on the platform) must know how to use the emergency controls.
- On completion of the work, the MEWP should be parked in a designated area. It should never be left in a raised position. The MEWP should have the engine/ motor switched off and the key re moved.
- The operatives on working platform (MEWP) must use suitable fall protection system to avoid fall from height. Work restraint or fall arrest system may be used to stops a person falling from the carrier or to stops a person after they have fallen from the carrier.

5.31 Portable Tools

Reference - ADOSH SF COP-35.0, Version 3.0, July 2016 Portable Power Tools & COP 36.0 - Plant and Equipment Version 4.0, 15 July 2024

5.31.1 Pneumatic **and Hydraulic Tools and Equipment**

It is the responsibility of supervisors to ensure the personnel being utilised for a task are trained to use the pneumatic and hydraulic tools and equipment necessary for that task to be achieved. In addition, they must also ensure that all steps, to reduce the risk to an acceptable level, have been carried out and that any additional controls or PPE requirements are in place prior to commencing operations.

5.31.2. Small Electrical and Hand Tools

Temporary wires, extension leads, electrical cables and hoses will be kept off the walking surfaces and routed in an orderly manner so as not to present a slip, trip or falling hazard. Where such leads cross a road, walkway or access the person in charge of its use must ensure that it is protected sufficiently so as not to allow any unnecessary wear and tear and to reduce the risk of it causing an incident.

Qualified personnel will carry out all repairs. Breaks in wires will be replaced with new flex/cable.

All small electrical tools and equipment must be rated for 110V. Where supply is taken from 240V supply, step down transformers must be used and breaker of 30 mA sensitivity (RCD).

It is the responsibility of supervisors to ensure the personnel being utilised for a task are trained to use the small electrical and hand tools necessary for that task to be achieved. In addition, they must also ensure that all steps, to reduce the risk to an acceptable level, have been carried out and that any additional controls or PPE requirements are in place prior to commencing operations.

- All Portable power tools and appliances shall be subjected to the PAT testing on quarterly

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leads, and distribution boards is carried out.

- All procured power tools are equipped with dead-man switch.

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- All risks associated with the use of portable electrical apparatus have been adequately assessed and effectively controlled.
- Testing of portable electrical apparatus is carried out by a qualified electrician.
- Those required to carry out visual inspections are capable of detecting signs of faults or damage of the equipment.
- All electrical equipment, tools, cables and electrical accessories are tested prior to first use and after any substantial alteration or repair (including PAT test).
- Records of inspections and maintenance undertaken are completed and maintained as part of the Health and Safety File.

5.32 Falling Objects

Reference - ADOSH SF COP-22.0, Version 3.1, July 2019 Barricading of Hazards & 23.0 - V 4.0, 15 July 2024, Working at Heights

To falling object from height, adequate protection such as toe board will be provided for all working platform or on the floor where there is possibility of material can be knocked down. Area underneath the working platform will be barricaded with adequate hazard warning signs.

- Operatives working at height for example scaffolders or edge protection teams will be provided with tool bags or suitable lanyard to secure the tools to avoid dropping them.
- All operatives will be provided with hard hats and awareness will be given through Toolbox Talks about the hazard of falling objects.
- Provide and secure the toe boards.
- Make sure there is no gap between scaffold boards on platforms.
- Good housekeeping on working platforms, Keep the platform clear of loose materials.
- When materials are stacked above the height of the toe boards provide brick guards or barrier netting to avoid them falling.
- Tool-retainers (boxes and buckets) to be used to reduce the risk of tools falling form scaffold.
- Materials or loads shall be moved or deposited without imposing any violent shock.
- Do not throwing items to the ground.
  - Evaluation of each operation to determine if fall hazards are present and workplace assessed by using risk assessment and risk management is in place.
  - When undertaking a risk assessment for task that are to be completed 'at height'. The hierarchy of control is adopted.
  - Access evaluates site or operation to determine if hazards are present and the barricading is required. Area barricading may be required where there is danger of a person falling, being struck by falling objects, pedestrian and vehicles entering site, where there is danger of injury from equipment or processes or for maintenance, where there is a control required by risk assessment.
  - Different type of barricading shall be used as required by Assessment and evaluation, such as Soft Barricading, Hard Barricading.

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- Unauthorized entries are controlled.
- All work at height is appropriately planned, assessed, organized and supe
- All work at height takes account of weather conditions that could endange

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- Those involved in work at height are trained and competent.
- The place where work at height is done is safe; equipment for work at height is inspected.
- The risk from fragile surfaces is appropriately controlled, risk of falling objects is appropriately controlled.
- Establish exclusion zones and enforce them, prevent unauthorized access to area. Make sure employees required to be in the exclusion zone including persons holding ladders and banks man, wear hard hats.
- Work is stop while people traverse the exclusion zone.
- Place barricading and warning signs.
- Use bolt bags and tool carriers to carry small items and tools.
- Implement safe working platforms with appropriate toe boards to prevent falling objects.
- Prevent tools and equipment's used at height from falling by securing them with lanyard.
- Workers working at height are using appropriate PPE and fall arrest system; rescue equipment's shall be available in the area.
- Select trained and competent workers to work at height, people who suffer from vertigo or are afraid from heights, who are not physically fit enough to climbing activities, who suffer from dizziness may be excluded from work at height activities.
- Provide guardrails to all edges where there is fall potential of 2 meter or more.
- Regular inspections for fall protection systems shall be performed.
- Work at height safe system of work requirements to be followed.

5.33 Slips Trips and Falls

Reference - ADOSH SF Cop - 8.0 - V 4.0, 15 July 2024 General Workplace Amenities

To avoid slip trip and falls at site good housekeeping must be maintained at all times. The supervisor of the work shall make sure that all materials are stacked, and construction waste is regularly removed from site.

- Floors are kept free from obstructions such as material, trailing cable, spillage, tools...etc. People must be able to move around safely.
- Obstructions and objects left lying around can easily go unnoticed and cause a trip. Try to keep work areas tidy and if obstructions can't be removed, warn people using signs or barriers. Cardboard should not be used to absorb spillages as this itself presents a tripping hazard.
- Footwear can play an important part in preventing slips and trips. This is especially important where floors can't be kept dry. Use safety shoe and make sure it is clear of grease, oil...etc.
- Clean spills up immediately, if a liquid is greasy, make sure a suitable cleaning agent is used. After cleaning the floor can be wet for some time; dry it where possible. Use appropriate barriers to tell people the floor is still wet and arrange alternative bypass routes. If cleaning is done once a day, it may be possible to do it last thing at night, so it is dry for the start of the next shift.
- Trailing cables - Position equipment to avoid cables crossing pedestrian routes, use cable covers to securely fix to surfaces, restrict access to prevent contact. Consider use of cordless tools.
- Improve lighting levels and placement of light fittings to ensure more even lighting of all floor areas

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- Access and egress to site and other areas used by pedestrians will obstructions at all times.

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- Designated walkways will be maintained to ensure that no obstructions are in place which could cause a slip, trip hazard.
- The disposal of waste will be managed to ensure that no waste materials can present a slip trip fall hazard. Areas are to be clearly identified areas where waste can be left for later collection.
- Work areas will be adequately lit, and housekeeping will be kept to a high standard.
- Cordless tools will be used, when possible, to avoid having to manage cable runs
- Where cables are needed for temporary lighting or mains-powered tools, run these at high level, particularly along corridors.
- Mechanical plant will be used to move materials to storage areas that are convenient to where they will be used. This will reduce the need to carry objects over poor ground.
- Steps leading to site cabins will be properly constructed.
- Waste material will be managed to ensure that the site is kept clean and tidy to reduce the risk of tripping.

5.34 Animals and Reptiles

Living in Abu Dhabi's urban environment, it's easy to forget about the local wildlife that shares the land with us, but sadly many are currently under threat of extinction. There are several kinds of animals, reptiles and insects in the desert which are potentially dangerous. Leave all these creatures alone and they will not pose any threat to you. Do not feed wild dogs or cats. Leaving food out will also encourage mice and rats. Rabies is prevalent in the Mid-East and becoming friendly with wild dogs and cats could result in getting bitten by an animal with rabies. Sand vipers, a poisonous snake, have been found in work areas. Scorpions are also common in desert as are spiders and other insects which bite. Report any animal and snake bite or scorpion sting immediately.

If mice, ants, mosquitoes, or other pests become a problem in the work area, a contractor is available to exterminate vermin and insects. Any requests for these services should be directed to the occupational hygienist/OSH department.

If a person is bitten by desert animal or insect, the following first aid should be performed:

5.34.1 Snake Bite:

- If the victim is more than 10 minutes from the hospital, place a band above the bite or above the joint closest to the bite.
- Do not move the person. Keep the victim calm and call for Emergency Assistance.

Safety Measures for Avoiding Snake bite

- When you spot a snake, evacuate the area, and inform your foreman.

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be.

- Do not kill it, the snake can be easily immobilised by throwing a gunny b
- If you realize you are near a snake, avoid sudden movement. Sudden mov

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the snake to strike. If you remain still, the snake may leave. If the snake doesn't move away from you after a few minutes, slowly back away from it.

- Even if you identify a dead snake do not try to handle it with hand as snakes may feign as dead and strike when handled.

Safety Precautions

- Examine your workplace manholes and excavation before starting the work.
- Be alert for snakes in unusual places. Wood, leaves, stalled automobiles, piles of debris, piles of stored material, building materials, trash or any type of rubble or shelter.
- Before beginning any clean-up or rescue operations, search the premises thoroughly for snakes. They may be under or near any type of protective cover.
- In clean-up operations, use rakes, pry bars or other long-handled tools when removing debris. Never expose your hands, feet or other parts of your body in a place where a snake might be.
- After dark, carry a strong light.
- Keep your premises clean, free of food and food waste, which attract rodents and this in turn attracts snake.
- Clear the waste and debris before it piles up.

5.34.2 Scorpion Sting:

- If available place an ice pack, or ice cube on the sting. Transport the employee if he is suffering from shock to the close hospital.

5.34.3 Spider Bite:

- Ice cubes or an ice pack should be used to relieve pain. If the bite does not heal within a few days, or becomes infected, the victim should report to the hospital.

5.34.4 Dog or Cat Bite

- The victim should immediately report to the hospital for tests and, if necessary, treatment. The Medical Officer of Health should diagnose the bite and notify the detail to the Veterinarian for observation of the animal.

5.35.0 Workplace Bullying and Violence

Reference - ADOSH SF CoP - 13.0 - V 4.0, 15 July 2024 Violence in the workplace

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF Element 1, –SF- Cop 13.0 Violence in the Workplace. Workplace violence is any "Action, incident or behavior that departs from reasonable conduct in which a person is assaulted, threatened, harmed, or injured in the course of, or a direct result of, his or her work. Types of Workplace violence

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receives services from or is under the custodial supervision of the affecte

victim.

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- Violence by Co-workers: This is violence committed by an assailant who has some employment related involvement with the workplace, for example, a current or former employee, supervisor, or manager.
- Violence by Personal Relations: This is violence committed by an assailant who confronts an individual with whom he or she has or had a personal relationship outside of work.

HBC shall ensure:

- The routine assessment of the incidence of workplace violence and the factors that support or generate workplace violence.
- Assigning responsibilities and developing policies and plans at the workplace to combat workplace violence and establishing the required monitoring mechanisms and range of sanction.
- Providing information, instruction, training and supervision so employees can perform the work safely.
- Providing security personnel if required based on risk assessment.
- Consulting and cooperating with safety and health representatives, if any, and other employees, regarding occupational safety and health at the workplace.
- Consulting with representative of the workers on the development of relevant policies and plans and how to implement them; and
- Setting up of mechanisms for collecting data and information in the area of workplace violence.
- Provide security personnel if required.
- Appropriate monitoring for prevention of workplace violence.

HBC maintains stringent zero tolerance workplace violence policy and has developed specific OSH OFFENSE & PENALTY SYSTEM to ensure that all companies working in our project are aware about the expectations we have in their performance against our Code of Conduct and OSH Policies

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Appendix 1: Sample Workplace Violence Factors and Control Checklist

These sample checklists can help employers identify present or potential workplace violence problems. Employers should expand, modify and adapt this list to reflect their circumstances and risk assessment

Section One: The workplace (Each YES answer indicates a risk of violence)		
Issue	Yes/No	Comments
Are money/valuables kept at the workplace?		
Has violence been an issue in the past?		
Are people affected by alcohol and/or drug abuse?		
Are customers likely to be angry or disgruntled?		
Are there any other obvious reasons why workers or clients may become violent?		
Section Two: Workers (Each Yes answer indicates a risk of violence)		
Issue	Yes/No	Comments
Do staff work alone or at night?		
Do staff work unreasonable duties or workload?		
Do inexperienced staff deal with customers?		
Section Three: Identify, Assess and Control (Each NO answer indicates a risk of violence)		
Issue	Yes/No	Comments
Are all workplace violence reports analyzed?		
Are potentially violent people identified?		
Are risk factors for workplace violence identified?		
Have risks of injury or harm been assessed?		
Have the required controls (e.g., administrative, workplace design, equipment, etc.) been identified and provided?		
Have they been used successfully?		
Is the safety of public/clients considered?		
Section Four: Consultation and cooperation (Each NO answer indicates a risk of violence)		
Issue	Yes/No	Comments
Is there a forum for employees to share		

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grievances and talk about workplace concerns (e.g. Workplace violence)?		
Does the safety and health representative check hazards?		
Is there a procedure for reporting incidents?		
Are all changes discussed with workers?		
Are workers consulted?		
Section Five: Violence Prevention (Each NO answer indicates a risk of violence)		
Issue	**Yes/No**	**Comments**
Does your workplace have a violence prevention program?		
Was the plan drawn up in consultation with workers?		
Does the plan cover identification, assessment and control?		
Does the plan cover induction and training?		
Is there a security system in the workplace?		
Section Six: Violence Response Plan/Program (Each No answer indicates a risk of violence)		
Issue	**Yes/No**	**Comments**
Does your workplace have a violence response plan?		
Does the plan include first aid and medical support requirements?		
Does the plan include backup from police and emergency services?		
Does the plan include prompt de-briefing and consulting?		
Is an employee assistance service provided?		
Is the plan reviewed after each violent situation?		
Section Seven: Training and Information (Each NO answer indicates a risk of violence)		
Issue	**Yes/No**	**Comments**
Have staff been provided with relevant information about workplace violence?		
Have staff been trained to recognize and avoid potential violence, and defuse violence?		
Do staff have interpersonal skills training?		
Are there safe procedures for violent situations?		

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Do staff understand violence management procedures?		
Are staff trained to report violent incidents?		

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5.36 Impact / Hazards from Adjacent Activities

Reference ADOSH-SF Element 2 Version 4.0, 15 July 2024, Risk Management

This section describes potential temporary impacts of project alternatives that may occur during project construction due to adjacent

- Partial occupation / use of the building / facility during construction
- Nearby schools / playgrounds
- Retail malls / shops
- Use of hazardous materials nearby
- Other construction activities and
- Surrounding land use

In general, the potential for disruptive construction effects would correspond to the type and location of activities proposed in each construction stage, and the duration of the overall construction process associated with each alternative.

5.36.1 Community Impacts

During construction, motorists and pedestrians would experience some delays and detouring

Some streets would be closed during construction and others would be subject to periodic lane closures

Further delays would occur as construction trucks and equipment use local streets

5.36.2 Construction-period Safety and Security

Safety and security issues associated with the construction include potential disruption of traffic movements, including potential for obstruction of access to schools, malls, government structures and quarters.

Heavy vehicle movements, possible hazardous wastes excavation and transport, and construction site activity would also create potential safety concerns.

5.36.3 Traffic Disruptions

In addition to temporary traffic disruptions (closures and detours), construction traffic would be noticeable on area roadways and could contribute to localized congestion from time to time.

5.36.4 Impacts on Natural Resources

Impacts to natural resources on land include disturbance of habitats for special status species, wetland areas, or other special aquatic sites.

Noise and vibration may cause dispersing the natural habitat in the surroundings.

5.36.5 Impact due to Hazardous Material or Activity

Impacts of surrounding activities like explosions for construction or use of hazardous material can cause impacts on the stability of safe working platforms, health impacts, compromising visibility and

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5.36.6 Aesthetics

Presence of construction material, stockpiles and disposal of waste can affect surroundings Depending upon the surrounding land use like marine environment

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acoustic barriers, fence, barriers signs shall be placed to avoid disruption and disturbance.

Best Management Practices to be implemented to control and prevent to the Maximum Extent Practicable the discharge of pollutants to surface waters as well as groundwater. Erosion control measures may include, but not be limited to, the installation of silt fences on cut slopes, around drainage inlets, and any drainage path; placement of hay bales, mulching; erosion control blankets; and hydro seeding.

Best construction management practices would be in place to ensure the safety of construction workers, local employees, and residents during construction of the build alternatives. Fencing and lighting of construction and staging areas, recognized safety practices for the utilization of heavy equipment, and the movement of construction materials would be implemented to avoid accidents. During construction, HBC will be responsible for job-site safety and security. Detours, lane blockages, and truck entrance locations would be well signed.

5.37 Temporary Works

Reference - ADOSH SF COP - 43 Version 4.0, 15 July 2024 Temporary Structures and Element 02 - Version 4.0 15 July 2024, Risk Management

HBC will undertake roles and responsibility in accordance with the general requirements of ADOSH-SF- Element1, Element 2, ADOSH-SF-CoP- 43.0- Temporary Structures and ADOSH-SF-CoP- 20.0- Safety in Design (Construction). HBC will take responsibility for safe construction and use of all temporary works conducted on project they control, regardless of whether they are carried out by a sub-contractor.

Temporary Works is any temporary arrangement to construct the permanent works or used to support the permanent works during its construction and/or until such time that it becomes self-supporting.

Temporary works is part of the works that allows or enable construction of, protection to, support or provide access to, the permanent works and which may or may not remain in place at the completion of the Works. Temporary Works can be either industry standard designs that cover a range of limitations, or a bespoke design to cover a site-specific situation, however in both cases design calculations are required to be produced to demonstrate the suitability of the chosen option.

HBC will ensure:

- Design and load calculations of temporary works shall be submitted for review prior to installation as required by client.
- If there is any temporary works to be done at project HBC is required to submit a stand-alone temporary works procedure for clients review and approval.
- Temporary structures shall be fit for the purpose and meet all the requirements of the UAE and competent.
- Temporary works must be designed, and design must be checked and ap

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- Temporary works must inspect all physical works to endure work progress demonstrate compliance with design.
- Temporary works must implement checks and inspections and keep records in writing and be demonstrable.
- All changes must be referred to the designer and checker.

5.38 Existing services

Reference - ADOSH SF COP - 39.0 - V 4.0, 15 July 2024 Overhead and Underground Services

HBC shall undertake roles and responsibility in accordance with the general requirements of ADOSH-SF CoP 39.0 - Overhead and Underground Services and Ensure that all necessary risk assessments being performed in accordance with ADOSH-SF CoP 39.0 - Overhead and Underground Services shall be completed to identify all hazards that may be present from the work on or in the vicinity of electrical system.

All work in the vicinity of overhead or underground services should be appropriately planned, organized and appropriately supervised.

- Those working close to overhead and underground services are trained and competent.
- All safety equipment associated with working with overhead or underground services is inspected and tested where appropriate; and the risks associated with overhead and underground service are appropriately controlled through recognized and agreed safe systems of work.
- Evaluate each site or operation to determine if the hazards associated with overhead or underground services are present and the workplace should be assessed using risk management practices.
- Where overhead or underground service hazards are present, appropriate control
- Measures shall be implemented by the employer for the control of those hazards.
- These control measures will include obtaining NOC's and Permit to Work clearances from the relevant service provider.
- Use Cable avoidance tool (CAT) to identify underground utilities.
- Follow the as build drawings to identify the existing underground utilities.
- All utilities identified must be considered as live services.
- If any underground utility service is damaged during work, inform immediately to the local service provider and barricade the area.
- Assessment of the various risks and establishment of systems of work which are safe to other employees, contractors and the public.

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.
3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.

- Ensure that emergency procedures are developed and appropriate communication of the emergency plan to all relevant persons.

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5.39 Services coordination

Reference - ADOSH SF CoP - 39.0 - V 4.0, 15 July 2024 V 4.0, 15 July 2024, Overhead and Underground Services

This section covers the requirements relevant to health and safety work practices in the vicinity of overhead and underground services.

Overhead and underground services include:

- overhead power cables
- Underground Power cables
- Water pipelines
- Fibre optic cables
- Telecommunications cables
- Sewage lines
- Gas pipelines or
- Petroleum and fuel oil pipelines

Undertake their roles and responsibilities in accordance with the requirements of ADOSH-SF/ADPHC – Element 01 – Roles, Responsibilities and Self-Regulation.

- All work in the vicinity of overhead or underground services must be appropriately planned, organized, and appropriately supervised.
- Those working close to overhead and underground services are trained and competent.
- That all appropriate control measures such as exclusion zones and restrictive goalposts (in the case of overhead services) are in place and appropriately maintained
- All safety equipment associated with working with overhead or underground services is inspected and tested where appropriate and
- The risks associated with overhead and underground service are appropriately controlled through recognized and agreed safe systems of work.
- Evaluate each operation to determine if the hazards associated with overhead or underground services are present and the workplace shall be assessed using risk management practices as required by ADOSH-SF/ADPHC – Element 2.0 – Risk Management
- Where overhead or underground service hazards are present, appropriate control measures shall be implemented by the HBC for the control of those hazards. These control measures shall include obtaining NOC's and Permit to Work clearances from the relevant service activities.

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- That for the Building and Construction Sector the management of overhea services are included in the Pre-Tender Occupational, Health and Safety

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with ADOSH-SF/ADPHC – CoP 53.0 – OSH Management During "Construction Work"; and

- That associated safe systems of work and site rules are included in the Occupational Health and Safety Construction Management Plan (OSH-CMP) in the case of the Building and Construction Sector in accordance with ADOSH-SF/ADPHC – COP 53.0 – OSH Management during "Construction Work".

5.39.1 Emergency Planning

- Ensure that detailed procedures are developed to deal with any emergency situations that may arise from overhead or underground services.
- Ensure that emergency procedures are developed and implemented at site.
- Procedures shall be developed in-line with the specific hazards of the work as described in the risk assessment
- Ensure appropriate communication of the emergency plan to all relevant persons

5.39.2 Overhead Services

- Ensure that where any electrically charged overhead cable or apparatus is liable to be a source of danger to persons employed on site, all reasonably practicable precautions shall be taken to prevent such danger by the provision of appropriately placed barriers and warning signs. As per the requirement of ADOSH-SF/ADPHC – CoP 39.0 – Overhead and Underground Services and CoP – 17.0 – Safety Signage and Signals.
- Ensure that site surveys are carried out onsite to determine the location of overhead lines within the vicinity of site. Before any work commences HBC shall contact the service provider to obtain details on the size of the overhead lines and the restrictions that apply when working in their vicinity.
- HBC will ensure that in the case where the overhead line cannot be isolated the control measures stipulated by the service provider are strictly followed.

5.39.3 Underground Services

- Comply with the requirements of ADOSH-SF/ADPHC– COP 39.0 – Overhead and Underground Services.
- Ensure that prior to any excavation, piling or boring works being carried out all reasonably practicable control measures shall be taken to identify underground services. These control measures shall include but not limited to the use of cable / pipe detectors / locators, followed by manual excavation.
- Approach all excavation, direct piling or boring works with caution and assume the presence of underground services until such reasonably practicable control measures have been taken to demonstrate that the area is safe and free from underground services.

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- Ensure that underground services avoidance tools are calibrated and maintained in accordance with the manufacturer's instructions.
- Ensure that all personnel involved in the use of underground services a trained and competent. Where reasonably practicable the manufacturer

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to provide training on the use of their equipment.

- Ensure that cable avoidance tools are inspected at the beginning of every shift by a competent person.
- Ensure that any underground services avoidance tool suspected of being out of calibration or damaged in any way so as to give a false reading is removed from service and securely stored so as to prevent it from being.

5.40 Occupational Health & Safety Arrangements

Reference - ADOSH SF CoP-1.0 Version 4.0, 15 July 2024, Hazardous Materials, COP 3.0 Version 4.0, 15 July 2024 Occupational Noise, COP 3.1, Version 4.0, 15 July 2024, Vibration COP 5.0 V 4.0 July 2024 Occupational Health Screening and Medical Surveillance, COP 8.0 V 4.0, 15 July 2024 General Workplace Amenities and 11.0 - Version 4.0, July 2024 Safety in the Heat

5.40.1 Noise & Vibration

Reference - ADOSH SF COP 3.0 Version 4.0, 15 July 2024 Occupational Noise, COP 3.1, Version 4.0, 15 July 2024, Vibration

Excessive exposure to loud noise can irreversibly damage the ear, resulting in noise-induced hearing loss. 'Nuisance' noise can be annoying and distracting and result in reduced job performance and satisfaction. Noise may also be unsafe if it impairs communication in the work environment, such as by overpowering auditory alarms. Calibration of the noise monitors shall be done as per

manufactures recommendations. Noise monitoring shall be done in monthly basis. At site HBC shall be in compliance with:

- The noise limits in Decree No. (12) of 2006: Regulation Concerning Protection of Air from Pollution; and
- ADOSH-SF/ADPHC – COP 3.0 – Occupational Noise and HBC noise and Vibration Management Procedures.

Noise monitoring will be conducted at the identified locations and/or site boundary, where a complaint has been received or a significant concern has been raised. A noise report, detailing the findings of the monitoring, will be submitted to Client & Consultant upon request.

To ensure noise levels are minimized as per the standards given in OSHMS noise levels and Guidelines at the site during the activities, the following good practices will be followed:

- All equipment and plant to be used will be operated and maintained in accordance with manufacturer's instructions for low noise operation.
- Engine covers silencers, mufflers and other forms of acoustic linings or mobile shields will be used at all times.
- Machinery and plant, including vehicles, that may be in intermittent use will be shut down

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parts, tightening loose parts and replacing worn out components.

5.40.2. Vibration

Where it is not reasonably practicable to eliminate the risk at the source, and a value is likely to be reached or exceeded, HBC shall reduce exposure to as low a le

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practicable by establishing and implementing a program of organizational and technical measures which is appropriate to the activity.

The control measures taken by the HBC will be based on the health and safety hierarchy of controls and shall consider.

- Other working methods which eliminate or reduce exposure to vibration.
- Choice of work equipment of appropriate ergonomic design, which taking account of the
- Work to be done, produces the least possible vibration.
- The provision of auxiliary equipment which reduces the risk of injuries caused by vibration.
- Appropriate maintenance programs for work equipment, the workplace and workplace systems
- The design and layout of workplaces, workstations and rest facilities
- Appropriate information and training for employees, such that work equipment may be used correctly and safely in order to minimize employee exposure to vibration.
- Appropriate work schedules with appropriate rest periods and
- Providing clothing as needed to protect employees from cold and damp environment.
- When HBC is not able to eliminate, use Engineering control measures or implement administrative controls to address vibration hazards. HBC will provide PPE designed to reduce the transmission of vibrations (e.g. anti-vibration gloves, anti-vibration mats etc.). The vibration attenuation (effectiveness) of personal protective equipment shall be evaluated to determine if other controls are needed to protect employees and the Occupational. As per ADOSH-SF/ADPHC– COP 2.0 – Personal Protective Equipment.

5.41 Temperature/Heat stress)

Reference - ADOSH SF COP - 11.0 Version 4.0, 15 July 2024Safety in the Heat

Workers' health and safety shall not be affected by being exposed to extreme weather conditions. HBC will comply with approved safe work method for working during hot and humid condition.
HBC will comply with Ministerial resolutions, which is for current year starting from 15 June to 15 September, from 12:30 to 1500. Moreover, any time the Humidex will exceed 54 °C or TWL is less than 115 all open area activities will be hold.
Although human beings possess considerable ability to compensate for naturally occurring heat stress, many occupational environments and/or physical activities expose workers to heat loads which are so excessive as to threaten their health and productivity.

Interventions fall into five categories:

- Maximizing heat tolerance among exposed individuals
- Assuring timely replacement of lost fluid and electrolytes
- Altering work practices to reduce exertion heat load
- Engineering control of climatic conditions, and
- Use of protective clothing.

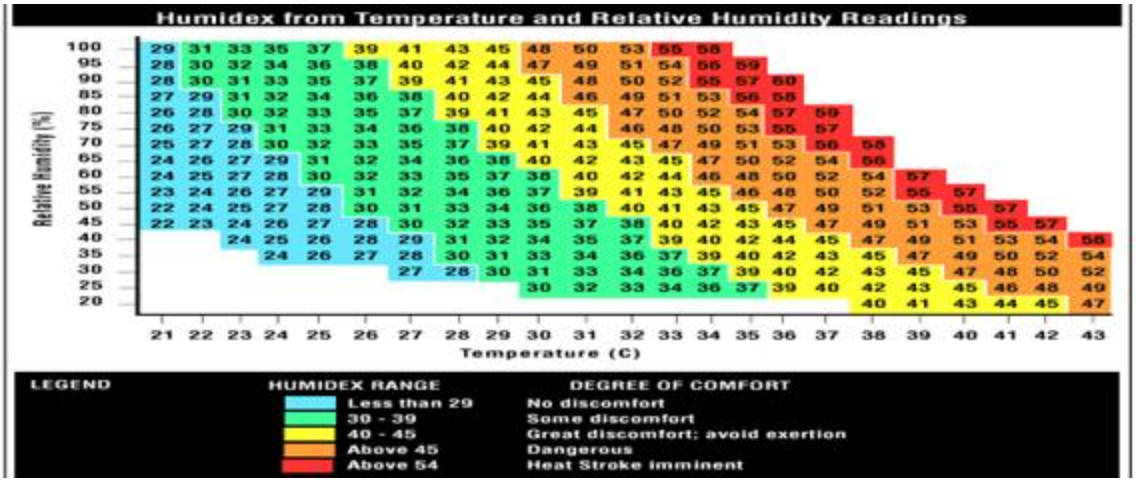
The following details are an important part of any programmed for hydration maintenance:

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dizziness, faintness, breathlessness, palpitations, and extreme thirst.

- They also will be taught about the basics of first aid and where to call for help w these signs in themselves or others.
- HBC and all subcontractors will provide sufficient rest sheds, cool drinking wate appropriate drinks, which encourage re-hydration.

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As per Humidex *(to describe how hot the weather feels to the average person, by combining the effect of heat and humidity)* work will not be allowed when the temperature index is more than 54.

Thermal Work Limit - Working Zones

Control Interventions, Rest-Work and Rehydration Schedules

Working Zones	Interventions	Rehydration Schedule (per hr)	Work-rest Schedule (minutes)
Low Risk Unrestricted Zone TWL: 140 - 220 <	**No limits on self-paced work*** for educated, hydrated workers.	Light Work 600 ml - 1 Litre / hr	Safe for **all** continuous **self-paced work***
Medium Risk Cautionary Zone TWL: 115 – 140	**Cautionary zone indicates situations in which environmental conditions require additional precautions.** • Practicable Engineering control measures to reduce heat stress should be implemented e.g. provide shade, improve ventilation etc. • Working alone to be avoided • No unacclimatised person to work* • Ensure adequate fluid intakes appropriate for type of work	Light Work 1 -1.2 Litres / hr	Safe for continuous **self-paced light work***
		Heavy Work > 1.2 Litres / hr *	**Continuous paced work** 45 work - 15 rest
High Risk Zone TWL: < 115	• **Strict Work/Rest cycling required** • No person to work alone • No unacclimatised person to work* • High Risk induction required emphasising hydration and identifying signs of heat strain • Provide personal water bottle (2 litre capacity) on-site at all times	All Work >1.2 Litres / hr *	Light work* 45 work – 15 rest
			Heavy work* 20 work - 40 rest

5.41.1 Ionizing Radiation

All work involving ionizing radiation shall be done by classified workers (specialist Subcontractor) under the supervision of a Radiation Protection Supervisor who has been appointed in writing. A copy of such appointments shall be forwarded to Contractor. A detailed procedure shall be prepared detailing the proposed work, potential hazards and controls by the Subcontractor and get approved from Company. A written emergency procedure shall outline what is to be done in the event of loss, damage or malfunction of an isotope or associated equipment.

- Radiographers will wear radiation badges.
- A radiation survey meter shall be used to measure levels of radiation during performance of

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possession of the operator at all times.

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5.41.2 Non-Ionizing Radiation

Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment. Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.

Risk assessment must be carried out prior to commencement of work with Ionizing or Non-Ionizing Radiation. It is possible to have a single risk assessment to cover two operations provided they are identical in all significant aspects. It is the responsibility of the users and their research supervisors to identify when a new risk assessment needs to be prepared.

5.42 Lighting and Ventilation

Reference - ADOSH SF COP - 8.0 V 4.0, 15 July 2024 General Workplace Amenities

HBC shall ensure workplace be lighted to a minimum of the following illumination intensities.

- Offices, general work areas, first aid stations, and medical treatment centers = 30 Foot Candles.
- bathrooms, dining halls, mechanical and electrical equipment rooms, carpenter shops, and general construction plant and shops (e.g. batch plants, screening plants, and active storerooms) = 10 Foot-Candles.
- Access ways, storage areas, warehouses, refueling, maintenance areas, and loading platforms = 5 Foot-Candles; and
- general construction sites, concrete placement, excavation, tunnels, shafts, and underground work areas = 5 Foot-Candles.

  Note: One Foot-Candle = 10.764 lux.
- All moving equipment used for nighttime operations should have a mounted lighting system that consists of a minimum of two lights pointed in each direction of travel of the equipment.
- Mobile light systems should be used for nighttime operations, and floodlight lamps should provide a minimum illumination of 50 lux.
- Work zone lighting may be provided by portable floodlights or standard equipment lights.
- All pickups and automobiles must have either use amber flashing lights or flashing white lights.
- All luminaires should be aimed such that the center of the beam axis is not greater than 60° above the vertical and should not exceed at angle in which it causes direct glare to people working in the distance.
- Emergency lighting should be provided in work rooms where sudden loss of light would present a serious risk. E.g., fabrication area, excavation works beyond 1.2m depth.
- Emergency lighting should be powered by a source independent from that of normal lighting. It should be immediately effective in the event of failure of the normal lighting, without need

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Biological agents are widely found in 8the natural environment and as a result fc sectors. They include bacteria, viruses, fungi (yeasts and molds) and parasite agents are harmless whilst others may have potential to cause ill health. As they a

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it is often difficult to appreciate the risks they present. As worker may be harmed by being infected by a biological agent, by being exposed to toxins produced by the biological agent or have an allergic reaction to the biological agent or substances it produces, for example, enzymes.

5.43.1 Pest Control Program

Reference - ADOSH SF CoP - 8.0 V 4.0, 15 July 2024 General Workplace Amenities

HBC shall arrange a regular pest control program depending on the identified level and type of infestations during monthly inspections of the site/offices/ facilities. Treatment may vary and range from quarterly, semi-annually, or annually. Formal report shall be issued by the OSH ENGINEER to the Project manager for record purposes.

HBC shall only utilize professional pest control companies that use the approved pesticides by the authority and provide copies of their valid government permit prior approval of application.

All schedules of pest control must be advised 48 hours before schedule to all concerned parties; schedule all application during non- working day or night shift to allow proper airing in between shifts. This is to ensure that complete control of access to target areas are made. No works to commence during the high wind speed, fog or rain.

A register will be kept by the OSH ENGINEER giving the following details:

- Name of pesticide, company name, amount used.
- Date of application; Start and end time of application.
- Specific location of area treated
- Weather conditions

The following are signs and symptoms of acute pesticide poisoning that employee should be made aware of after every pest control schedule for subsequent reporting to the HSE Engineer:

Headache, dizziness, nausea, vomiting, stomach cramps, diarrhea, blurred vision, excessive eye watering, sweating and excess saliva.

5.44 Health Surveillance and management plan

Reference - ADOSH SF COP - 5, 0 Version 4.0, 15 July 2024, Occupational Health Screening and Medical Surveillance and COP 9.0 V 4.0, 15 July 2024 Workplace wellness

Health surveillance and management plan already in place, as certified nurse is conducting survey for all project personnel in-line with HAAD and OHSAD-SF Cop 5.0 requirements, and more surveillance in place such as first id boxes must be readily available and may not be locked in addition to first aid room or clinic which is already provided and maintained

HBC will Ensure:

- Maintain medical records and medical confidentiality of employees.
- Arrange for medical surveillance of employees that have been or it is reasonably practicable to believe they have been exposed to hazardous material, to identify adverse effects may

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surveillance.

HBC requirements for managing workplace conditions and work activities are to adverse effects on worker's health. Where there is a known risk or potential fo

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health, controls will be established, and workers' will be monitored through a health surveillance program.

This procedure applies to all HBC employees and assistance will be provided to Subcontractors to manage the health of their employees.

The Project Director is responsible to ensure that the project risk assessment includes workplace exposures which represent significant risks to workers' health.

The following criteria shall be considered as a guideline for determining the need to conduct Health Surveillance to prevent such illnesses as Occupational Dermatitis and Respiratory Diseases:

- There is an identifiable disease or other identifiable adverse health outcome.
- The disease or health effect may be related to exposure.
- There is a likelihood that the disease or health effect may occur.
- Exposure to chemical hazards such as: hazardous substances.
- Exposure to fumes such, via pours, dust etc. and/or.
- Exposure to physical hazards such as: noise, vibration, asbestos, lead, UV radiation, ionizing radiation.
- Exposure to biological agents/micro-organisms.

Additional advice shall be sought from the HBC Registered Medical Practitioner/Male Nurse.

Shall an employee suffer ill-health caused by exposure at the workplace; the company shall provide the necessary assistance to rehabilitate the employee to a level of health to enable return to work. Refer to Appendix- L, Occupational Health Screening and Medical Surveillance Plan.

Health screen

- Medical surveillance shall be undertaken after a risk assessment and/or occupational hygiene assessments have been undertaken to assess the extent of the exposure and after other control measures implemented to control exposure to an acceptable level

Medical rescue

- Keep an updated list of all expatriate's insurance policies and contact numbers with safety &HR Department.
- Procedures for airlifting injured or sick to country of origin must be a part of company Standard &Procedures.

Emergency Medical Treatment

- Emergency Medical Treatment must be immediately available where hazardous materials are being used.
- Ensure all persons working with such chemicals are aware of first aid principles that must be apply in a case of accident contact.

Pre-Employment and Medical Examinations.

- Specialized occupations, e.g. drivers, Operators and people working at heights should be tested for hepatitis –Epilepsies, to reduce the risk of blackout or attack whilst performing his

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Ergonomics

- The Project shall ensure that there is a satisfactory arrangement between their working environment.

Dust control

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- Nuisance dust emissions from construction and other civil engineering activities are a common and well-recognized problem. Fine particles (less than 10 mm in diameter, known as PM_{10}) from these sources are now recognized as significant causes of pollution. Owing to their small size, they can be carried from sites even in light winds and may therefore have an adverse effect on the local environment and on those working on the site. To control Dust the following will be carried out at site:
- Restrict general site traffic to watered or treated haul roads.
- Vehicle speeds limit will be 20 Km/h to lower the dust generation.
- The supervisor must ensure that vehicle movement area spread with water to avoid dust generation.

5.44.1 Medical Facilities

A site clinic will be provided on site and will be sufficient for initial first aid treatment in the event of an accident. Arrangements will be made with a local clinic – hospital for the treatment of more serious accidents or injuries.

Alternatively, an agreement shall be arranged with a nearby hospital to arrange for ambulance services in case of emergency and non-emergency transfer of our injured person/s. In cases of emergency due to health or accident, all available internal and external assistance shall be extended by the main contractor to the affected person.

The project HSE Engineer and the project management, the OSH officers and the male nurses will be responsible for deploying the required first aid and rescue equipment, including training and awareness programs related to the use of such equipment.

At all times, site supervisors shall ensure that access routes for eventual evacuation to the site clinic shall be kept clear from obstructions.

The telephone number of the clinic or hospital selected for the treatment of more serious accidents or injuries shall be displayed prominently on notice boards.

All personnel shall be required to report all accidents, no matter how minor, to the OSH Engineers.

In case of an accident, any available person will notify one of the Male Nurse/OSH Engineers, who will immediately mobilize emergency transport with a stretcher and first aid kit to the location of the accident and respond appropriately.

Sufficient trained personnel for first aid with the standard first aid box shall be available at site for any first aid requirements. OSH Staff and other selected personnel will be 3rd party trained in First Aid and may be identified at site by first aid stickers on their helmets or a notice posted on office/site.

All employees shall be made aware of the availability of first aid and medical facilities available through the initial safety induction and kept updated of changes through the toolbox talk program and safety bulletins.

5.44.2 Staffing

The number of first aiders and medical staff to the number of employees / workers/other persons

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- At least one first aider per 50 employees per worksite per shift wi
  employees.







5.45 Environmental Arrangement

Reference - Federal law No-24 of 1999 "Protection and development of The Environment", ADOSH SF Cop. 54

Detailed CEMP submitted and approved. Reference: ARD.P2-BW-UEC-ZZ-ZZ-XX-RP-EN-00072

5.46 Waste Management

Reference- ADOSH SF COP - 54, 0 V 4.0, 15 July 2024, waste |Management and 9.0 V 4.0, 15 July 2024 Workplace wellness

Waste management and housekeeping already mentioned at 5.13, and Approved CDWM plan attached in line with ESTIDAMA PVRS, Cop 54.0 requirements.

Housekeeping means to have "A place for everything and everything in its place". Slipping, falling, tripping, hitting against, fire accidents and accidents due to poor lighting are some common types of accidents which occur due to bad housekeeping. Good housekeeping also results in better space utilization, inventory control, waste minimization and good appearance.

Good housekeeping shall be considered as one of the fundamental defenses against injuries in the workplace and as such the responsibility of all employees. Basic awareness on maintaining good housekeeping in the surrounding shall be imparted among the employees through trainings and other related forums.

Material shall be properly stacked in its designated locations; only those material needed for the work will be brought to site. Upon completion of any work the area will be cleaned off the construction debris / unwanted material. Work areas shall be maintained clear of debris, waste and other rubbish, which shall be disposed as soon as the work is completed.

Stockpiles of materials shall not be allowed to accumulate in the workplace without adequate storage facilities.

Spillage of liquids, especially of oily or greasy liquids, shall be immediately cleaned up by absorption in inert sand or other suitable materials.

Emergency exits, walkways, passages, alarm points, firefighting equipment, first aid sets etc. shall be kept clean, unobstructed and in good working order.

A housekeeping team under supervision of a General Foreman with adequate manpower and machinery will be working at site for clearing all construction waste from villas and common areas. This waste will be sent to waste segregation area and segregated and reused/recycled and/or disposed as per waste management plan. Authority approved agency "RSP" is assigned to carry the waste from the site.

S. No	Category	Source	Unit	Approx. Total Qty.	Recycle/ Reclaim	Potential Recycle/ Reclaim haulers
1	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.					
2	2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.					
3	3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.					
3	Wood Waste	On site construction			facility	
4	Plastic Waste	On site construction	Ton		Recycle	

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5	Paper Waste	Mainly from fittings packing waste	Ton		Recycle	
6	Aluminum Waste	False Ceiling works	Ton		Recycle/ Reclaim	Scrap Collectors
7	Organic	Food waste from labour rest areas	Ton		Recycle/ Reclaim	Al Mafraq Compost plant
8	Medical	NA	Ton	NA		
9	Hazardous	NA	Ton	NA		
10	Others (cables, wires, gypsum board etc.)	Construction activities	Ton		Recycle/ Reclaim	Landfill
Total estimated amount of recyclable waste				Total estimated amount of waste		
Expected Percentage of recycling						

Concrete Washout

- Concrete mixer trucks should return to the batching plant where their load originated from, for full washing out.
- On-site concrete wash-out facilities must be established in accordance with the diagram
- The exact dimensions of the concrete pad, drainage channel and retention basin are dependent of the expected volume of cement sludge. The exact numbers should be determined by an Engineer; Only hoppers and slides are washed out; and
- Water usage is minimized by using a spray-nozzle, brushes and rags to wipe down equipment. Using minimal amounts of water limits the potential for erosion, soil contamination and sedimentation.

5.47 Dust and Air Quality Management

Vehicle /machinery Exhaust

- Operate and maintain vehicles, plant and equipment efficiently, and in accordance with manufacturers' recommendations. This will reduce diesel consumption and exhaust emissions.
- Check and maintain mufflers regularly and replace them as required.
- Do not leave vehicles, in particular heavy equipment, idling unnecessarily.
- Replace or repair malfunctioning vehicles, machinery, or equipment immediately.
- Position fixed plant and machinery, such as generators or pumps, away from neighbors and offices, labor accommodation and staff mess halls, so exhaust emissions are least likely to cause problems; and
- Be aware of the prevailing wind direction, and the location of air intakes for building air conditioning and windows, when position fixed plant and equipment, or allowing vehicles to

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- Avoid non-critical earthworks on windy days.
- Ensure speed limits are adhered to, in particular on unsealed roads.

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- All loads of sand, aggregate or dry waste being delivered to or from the site must be covered, to prevent dust. Trucks must not be filled higher than 0.3 meters from the top of the tray walls.
- Locate stockpiled material in sheltered areas and limit the height and slope of the stockpile.
- Keep the ground surfaces damp (not wet) through irrigation by tanker (water truck) or similar where the ground surface is disturbed for an extended period, particularly on windy days. Watering of roads and surfaces must be done in a way that there is no water run-off. Use treated sewage effluent or groundwater from dewatering instead of potable water where possible.
- Approved chemical "stabilizers" mixed in with the water used for spraying can reduce the frequency that dust suppression watering is required. Contact the Nakheel environmental representative for assistance in reviewing suitable chemical stabilizers.
- Regularly clean entry/exit roads and major traffic thoroughfares through site
- Install site fences with gauze to minimize wind erosion effects.
- Establish landscaping quickly once works are completed.
- Painting and abrasive blasting must be carried out within enclosed and ventilated areas to minimize discharge of volatile substances, fumes, and dust/ grit; and
- Vapor release from fuel and chemical storage must be minimized.

5.48 Inspection and Tagging- Color Coding

5.48.1 Purpose and Scope

- This chapter provides guidance and specify requirements for ensuring that safety related tools, equipment and PPE are formally inspected, and color coded on a scheduled basis to indicate that they are safe for use.
- This Instruction applies to all portable electrical and pneumatic hand-held tools, all power cables, ladders, safety harnesses, chains and slings of all types used on the projects.
- Additional control measures may be required depending on project and Local regulation requirements

5.48.2 Control Measures

a) Colour coding shall be utilised to provide a visual indication that the affected item has been inspected and re-certified for any given quarter or month as applicable. Personnel who apply an inspection colour code to any affected item, who is not a 'competent' person shall be subject to disciplinary action in accordance with Company regulations.

b) Colour codes shall be applied utilising a durable plastic tape approved by the Project

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instances, coloured paint may be the most practicable means of colour coding as long as the paint does not cause damage to the item being coded.

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c) For quarterly inspection, colour code changes shall not be made until the final two weeks of the current quarter and all changes must be completed before the middle of the first month in the new quarter. This provides a four-week window for designated competent persons to execute the inspections.

d) At the conclusion of the inspection window, items that do not comply with these colour coding requirements shall be deemed unsafe. The items shall be removed from service and tagged 'Out of Service' until such time as the inspection and re-tagging has been completed.

e) Inspections on equipment where a monthly inspection is required shall be conducted in the first week of the new month. Equipment not complying with the inspection and colour coding after the first week of the month shall be removed from service until inspected and colour coded.

Portable Electrical Equipment, Temporary Power Supply, Fall Protection, Lifting Equipment & Ladders

a) Equipment used for the purposes of work at heights (harnesses, lanyards, static lines etc.), Lifting equipment (chains, slings, shackles etc.), ladders, temporary electric supply (DBs) and portable power tools shall be visually inspected monthly to ensure equipment is in good condition. The primary colour will change quarterly, and a secondary colour to be used for non-quarter months.

b) Below is a breakdown of respective colour codes that shall be observed.

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PERIOD	COLOR
January	RED
February	BLUE
March	GREEN
April	YELLOW
May	RED
June	BLUE
July	GREEN
August	YELLOW
September	RED
October	BLUE
November	GREEN
December	YELLOW

5.49 Precast and Tilt-Up Concrete

HBC shall undertake roles and responsibility in accordance with the general requirements of ADOSH-SF CoP 42.0 – Precast Construction and Ensure that all necessary risk assessments being performed to identify all hazards that may be present from the Precast Construction works.

Design Documentation

5.49.1 Proprietary Documentation

a) Where applicable, the following proprietary documentation should be included:

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observed in its use.

iv. Criteria for rejection and reworking of the component or syst

v. Detailed information including, where appropriate, the:

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- part number.
- dimensions
- section properties
- self-weight

b) details of any special attachments such as coupling sleeves

c) locations for attachment points and bracing points

d) The strength and serviceability limit state capacities referred to the Standards.

e) The Working Load Limit (WLL); and

f) A statement that the component or system depicted in the documentation complies with relevant standards.

g) All components used on site, within a system, should be compatible. Different proprietary components should not be mixed without confirmation of compatibility from the supplier and the designer. The proprietary documentation should set out the information required for the correct use of the component or system.

h) Incompatibility of different types of inserts and variations in sizing may lead to failure. This is particularly relevant to lifting inserts, bolts, ferrules and lifting clutches. All materials, components and equipment should comply with the relevant Standards.

5.49.2 Structural Design Drawings

a) The structural design drawings are prepared by an Engineer and should include the:

b) Date and issue number of the drawing.

c) Plans and elevations clearly indicating the structural framing and concrete element layout structurally critical dimensions.

d) Reinforcement, strands and concrete cover required for in-service loads and conditions.

e) Framing connection locations and required type (e.g. cast-in) and where appropriate the capacity of the fixing inserts.

f) Levelling pad details for erection.

g) Structural design criteria affecting construction, e.g. wind design loads and tolerances.

h) Concrete specification including all special requirements to meet in-service loadings and conditions and a note that, at the time of lifting, all concrete must meet the strength requirements nominated in the shop drawings.

i) Base connection details, including grouting sequence of dowel connections, and location

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5.49.3 Variations from the Design

a) All variations from the design, relating both to the panel and suppo checked by the Engineer and either be:

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b) Certified by the Engineer as being acceptable (i.e. complying with standards in writing, if the Engineer can verify this is the case

c) Altered in accordance with the Engineer's written directions to comply with standards, within a time frame specified by the Engineer.

5.49.4 Marking Plan

A marking plan (layout plan) prepared by the shop detailer should show the location of each concrete element in the final structure.

5.49.5 Shop Drawings

Shop drawings are prepared by the shop detailer and should include the:

a) Date and issue number of the drawing.

b) Project location

c) Concrete element numbers

d) Mass of each concrete element

e) Concrete element dimensions and centre of gravity

f) Reinforcement, strands, and concrete cover

g) Size, configuration, and concrete cover of any additional reinforcement required for the transport and lifting of the concrete element.

h) Size and grade of bolts to be used for any temporary erection fixings, in accordance with standards location, orientation and depth of all inserts and the size, configuration and concrete cover of any component reinforcement that is required. All edge-lift inserts, and some other inserts require component reinforcement and details should be obtained from the suppliers of these items:

i) Location of any conduits for plumbing, electrical or cabling

j) Location of grouting ducts and, where required, lateral restraint details.

k) Erection sequence

l) As applicable the type, make, capacity and technical specifications of the: rigging system (thumb nail sketches of system to be shown)

m) Lifting inserts

n) Bracing inserts and fixings including type and capacity

o) Fixing inserts; and, if required

p) Strong backs; strongback fixing inserts and locations.

q) Required concrete compressive strength of the concrete element as applicable at the time of lifting and erecting. It may be necessary to manufacture concrete elements with

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required.

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5.49.6 Erection Documentation

The erection documentation prepared by the Engineer should cover every aspect of the erection process, including the:

a) Erection sequence

b) Orientation (position relative to each other) of the concrete elements

c) Configuration and size of erection braces and, where applicable, knee braces and cross-bracing provided by the Engineer.

d) Bracing details including type and angle (designed and certified by an Engineer)

e) Requirements for erection brace footings (and prop footings if required), brace fixings and concrete.

f) Strength of the brace footings (including slabs) at the time of erection by an Engineer.

g) Levelling shims details for erection, and the requirements for grouting specified by an Engineer.

5.49.7 Safe Work Method Statement

a) Develop Safe Work Method Statements (SWMS) for all Tilt Up Construction work including:
   i. Propping Plan (must be designed and signed off by structural Engineer including fixings, Deadman footings, etc.)
   ii. Stripping Plan (must be designed and signed off by structural Engineer)
   iii. Ladder safety
   iv. Lifting gear & Backup slings
   v. Components & certifications
   vi. Cranage - positioning, load distribution, point loading, capacity and radius restrictions.
   vii. Pre-cast (formwork, pouring concrete, hazardous substances, petrol powered tools).

b) The total design of the panel erection system should be overseen by Engineer(s). This includes design of the panels, temporary bracing systems and securing of panels prior to removal of braces. An appropriate system that verifies compliance with the design must be implemented.

c) The appropriate design Engineer should at least carry out on-site audits, to assist compliance with the design specifications and to help the Engineer become familiar with difficulties experienced on site. It is advisable for the Engineer to visit the site during the following phases of construction:
   i. Casting of the wall footings or other footings used to support tilt-up or pre-cast elements.
   ii. Pouring of the Deadman or footing/slab design to which panel braces will be attached.
   iii. Pouring of tilt-up or pre-cast panels
   iv. Temporary bracing of panels on site
   v. Just prior to the removal of temporary braces from the panels (after panels have

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5.49.8 Planning Crane Requirements

a) The planning process for the use of cranes should commence as early development of the project. The person in control, the crane sup

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Engineer and the prefabricator should all take part in the consultation phase of the planning process. Considerations should include:

i. The crane selection, access and siting in accordance the most recent equivalent:
ii. the crane should be located with consideration given to the erection sequence of the concrete elements to avoid any possibility of the rear of the crane slewing into braces supporting previously erected concrete elements, and
iii. Where two or more cranes are operating, they should be sited to prevent them operating in each other's airspace. Where this is not possible, procedures must be established to prevent unplanned contact between them.
iv. Ground support conditions and the location of any excavations or underground services likely to be adversely affected by imposed crane loads.
v. The proximity of overhead power
vi. Written procedures (including a risk assessment of these procedures) for setting up and dismantling the crane and for the lifting method to be used.
vii. The crane crew appropriate to the circumstances of the job
viii. The communication system used between the crane operator and those assisting in the operation.
ix. Selection of lifting gear including, if rotation is to be carried out, the appropriate snatch block for rotation of concrete elements while suspended.
x. Means to disengage the rigging gear from the concrete panel once it has been temporarily fixed into position.
xi. Emergency procedures
xii. Protection of the general public, and
xiii. The rated capacity of the crane(s).

5.44.9 Crane Selection and Operation

a) A tower crane or a mobile crane may be used for concrete element construction. If a mobile crane is to be used, the selection of the mobile crane, preparation of the site and correct location of the crane are crucial in ensuring the safe erection of concrete elements. The selection of the crane should be based on a number of criteria and lifting requirements. It should be noted that:
b) A crane's maximum capacity refers to its rated capacity at minimum radius.
c) The rated capacity reduces as the working radius increases, and it is essential that the selection of crane size is made with consideration of the maximum working radius and maximum load involved in the lifting operation.
d) For face-lifted concrete elements, assessment of the true working radius of the crane should

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concrete element details.

e) The crane should be set up so that it does not need to slew greater tha the working radius is allowed for that area. The tail radius (the are

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counterweights) of the crane should not be overlooked in relation to any braces installed after crane set up to avoid damaging or displacing the braces, and the casting sequence for concrete elements should reflect the erection sequence. To avoid multiple handling with stack-cast concrete elements, the top element should be erected first.

f) The correct selection of cranes requires that the configuration of each crane and its location in relation to the lift need to be considered as well as the actual gross load that is to be lifted. The gross load includes the weight of the lifted load, the weight of the lifting gear, fixed and non-fixed attachments, the crane block and rope, all strong backs attached to the concrete panel and suction loads.

5.50 Lone Working

HBC shall strictly abide by the ADPHC COP 30.0- Lone working or working in remote locations. HBC shall ensure that under no circumstances that anybody has to work alone, but rather arrangements shall be made to have a buddy system in place all the time under the supervision of competent supervisors. All supervisors shall be made accountable to their assigned work crew to monitor them and consideration shall be given that wherever the activity needs to be carried out, they should either work in a group or minimum of two persons (buddy system). It shall also be monitored by site OSH team to verify the implementation.

5.51 Workplace wellness and work-related stress.

HBC shall arrange a well-equipped site clinic where an HAAD approved nurse shall be deployed. As per Project OSH objectives and targets plan, 2023, Health campaign shall be initiated whereby the consideration shall be given to the work-related stress as well in line with ADPHC COP 9.0 workplace wellness. In addition, project occupational health screening and medical surveillance plan shall be implemented wherein the questions shall be asked about work-related stress and in case of any work-related stress detection, it shall be reported to OSH and project management team to further the case to licensed physician for counselling sessions.

HBC has corporate office driven worker welfare management plan which is in line with UAE local and federal laws and shall be dealt with accordingly.

5.52 Lock Out and Tag Out Management.

HBC shall follow the requirements stipulated in the ADOSH COP 24.0 requirements. Lockout/tagout (LOTO) is the practice of disabling, isolating, and securing hazardous energy, while also providing information about the worker and the work taking place.

By identifying hazardous energy sources and their isolation points, LOTO procedures provide a guarantee to workers that the locked-out equipment or area will remain de-energized, deactivated, or inoperable while they are completing their tasks.

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Lockout/Tagout Procedure: Basic Steps

Here are some common and effective procedural steps for lockout/tagout.

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Step 1: Identify All Equipment and Energy Sources

Examine the work areas to identify the equipment, machinery, and system components within them. Assess them to determine which sources of energy are used during their operation or if any residual energy results from their operation.

Consider electrical, steam and water, momentum, gravity, pneumatic, and hydraulic energy.

Step 2: Personnel Notification

Shutting down and locking out equipment can affect multiple groups of people who work on the site. Because of this, an unexpected interruption of power or energy can have adverse effects on production and safety. The LOTO procedure shall provide a list of key points of contact on the construction site and the method for communicating the specifics of any upcoming shutdowns to everyone on site.

Step 3: De-energize and Stop All Operations

Next, all equipment, machinery, or system components must be shut down and placed in a state of zero energy.

This shutdown procedure should be completed by a qualified worker who is able to verify the complete isolation of any system redundancy and potential stored energy.

Step 4: Apply Lock and Tag

After the circuit has been de-energized, inspect all parts and attachments to ensure they are secured. Once you have confirmed that everything is isolated and potential energy has been released, it's time to apply locks.

Remember, even though the disconnect, valves, breakers, or switches are in the "off" position, you are not protected until you have attached your own personal safety lock.

Once the lock has been applied, it must be tagged. Tags should be visually conspicuous while remaining secured against inadvertent removal. Tags must identify the worker's name and contact information, the worker's employer, and the date and reason for the lockout.

Tags must be made of non-conducting material and able to remain legible through varying weather and terrain conditions.

Step 5: Release from Lockout

Before restoring energy to the equipment, the area must be assessed to determine the following:

- The work is complete, and all personnel have cleared the work area.
- All parts and safeties are properly in place, with the machine operationally intact.
- All tools, equipment, and materials used during the work are removed from the area.

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ensure:

In-House Transportation

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- Regulators must be removed.
- Valves must be closed.
- Valve caps must be on.
- Secure cylinders in a cylinder cart with a chain and move to new location.
- Use platforms or cradles that keep cylinders upright and secured when lifting with mechanical equipment. Do not lift cylinders by their valve cap!
- Do not drag or roll cylinders horizontally.
- Short-Term Vehicle Transportation

Some gases are not permitted to be transported in personal vehicles (i.e. vehicles not designed and authorized to transport compressed gas cylinders). There are also maximum quantities of gases that can be transported in certain types of vehicles.

- The preferred method of transporting cylinders is in the supplier's truck.
- If a cylinder must be transported a short distance by an employee, the following requirements must be followed:
- Cylinders must meet the Department of Transportation's requirements for labeling, marking, and placarding.
- A suitable vehicle, such as a truck, must be used to transport the cylinder.
- The valve cap must be on the cylinder to protect the valve stem.
- The cylinder must be secured in an upright position in the back of the truck to prevent cylinder damage, especially the valve stem, during transport. Inspect the cylinder for existing damage prior to attempting transport.
- The cylinder must be located in the back of the truck to provide adequate ventilation in event of a leak. Direct sunlight or excessive temperatures can result in a release of the cylinder contents.
- Do not smoke during transport.
- Take a direct route to the new location and do not make any intermediate stops along the way. Avoid heavy traffic routes.
- Remove the cylinder from the vehicle as soon as you have reached your destination. Place it in proper storage.

5.53.1 Handling & Storage.

- Cylinders must be secured with a chain or flame-retardant strap above the midpoint, but below the shoulder of the cylinder.
- Cylinders less than 18 inches tall that are difficult to secure with a chain or strap may be secured in approved stands or with wall brackets.
- Store cylinders of the same hazard class in the same area (i.e. poisons/highly toxic, flammables, inserts, corrosives, oxidizers, and cryogenic gases).
- Separate full cylinders from empty cylinders.
- Cylinders and storage areas must be identified as to contents, for example, a sign indicating "Oxygen/Full" and "Oxygen/Empty" should be displayed.
- Cylinders must be stored in an upright position with the cylinder caps in place.
- Oxidizers and fuel gases must be separated by at least 20 feet, or a noncombustible wall at least 5 feet high with at least a half-hour fire rating.
- Cylinders, especially oxygen, must be kept at least 20 feet from highly combustible or flammable materials.
- Oxidizers and flammables must be kept at least 20 feet from all sources of ignition.
- Store cylinders so that they are used in the order in which they were received, i.e. first in - first out.

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department. OSH Department shall coordinate with relevant team to close out/
act and conditions.

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All raised observations shall be recorded and scanned electronically with the reference numbers. All unsafe acts and conditions shall be categorized accordingly. Trend analysis shall be developed based on pre-set categories of unsafe acts and conditions and campaigns shall be designed to address the observation category with the highest numbers.

5.55 Stop Work Authority.

HBC will develop and follow and implement a Stop Work Procedure. All Project Personnel authorized by the PD (at Induction) to stop work in case of unsafe act/ unsafe condition, and to refer to their Supervisor/In-Charge to remove the hazard/risk. Work will not resume until the risk/hazard is removed or controlled.

5.56 OSH Committee.

An OSH Committee brings together management and workers to help create and maintain a safe workplace. HBC shall ensure that at "Al Saadiyat Island Project", there is equal numbers of workers representative and management staff members in the OSH Committee.

Purpose and Scope:

To bring workers and management together in cooperative, non-adversarial, cooperative effort to promote safety and health and to assist in making continuous improvement to safety and health programs. Safety committees bring together workers and employers through regularly scheduled meetings where safety issues are addressed. The goal of a safety committee is to create and nurture a culture of safety. This OSH committee shall cover all internal and external stakeholders associated with the project "Al Saadiyat Island".

Roles & Responsibilities:

The Project Director shall be the **Chair** of OSH Committee and primary responsibility of the OSH Committee chair is to prepare agenda, arrange a meeting place, notify members of meeting, set meeting schedule, and facilitate meeting. OSH Committee meeting Chair shall have the decision-making authority.
The OSH Engineer shall serve as the Secretary of the OSH Committee. The primary responsibilities of the Secretary include recording the minutes, distributing them, and reporting the status of recommendations.
All other OSH Committee members including management staff and workers representatives shall attend the meetings regularly, report unsafe conditions and practices, report incidents and accidents, contribute ideas for improving OSH practices, follow safe work rules and influence other to work safely.

The workers' representatives shall present the workers' grievances before the committee, and it shall be recorded.

Meeting Frequency:

OSH committee meeting shall be conducted on a quarterly basis and all committee members' attendance shall be ensured.

5.57 Driver Fatigue Prevention.

HBC shall follow and implement all the requirements stipulated in ADPHC CoP 25.0. HBC shall

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policy, the fatigue management policy shall have nominated responsible person to oversee the requirements of fatigue reduction management procedures and following factor s

- Sufficient resources
- Steps to identify areas of fatigue risk.

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- Commitment to avoid/reduce the risk associated with fatigue.
- Appropriate controls are identified and implemented.
- Suitable and sufficient training.
- Assess driver fitness for work.

Following steps shall be taken into consideration to reduce the risk of fatigue, while scheduling of the duties.

- Schedules that minimize period of night driving
- Avoid departure before 5:00 am.
- Allow time for driving and breaks at times and locations where it is most appropriate.
- Develop schedules in consultation with the drivers or driver's representatives.
- Roster arrangements so as to ensure that drivers have good quality sleep to enable recovery from potential effects or onset of fatigue by.
- Arranging work roster as regular as possible
- Ensuring that when drivers return form period of long absence of work such as leave, time is allowed for them to adapt to longer working hours.

5.58 Calibration of OSH Monitoring Equipment/ Devices.

HBC shall procure all OSH monitoring equipment/ devices on the project such as but not limited to:

- Decibel meter
- Luminometer
- Earth Resistance tester
- TWL meter
- PAT Testing device
- Anemometer

All these monitoring devices shall be calibrated by ADM approved calibration and testing companies after 6-month interval and certificates shall be made readily available reference. A log shall be maintained to track the expiry of calibration certificate, and arrangements shall be made to re-calibrate the devices prior to the expiry of the any monitoring device.

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6. APPENDICES

6.1 CHECKLISTS

6.2 SAMPLE RISK ASSESSMENT

6.3 SAMPLE OSH PERFORMANCE MONTHLY REPORT

6.4 ACCIDENT INVESTIGATION REPORT

6.5 OSH INDUCTION TRAINING

6.6 TOOLBOX TALK

6.7 SAMPLE OSH MONTHLY MONITORING PROGRAM SCHEDULE

6.8 OTHER OSH CHECKLISTS/ REPORTS

7.0 OTHER PROCEDURES/ REGISTERS

7.1 OSH OBJECTIVES & TARGETS PROCEDURE

7.2 LEGAL COMPLIANCE REGISTER

7.3 OSH INCENTIVE & DISCIPLINARY PROCEDURE

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	Document Title: HEALTH AND HYGIENE CHECKLIST	Document Code:	
		Rev. No.	Page No.

Project Name:	Date and Time of Inspection :

FACILITY									
	Site Offices		Site Clinic		Pantry		Toilet		Labor Rest room

Please tick (✔) the corresponding columns. YES: For compliance, NO: For non-compliance, N/A: If not-applicable

	DISCRIPTION	COMPLIANCE			REMARKS/SUGGESTIONS
		YES	NO	N/A	
	Overall order and cleanliness				
	Regular cleaning schedule				
	Proper illumination and ventilation				
	Nurse/First aider readily available				
	Medical bed, stretcher and wheel chair available				
	First aid materials are available				
	Food/beverage handlers should have training in food/beverage handling				
	Food items must be properly covered and labeled				
	Expired goods are discarded				
	Only authorized personnel is allowed				
	Only food items are stored				
	Hand washing before and after food preparations				
	Eating utensils containers must be covered and kept dry				
	Disposable water bottles must not be reused				
	Dish washing soap and sponge available				
	Free from crawling and flying insects				
	Must not be used as construction materials storage				
	Adequate number of tables and chairs				
	Hand wash soap, tissue/wipes available				
	Trash bins are covered and adequately distributed				

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Prepared by:	

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PROJECT NAME:					DATE PREPARED:				NEXT DATE OF REVIEW:					
No.	Task Description	Hazards	Person / Group Exposed	Control Measures	L	S	Rating	Additional Control Measures	L	S	Rating	Legal Ref:	Action By	Duration of Task

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AL HIKMA BLDG. CONT. (L.L.C.)	INTEGRATED MANAGEMENT SYSTEM	Effectively Date:
	Document Title: DETAIL HSE RISK ASSESSMENT	HBC-HSE-IMS-RA-
		Rev. No. 0 / Page No.

PROJECT NAME:					DATE PREPARED:				NEXT DATE OF REVIEW:					
No.	Task Description	Hazards	Person / Group Exposed	Control Measures	L	S	Rating	Additional Control Measures	L	S	Rating	Legal Ref:	Action By	Duration of Task
							1							

Prepared By: **Review By:** **Approved By:**

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PROJECT NAME:	DATE PREPARED:	NEXT DATE OF REVIEW:

No.	Task Description	Hazards	Person / Group Exposed	Control Measures	L	S	Rating	Additional Control Measures	L	S	Rating	Legal Ref:	Action By	Duration of Task

Likelihood	Consequences: Insignificant (1) No injuries, Minimal financial loss	Minor (2) First Aid Treatment, Medium financial loss	Moderate (3) Medical Treatment, High financial loss	Major (4) Hospital Case, Large financial loss	Catastrophic (5) Fatality, Massive Loss
Almost Certain (5) Often Occurs	Moderate (5)	High (10)	High (15)	Catastrophic (20)	Catastrophic (25)
Likely (4) Could easily happen	Moderate (5)	Moderate (8)	High (12)	Catastrophic (16)	Catastrophic (20)
Possible (3) Could Happen	Low (3)	Moderate (6)	Moderate (9)	High (14)	High (15)
Unlikely (2) Hasn't Happened yet but could	Low (2)	Moderate (4)	Moderate (6)	Moderate (8)	High (10)
Rare (1) Conceivable but only extreme circumstances	Low (1)	Low (2)	Low (3)	Moderate (4)	Moderate (5)

PROBABILITY OF OCCURRENCE:
(NOTE: Ratings apply to aspects only.)

1 – UNLIKELY or RARELY, may not occur.
2 – POSSIBLE or SELDOM, unlikely but possible to occur.
3 – LIKELY to occur sometimes.
4 – OFTEN, will occur several times.
5 – FREQUENTLY, likely to occur always

CONSEQUENCE or SEVERITY:
(NOTE: Ratings apply to impacts only.)

1 – Insignificant (short-term impact)
2 – Minor (minor impact)
3 – SIGNIFICANT localized impact
4 – MAJOR (significant widespread impact)
5 – CATASTROPHIC (damage to extensive portion)

RISK FACTOR:

1 – 3 = Low
4 – 6 = Medium
8 – 12 = High
15 – 25 = Extreme

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AL HIKMA BUILDINGCONTRACTING LLC

HSE MONTHLY REPORT

HBC-IMS-PR-06-FRM-01	Rev. No. 00		Page 1 of 1

Project: Reporting Period:

MAN HOURS WORKED

Man Hours from Previous Record (Cumulative) (A)	Man Hours for the Period (B)	Man Hours to Date (Cumulative) (A) + (B)

TOTAL NUMBER OF MANPOWER

From Previous Record (Cumulative) (A)	For the Period (B)	To Date (Cumulative) (A) + (B)

S/N	KEY INDICATOR	Previous Record (A)	For the Period (B)	To Date (A) + (B)
1	**TRAININGS**			
1.1	Number of Safety Induction Session: **(SI)**			
1.2	Number of HSE Induction Participants:			
1.3	Number of Toolbox Talk Session Conducted: **(TBT)**			
1.4	Number of Toolbox Talk Participants:			
1.5	Number of In - House Training Session: **(IHT)**			
1.6	Number of In - House Training Participants:			
1.7	Number of External Training Session: **(ET)**			
1.8	Number of External Training Participants:			
1.9	Number of Mock Drills Session: **(MD)**			
1.10	Number of Mock Drills Participants:			
1.11	Total Duration of Trainings (**SI+TBT+IHT+ET+MD**) **(Hrs.)**			
2	**ACCIDENT/INCIDENT**			
2.1	Number of Fatality (F):(HBC +.Sub Con ..)			
2.2	Number of Permanent Disabilities (PD):(HBC +.Sub Con ..)			
2.3	Number of Medical Treatment Case (MTC):(HBC ...+.Sub Con ..)			
2.4	Number of First Aid Cases:(HBC..... +.Sub Con ...)			
2.5	Number of Near Miss:(HBC .....+Sub Con .....)			
2.6	Number of Days Lost due to Accident:(HBC.... +Sub Con ....)			
3	**SAFETY VIOLATION**			
3.1	Number of Safety Violation :			
3.2	Number of Environmental Violation :			

	TRAININGS	Attendees		Duration (minutes)		Results		In Hours
	Toolbox Talk **(TBT)**							
	HSE Induction **(HI)**							
	In - House - Training **(IHT)**		x		=			
	External Training **(ET)**							
	Mock Drills **(MD)**							
	Total							

ACCIDENT FREQUENCY RATE	Calculation		Results
No. of Accidents for the Period x 100000	0x 100000		

ACCI

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Prepared by:	Designation	Date	Signature
Reviewed by:	Designation	Date	

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AL HIKMA BLDG. CONT. (L.L.C.)

ACCIDENT / INCIDENT REPORT

DATE:		**REPORT #**	**HBC/HSE-**
Date of Incident:		**Project:**	
Time of Incident:		**Client:**	
Project Name:		**Consultant:**	
Location within Site:		**Main Contractor:**	
Type of Activity:		**Reported By:**	

Description of Incident (Describe what happened, how it happened, and any contributing site conditions)

Property & Persons Involved

Names/ID Numbers:
Nature of Injury or Damage:

Immediate Corrective action (What action were taken immediately? Who carried them out?)

Root Cause Summary (What was the primary cause of the incident? What contributing factors were identified?)

Corrective and Preventive Actions (CAPA) (List actions to prevent recurrence. Assign responsible persons and target dates)

Attachments (Photos, witness statements, equipment or lifting plans if relevant)

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ACCIDENT / INCIDENT REPORT

Investigation Team Details:

Name	Designation	Department	Role in Investigation

Sign-off

HSE Engineer/Officer: _____ **PM/PE:** _____

Approved by Consultant HSE Engineer / Sign off:_____

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HBC AL HIKMA BLDG. CONT.(L.L.C.)	HSE Induction HBC-HSE-FM-04
Project Name :	
Date:	Time:
Inducted by (Name & Designation):	Signature
Note : Induction topics are attached herewith the attendance sheet.	

Disclaimer:

By signing this attendance sheet, I confirm that I have attended the safety induction session and fully understand the rules, regulations, and procedures discussed. I acknowledge my responsibility to comply with all health, safety, and environmental standards set by the company. I also understand the disciplinary process for non-compliance, as outlined below:

- First Offense: Verbal Warning
- Second Offense: Written Warning
- Third Offense: Removal from Site

By signing, I agree to adhere to the safety standards and accept the outlined consequences in the event of repeated violations.

No	Name	ID.NO	Company	Designation	Singtaure
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

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AL HIKMA BLDG. CONT.(L.L.C.)

Tool Box Talk Attendance Sheet

HBC-HSE-FM-005

Project: _____

Topic ……..

Location: _____

Date: _____

A. ……..

Time: _____

B. ……..

Shift : Day ☐ Night ☐

C. ……..

D. ……..

E. ……..

Include Description of Topics Discussed, Picture of the talk

Sl.No.	Name	Company	Designation	Signature
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				

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Name: _____ Name: _____

Signature: _____ Signature: _____

Organized in Language: HINDI,URDU & ENG

Rev o

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Health Safety Environment And Welfare (HSEW) Monthly Performance Monitoring Report (Form Ref. SECB-MPMR-HSEWF-00085)

Reporting Date:		Contractor:		Consultant/Engineer:		PMC/Client:	

HSEW Statistics

HSEW Leading Indicators

Sl. No.	Description	CON.	CTR.	Total
1	Total No. of Nearmiss	0	0	0
2	Total No. of HSEW Inspections	0	0	0
3	Total No. of HSEW Report From Authority	0	0	0
4	No. of Weekly HSEW Meeting	0	0	0
5	No. of Full HSEWMS Auidt	0	0	0
6	No. of Focus Audit (Contractor)	0	0	0
7	No. of Rewards & Recognition	0	0	0
8	No. of HSEW Engagement Tour	0	0	0
9	No. of HSEW Inductions	0	0	0
10	No. of HSEW Campaigns Performed (Contractor)	NA	0	0

HSEW Incident Rates

Sl. No.	Description	Total	Target
1	Total Reportable & Recordable Case Frequency (TRRCF)	0	0
2	Lost Time Incident Frequency Rate (LTIFR)	0	0
3	Lost Time Incident Severity Rate (LTISR)	0	0
4	Workdays Lost	0	0

HSEW Lagging Indicators

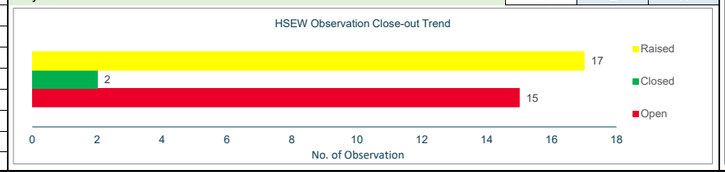
Sl. No.	Description		Total	Target
1	No. of Employees On The Projects		0	NA
2	Total Manhours Worked (Current Week)		0	NA
3	Total Manhours Worked Since Inception (ITD)		0	NA
4	Total Manhours Worked Without LTI (ITD)		0	NA
5	Lost Time Incident (LTI)		0	0
6	Lost Work Days Cases		0	0
7	Medical Treatment Case (MTC)		0	0
8	Serious Dangerous Occurrences (SDO)		0	0
9	Property Damage (PD)		0	0
10	First Aid Case (FAC)		0	0
11	Restricted Work Day Case (RWDC)		0	0
12	Environmental Incident/s (Minor)		0	0
13	Environmental Incident/s (Moderate)		0	0
14	Environmental Incident/s (Major)		0	0
15	Total No. of NCR	Open	0	NA
		Closed	0	NA

HSEW Lost Time Incident Categorisation

Sl. No.	Description	Total	Target
1	Fatality	0	NA
2	Permanent Total Disability	0	NA
3	Permanent Partial Disability	0	NA
4	Lost Work Days Cases (Injuries)	0	NA
5	Lost Work Days Cases (Occupational Illness)	0	NA

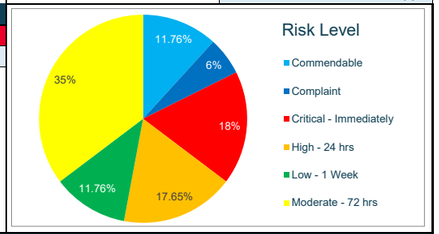
HSEW Observation Close-out Trend

Observations	Open	Closed	Raised
Project	15	2	17



HSEW Risk Level Based, Observations Raised

Risk Level	Unit in %, Form The Tracker
Commendable	11.76%
Complaint	6%
Critical - Immediately	18%
High - 24 hrs	17.65%
Low - 1 Week	11.76%
Moderate - 72 hrs	35%



HSEW Engagement Site Tour

HSEW Good Compliance

HSEW Trainings

HSEW Achievements

5 Major HSEW Risks Identified During The Month

Hazard	Who is at risk	Likelihood	Severity	Risk Impact	Personal Responsible	Recommendation Action
		Unlikely	Minor	Low Risk		
		Very Likely	Major	Intol. Risk		
		Very Likely	Major	Intol. Risk		
		Possible	Moderate	Medium Risk		

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Risk Assessment

	Negligible	Minor	Moderate	Major	Intolerable
Very Likely	Low Risk	Medium Risk	High Risk	Intol. Risk	Intol. Risk
Likely	Low Risk	Medium Risk	High Risk	High Risk	Intol. Risk
Possible	Low Risk	Medium Risk	Medium Risk	High Risk	High Risk
Unlikely	Low Risk	Low Risk	Medium Risk	Medium Risk	Medium Risk
Rare	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk

Contractor Submitted Ramadan Plan.
Backfilling of Excavation.
Focus Audit conducted (Plant and Equipment)
Emergency Management was effectively performed during adverse weather conditions
Temporary shade area provided at Zone A1.
Submission of ITC permit for tree removal at center median area.

Actions For Forthcoming Week

Backfilling of Excavation
Contractor will intiate a campaign regarding Ramadan SOPs.
...se out report for the focus Audit (Plant and Equipment)
...tree removal at center median area.
...hin the workzone.

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AL HIKMA BUILDING CONTRACTING L.L.C

CRADLE HOIST MACHINE

(DAILY SAFETY CHECK LIST)

Location :…….. **Date** :…….

Cradle No. :…….. **Contractor** :…….

1. Check motor and gear (if any abnormal sound report to service mechanic ☐
2. Check scaffolding (rigging), ladder beams & swivel couplings ☐
3. Power cable suspended safely and firm in outlet ☐
4. Wire ropes and bolts/pins secure ☐
5. Rope condition OK ☐
6. Sky lock “snap” check ☐
7. Emergency descent of each hoist checked and OK ☐
8. Stage working load below safe working load ☐
9. Stage condition, bolts/pins OK ☐
10. Central yoke box and overloads OK ☐
11. Hoist covers fitted ☐

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_____ Cradle Operator

_____ HSE Officer

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LIFTING GEAR CHECKLIST

HBC-HSE-FM-25

A Lifting Gear Checklist should be completed for a sample of the lifting gear and accessories used on site. The frequency of checklist completion should be varied according to the performance of the contractor.

SITE:
PROJECT NO:

TYPE OF LIFTING GEAR INSPECTED:
REVIEW DATE:

QN = Question Number

QN	Question	Yes	No
1.	Is the lifting gear or accessory strong, stable and suitable for the intended use?		
2.	Is the lifting gear or accessory positioned or installed correctly to prevent the risk of injury?		
3.	Is the lifting gear or accessory marked with appropriate information for its safe use, safe working load etc.		
4.	Has the lifting gear or accessory been thoroughly examined by a competent person?		
5.	Is there a thorough examination report for the item of equipment available at site?		
6.	Is the thorough examination report in validity?		
7.	Are all lifting gears and accessories inspected visually before use?		
8.	Is the item of lifting gear or accessory free from any defects?		
9.	Are the lifting gear's details recorded and documented in lifting gears register?		
10.	Can the lifting gear be used on the site? If No, mention the reasons below.		

Actions are required for all NO answers above

QN	Deficiency noted	Corrective Action Required	Responsible	Action Date	Closed

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Completed by: _____ Sign _____

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HBC

WEEKLY INSPECTION CHECK LIST FOR MOBILE CRANE	HBC-HSE-FM-20

PROJECT:	DATE:
CONTRACT:	REG NO:

Sl. NO	POINTS TO BE CHECKED	YES	NO	REMARKS
1.	Is valid vehicle documents and valid third party certificate available for crane?			
2.	Does the operator have valid License and third-party Competency certificates?			
3.	Is Fire Extinguisher available with the crane and in good condition?			
4.	Is the load chart available in the crane for reference?			
5.	Are the overload warning indicator in working condition?			
6.	Is the limit switch for over hoisting in working condition?			
7.	Does the lifting hook have safety latch and is it good condition?			
8.	Is the reverse alarm installed and in good working condition?			
9.	Are all the lights in working condition (Revolving, indicator, parking, headlight, tail, brake, etc)?			
10	Is the condition and operation of outriggers satisfactory?			
11.	Does the rigging person have valid third-party certificates?			
12.	Are the tires having enough air pressure and the tires in good condition?			
13.	Is the fuel tank free from leakage and defects?			
14.	Is the hoist rope condition satisfactory?			
15.	Does the lifting hook have safety latch and is it in good condition?			
16.	Are the view mirrors in good condition?			
17.	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.			
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19.	3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.			

Inspected By: _____ Designation: _____ Signat _____

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DAILY VEHICLE /INSPECTION CHECKLIST

	Reg No :	Date :	Project Details:				
Description	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**	**SUNDAY**
Engine Oil							
Lubrication							
Starting System							
Instruments(Speedometer & Temperature Gauge)							
Cooling System							
Mirrors(Rear View and Left Outside)							
Breaks							
Steering System							
Tyres							
Head Light							
Break Light							
Horn							
Fire Extinguishers							
Seat Belt							
Warnin							
Reverse							

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The abc
safe for use.

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AL HIKMA BLDG. CONT. (L.L.C.)

FIRST AID RECORD REGISTER

COMPANY NAME: _____

LEGEND:

TIME: 00:00 to 24:00 HRS

Type: FA Injury Common Sickness Occupational problem

SR. NO.	DATE	TIME	TYPE	EMPLOYEE NAME	CRAFT	I.D. #	COMPANY	LOCATION	DESCRIPTION OF ACTIVITY	DESCRIPTION OF FIRST AID	SEVERITY LEVEL (Hi/Med/Low)	CORRECTIVE ACTIONS
CONCLUSIO	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution. 2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. 3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.										Findings:	

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AL HIKMA BLDG. CONT. (L.L.C.)	INTEGRATED MANAGEMENT SYSTEM	Effective Date:	
	Document Title: HSE TRAINING REGISTER	Document Code: AAC-HSE-FRM-	
		Rev. No. 1	Page No. 1 of 1

Project Name / Number		Location	
Topic / Subject		Date and Time	
Duration		Attachments	

Sr.No.	Name of Employee	ID No.	Position	Signature

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Name / Sign of Trainee		**Name / Sign of Project Manager**	

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Project Name / Number		Location	
Topic / Subject		Date and Time	
Duration		Attachments	

Sr.No.	Name of Employee	ID No.	Position	Signature

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Name / Sign of Trainee		Name / Sign of Project Manager	

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Plant & Equipment Register

SN	Plant & Equipment						Operator					360 Degree					Remarks
	Type	Registration		3rd Party Certificate			Name	Valid UAE Driving License No	Expiry Date	3rd party operating driving license	Expiry Date	Front View	Side View		Rear		
		Plate No	Reg. Expiry	Certificate No.	Issue Date	Expiry Date							L	R	Camera	Mirror	
1																	
2																	
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Details: Hot Work Permit

Workplace Location:					
Company Name		Project title			
Location		Contract Number			
Contractor		Permit Number			
Equipment used					
Date of works		Between	hrs	and	hrs

1.0 What you need to know

Hot-work permits are required for any operation involving open flames or producing heat and/or sparks and must be prepared by a competent person.

Hot works include brazing, torch cutting, grinding, soldering and welding.

2.0 What you need to do

Follow the precautions below -

2.1 Precautions to be taken		Yes	No	N/A
1	Hot work must cease at least one hour before end of shift. Areas where hot works have been carried out should be checked before leaving site.	☐	☐	☐
2	Services affected must be isolated before work commences.	☐	☐	☐
3	Isolate smoke detectors in the vicinity of hot works.	☐	☐	☐
4	A suitable fire extinguisher must be available and be kept close at hand, at all times.	☐	☐	☐
5	Supervisors must ensure suitable personal protective equipment (PPE) is provided and worn by operatives.	☐	☐	☐
6	All cylinders must be transported and secured upright.	☐	☐	☐
7	Valves and hoses must be in good condition.	☐	☐	☐
8	All cylinders must have flashback arrestors fitted.	☐	☐	☐
9	When not in use, cylinders must be shut off and returned to store.	☐	☐	☐
10	LPG cylinders must not be left in the building overnight without formal approval.	☐	☐	☐
11	Arc welding equipment will comply with current standards.	☐	☐	☐
12	Spent welding rods must be immersed in a bucket of water	☐	☐	☐
13	Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.	☐	☐	☐
14	The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction. during the hot works. (Check both sides of partition walls to ensure that heat has not been transferred by conduction to combustible materials.)	☐	☐	☐
15	Work areas to be kept tidy and free from combustible materials.	☐	☐	☐

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16	When operatives are working in riser shafts or on staging with cylinders, work will be secured and openings to other levels covered with a fire blanket or other non-combustible materials.	☐	☐	☐
17	Operatives must remain in the area for 15 minutes after completing work to ensure there is no hot-spot residue.	☐	☐	☐
2.2 Operatives carrying out hot work must:		Yes	No	N/A
1	Understand the permit conditions and the fire and safety precautions.	☐	☐	☐
2	Be in possession of a permit at all times.	☐	☐	☐
3	Stop work if required to do so by an authorised person.	☐	☐	☐
4	Immediately report any hazard likely to affect the fire and safety precautions.	☐	☐	☐
5	Ensure satisfactory access to and egress from the work area.	☐	☐	☐

3.0 Confirmation by Contractor's Supervisor

I confirm that the precautions specified above will be complied with and I will ensure that the persons carrying out the work described above are fully briefed on the safe method of work.

Name		Position		Signature		Date	

3.1 Confirmation by the Operator

I understand the precautions to be taken in carrying out the hot works.

Name		Position		Signature		Date	

4.0 Site Management Authorisation

I certify that the above work can commence with the precautions listed above.

Name		Position		Signature		Date	

4.1Site HSE Officer Authorisation

I certify that the above work can commence with the precautions listed above

Name		Position		Signature		Date	

5.0 Cancellations

Cancellation of permit by Operator:

(Note: hot works must cease at least one hour before end of shift.)

I confirm that the work has been completed and the area has been checked and is safe.

N							

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Inspection of area covered by hot-work permit by fire warden/site management after cancellation of permit.				Inspection completed after		hr(s)	
Name		Position		Signature			

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OBJECTIVES & TARGETS

OBJECTIVE	DESCRIPTION OF OBJECTIVE	DEPARTMENT	AREA	TARGET	RELATED HSE PROGRAM
Earth works (digging)	*This Activity generates Dust emissions which causes air polution and effects human health*	HSE Department	SITE	Minimize the Dust emissions and health effects.	The Management Decided to Implement Daily Monitoring, Air Quality Management strategy. And all the employees will be trained in the proper use of PPE (Using Masks while Digging)
Handling cement.	*which causes air pollution and on human* (Wounds) *effects health*	HSE Department	Site	imize the emissions and health effects	The Management Decided to Implement Daily Monitoring, Air Quality Management strategy. And all the employees will be trained in the proper use of PPE (Using Hand Gloves safety shoes while handling cement)

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OBJECTIVES & TARGETS

construction activities, moving traffic, and insufficient protection or covering	This Activity generates dust emission which is causes for the air pollution and effects on human health.	HSE Department	SITE	Minimize the Dust emissions and health effects	The Management Decided to Implement Daily Monitoring, Air Quality Management strategy. Sufficient Covering and Protection
Dust emissions from Storage of cement	This Activity generates dust emission which is causes for the air pollution and effects on human health	HSE Department	Site	Minimize the Dust emissions and health effects	The Management Decided to establish a storage area far from the Site and properly cover the storage area.
Accidental u uti /p pipes				imize the pollution l illness	The management decided to Implement the Daily Monitoring, water quality Management. Install clean water diversions tonsure clean and dirty water are not mixed on site.
Construction equipment	*This Activity generates Noise which causes Noise pollution*	HSE Departm		Minimize the Noise Pollution	The Management decided

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activities, vehicles and other construction activities.	*and effects on human health*				To Implement Regular noise monitoring to monitor predicted Vs. actual impact levels, Managing construction vehicles routes and speed of vehicles
Disposal for sludge during equipment and vehicle washing	This activity generates lubricant waste which causes Soil Contamination	HSE Department	Site	Minimize the soil Contamination	The Management decided To Implement Daily Monitoring, and waste management Plan
. Fuel Consumption for c Co electricity for Construction activities	And injuries			imize the Natural sources	The Management Decided to reduce the natural resource use and injuries by providing training to employees.
Consumption of	*This activity causes water*			Minimize the	The Management

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water for whishing and other construction activities	*consumption*			Water Consumption	Decided to implement Daily monitoring, and Preferred recycled water usage.
Generation of waste during construction activities including building materials, **Disposal of chemical wastes, tim... Debris Dis... sol... li...**	This Activity Generates Waste which causes contamination of soil and land pollution	HSE Department	Site	Minimize the Waste	The management decided to implement daily Monitoring, waste materials contained in waste bins or other suitable containers and collected for recalling reuse or disposal by licensed waste contractor., label and store all liquid wastes containers in banded area prior to removal off-site
Welding	This activity generates Fire and release fumes	HSE Departme...		Minimize the fie... and fumes	The management has been appointed supervisors for the inspection on Use of PPE. Minimize the toxic

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OBJECTIVES & TARGETS

					fumes and air pollution Using high quality welding Electrodes
Spraying	*This Activity generates emissions of solvents to air*	HSE Department	Site	Minimize the Emissions	The management has been Trained workers for correct use of spray
Washing	*Spillage of chemicals used for washing purposes which causes water pollution*	HSE Department	Site	Minimize the Water Pollution	All washing and cleaning should be carried out within a wash bay that is either connected to the sewer under a trade waste agreement or fitted with a water treatment and recycling system
Use substances and Storage	Emission to air Pollution and water pollution and water	HSE Department	Site	imize the Air And water pollution	The management will be construct storage areas to store oils, chemicals, paints solvents, Hazardous substances in areas that will not allow spills to escape to the environment

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OBJECTIVES & TARGETS

Replacement of damaged equipments	Solid Waste Land pollution	HSE Department	Site	Minimize the Land Pollution	The Management decided to implement waste Management plan to separate different kinds of waste for easy collection and Recycling.
Replacement of mercury switches and bulbs	Solid waste Land pollution	HSE Department	Site	Minimize the Land Pollution	separate different kinds of waste for easy collection and recycling
Painting	Emission of solvent Air pollution	HSE Department	Site	Minimize the Air Pollution	Chemicals and paints can be stored in a storage unit that will contain spills
Op	**Objects falling from liftruck**			imize the njuries	**All operators trained and competent for use of the lift truck.**
Refrigerators and air Conditioning green house gases emissions	This activity generates green house gases Emissions which causes Global Warming	Administratic		Minimize the emissions	Reduce n\by using eco friendly refrigerators and Proper engineering Maintenance.

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OBJECTIVES & TARGETS

Using pesticides and and air fresheners	This activity generates solvent emissions. Which causes air pollution and also effects on human health like allergies asthma	Administration	Office	Minimize the Emissions of solvents	Reduce by using bio pesticides, and natural air fresheners.
Use of water amenities	This activity generates Domestic Waste through Toilets and wash basins	Administration	OFFICE	Minimize the water pollution	Daily Monitoring, Waste Management Plan and recycling.
Non-biodegradable waste like Plastics and toxic waste	This activity causes contamination of soil	Administration	Office	Minimize the soil contamination	Use separate bins for easy waste collection and Recycling
extinguisher	warming			imize the issions	Waste Management plan, separate different kinds of waste for easy collection and recycling

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EVALUATION OF COMPLIANCE/ LEGAL REGISTER

Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
Federal Law 24 of 1999	Federal Law 24 of 1999, Article 15	Plans for environmental emergencies and disasters required for plant/storage facility	NA	NA	Operations	Plans
	Federal Law 24 of 1999, Article 55	Adequate ventilation in workplace to prevent leakage or emission of air pollutants	Y	NA	Operations	Inspection
	Federal Law 24 of 1999, Article 4	Protection and development of the environment	Y	NA	Operations	Pollution prevention, waste management, etc.
	Federal Law 24 of 1999	Regular analysis of waste to be undertaken	Y	NA	Operations	Waste management plan
	Federal Law 24 of 1999, Article 7	Record to be kept of waste analysis	Y	NA	Operations	Waste management plan
	Federal Law 24 of 1999, Article 8	Treatment of effluent which may cause direct or indirect pollution to water environment	NA	NA	Operations	Waste management plan
	Fed Law 24/1990 article 35	Posting of hazard warnings.	Y	NA	Operations	Inspection
	Federal Law 24 of 1999, Article 35	Untreated substances which may cause water pollution not to be discarded	Y	NA	Operations	Waste management plan
	Federal Law 24 of 1999, Chapter IV	Protection of air from pollution	Y	NA	Operations	Air quality monitoring
	Federal Law 24 of 1999, Article 53	Air pollutants emissions to be measured and record kept	Y	NA	Operations	Air quality monitoring
	Federal Law 24 of 1999, Article 50	Waste to be burned in designated places only	Y	NA	Operations	Waste management plan
	Federal Law 24 of 1999, Article 43	Soil pollution prohibited	Y	NA	Operations	
	Federal Law 24 of 1999, Articles 45, 47 and 51	Certain pesticides, fertilizers and agricultural conditioners controlled	NA	NA	NA	
	Federal La Article 54					Noise Monitoring
	Federal La Articles 58					Approved Environmental service provider disposal certificate
	Federal La Article 61					Approved Environmental service provider disposal certificate
	Federal Law 24 of 1999, Article 61	Operator to take all necessary precautions to ensure no damage to environment			ons	Inspections/certificate
	Federal Law 24 of 1999,	Protection and development of the environment			ons	Compliance records

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Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
	Federal Law 24 of 1999, Chapter VII	Liability and compensation for environmental damages established	Y	NA	Operations	Compliance records
Federal Law 8/1980	Federal Law No. 8 for 1980 Article 92	Posting of hazard warnings	Y	NA	Operations	Inspections
	Federal Law 8/1980, Article 92	Detailed instructions to be displayed	Y	NA	Operations	Visual inspection
	Federal Law 8/1980, Article 95	Ministerial Decision (37/2) 1982 prescribes First-Aid for <50 employees, compulsory employment of a nurse for 200<e>50, and full medical care if >200 employees	Y	NA	Operations	First aid availability
	Federal Law 8/1980, Article 96	Minimum content of first-aid box prescribed	Y	NA	Operations	First aid box checklist
	Federal Law 8/1980, Article 93	Appropriate PPE to be issued and periodically monitored	Y	NA	Operations	PPE records
	Federal Law 8/1980, Article 91	Labour Department to be informed of building or construction contractor appointment	NA	NA		
	Federal Law No. 8 for 1980 Article 92 & 98	Safety of personnel shall be ensured by employer	Y	NA	Operations	Inspections/ records and OHSAS Documents
	Federal Law 8/1980, Article 94	Workers to be provided with adequate drinking water	Y	NA	Operations/ worker	Inspection
	Federal Law 8/1980, Article 100	Workers must comply with safety precautions and use and care of PPE	Y	NA	Operations	Inspection/PPE records
	Federal Law 8/1980, Article 99	Complete ban of alcohol in workplace	Y	NA	Operations	Inspection/ Security Protocols
	Ministerial Order 32/1982 Article 9	Workers to be protected from the dangers of electric shock and electrocution	Y	NA	Operations	Site layout of electrical appliances
	Ministerial Article 12					Before purchasing machines, protection standards shall be ensured
	Ministerial Article 10					Inspection
	Ministerial Article 11	contact with moving parts, do not impede work of production of the machine, do not impede adjustment, repair, or inspection with the least service, must be fire resistant and rust proof not have protruding parts, sharp edges, rough extensions				Inspection

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Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
Ministerial Order 32/1982	Ministerial Order 32/1982 Article 13	Removal or installation of barrier while machine running prohibited	Y	NA	Machining	Supervision/inspection
	Ministerial Order 32/1982 Article 14	Instructions for technical measures related to machinery to be posted up near them	Y	NA	Machining	Inspections to ensure instructions are posted
	Ministerial Order 32/1982 Article 7	Sufficient space around machinery	Y	NA	Machining	Installation shall be as per standard requirements
	Ministerial Order 32/1982 Article 20	Proper selection, use and maintenance, with external certification for cranes	NA	NA	Cranes	Certificates
	Ministerial Order 32/1982 Article 20	Proper selection, use and maintenance, with external certification for forklifts	NA	NA	Forklifts	Certificates
	Ministerial Order 32/1982 Article 7	Ladders to be of adequate strength and dimensions and designed to reduce risk of falling	Y	NA	Ladders	Inspection
	Ministerial Order 32/1982 Article 7	Wooden ladders not to be painted	Y	NA	Ladders	Inspection
	Ministerial Order 32/1982 Article 20	Proper selection, use and maintenance, with six monthly inspection for Hoists, lifts, slings, ropes, shackles, lifting tackle	Y	NA	Lifting equipment	Certificates/inspection
	Ministerial Order 32/1982 Article 9	Workers to be protected from the dangers of working with compressed gases	NA	NA	Compressed air	Inspection, maintenance records
	Ministerial Order 32/1982 Table 2	Maximum allowable concentrations for various substances prescribed	NA	NA	Chemicals	Records
	Ministerial Order 32/1982 Article 19	Precautionary measures to be taken to protect workers who are engaged in construction, demolition or digging for site management/excavations/demolitions	NA	NA		
	Ministerial Order 32/1982 Article 7	Passages to be free of holes, projecting nails, pipes, etc., and unobstructed	Y	NA	Operations	Inspection
	Ministerial Article 8	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.				Plant layout
	Ministerial Article 9	2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.				Inspections of equipment, PPE records
	Ministerial Article 5	3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.				PPE records
	Ministerial Order 32/1982 Article 5	Prevent and reduce vibration which may affect health of workers			Operations	Certificate for machines, moving equipment describing amount of vibration
	Ministerial Order 32/1982 Article 6	Disposal of harmful dust, gases, vapours, fibres at source			ons	Waste management plan

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EVALUATION OF COMPLIANCE/ LEGAL REGISTER

Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
	Ministerial Order 32/1982 Article 18	Precautions to protect workers from dangerous materials by suitable storage	NA	NA	Storage	Inspection
	Ministerial Order 32/1982 Article 7	Stairs to be of sufficient width	Y	NA	Stairs	Inspection
	Ministerial Order 32/1982 Article 7	Staircases to be made of material which do not cause slipping	Y	NA	Stairs	Inspection
	Ministerial Order 32/1982 Article 7	Stairs to have railings on both sides	Y	NA	Stairs	Inspection
	Ministerial Order 32/1982 Article 2	Employer to display instructions and warnings regarding fire and dangers	Y	NA	Operations	Inspection
	Ministerial Order 32/1982 Article 8	Fire alarm system required and workers to be trained to respond appropriately	Y	NA	Operations	Civil defence certificate
	Ministerial Order 32/1982 Article 8	Instructions for prevention, and actions in the event of fire to be posted in Arabic and other languages if necessary	Y	NA	Operations	Notice boards
	Ministerial Order 32/1982 Article 8	Fire extinguishers to be kept in good condition	Y	NA	Operations	Testing certificates
	Ministerial Order 32/1982 Article 8	Fire extinguishers to be placed for easy access	Y	NA	Operations	Visual inspections
	Ministerial Order 32/1982 Article 8	Sufficient number of workers trained in use of fire extinguishers	Y	NA	Operations	Training certificates
	Ministerial Order 32/1982 Article 26	Compulsory appointment of a H&S Engineer if more than 1000 employees	NA	NA		
	Ministerial Order 32/1982 Article 26	Compulsory appointment of a Safety Officer if more than 100 employees	NA	NA		
	Ministerial Article 3	1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.				Pre-employment medical examination
	Ministerial Article 24	2. The contractor shall comply with ADOSH, local authority requirements, and project HSE procedures at all stages of construction.				First aider certificates to designated employees
	Ministerial Table 3	3. Adequate supervision, toolbox talks, and continuous monitoring must be maintained to verify compliance and prevent incidents during work activities.				First aid checklist
	Ministerial Order 32/1982 Article 5	Volumetric space per worker at least 400 cubic feet (approx 11 cubic metres)			Operations	Inspection
	Ministerial Order 32/1982 Article 5	Provide adequate facilities for toilets			ons/ odation	Inspection

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			Entity	Contractor / Supplier		
	Ministerial Order 32/1982 Article 5	Provide adequate facilities for washing	Y	NA	Operations/ accommodation	Inspection
	Ministerial Order 32/1982 Article 5	Provide a place for meals	Y	NA	Worker Accommodation	Inspection
Other Laws	Federal Law 39 of 1992	Regulates chemical and organic fertilizers, and soil amendment agents	NA	NA	Operations	Use and storage of chemicals
	Local Law No. 16 of 2005	Establishment or individual is prohibited to carry out any activity that could adversely affect the lives of human beings and the safety of the environment	Y	NA	Operations	Inspection
	Local Law No. 21 of 2005	Waste Management in the Emirate of Abu Dhabi	Y	NA	Operations	Waste Management Plan
	Council of Ministers Decree No. 37 0f 2001	The Environmental Impact Assessment of Projects Handling of Hazardous substances, Hazard wastes and medical wastes, the protection of marine Environment Agricultural Pesticides and Fertilizers and protection of pollution of air Pollution	NA	NA	Operations	OHSAS Documentation & Records Risk Assessments Inspection Records
	Council of Minister Decree No.12 of 2006 for Federal Law No.24 of 1999	Regulation Regarding protection of air from pollution Adequate ventilation in the work place Measures to prohibit smoking in closed public places.	Y	NA	Operations	OHSAS Documentation & Records Risk Assessments Inspection Records
	Electricity Wiring Regulations 2007 Requirements of Electricity Wiring	Ministry of electricity and water	NA	NA	Operations	OHSAS Documentation & Records
	ESMA Standard UAE GSO 209: 1995- Industrial Safety and Health Occupatio Environme	Industrial Safety and Health regulations – Occupational Health and Environmental Control			Operations	EHSMS Documentation & Records
	ESMA Sta 212: 1994 Protective					Operational Control for PPEs

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AL SUWEIDI ENGINEERING CONSULTANTS L.L.C.
APPROVED AS NOTED

شركة الحكمة لمقاولات البناء ذ.م.م
HBC
P.O.Box : 93780, Abu Dhabi U.A.E.
AL HIKMA BUILDING CONT (L.L.C)

EVALUATION OF COMPLIANCE/ LEGAL REGISTER

Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
	ESMA Standard UAE. GSO 215: 1995 – Industrial Safety and Health Regulations –Equipment –Tanks Pressure vessels, Boilers and Compressed gas equipment	Industrial Safety and Health regarding personal Protective Equipment tanks pressure vessels, boilers and Compressed gas equipment	NA	NA	Operations	Risk Assessment
Other Laws	EHS RI-COP-2.0 Personal Protective Equipment	may be exposed to a risk to their health or safety whilst at work • All PPE provided to employees shall be provided at no cost the employee • Employees shall ensure they follow all the rules and regulations set by the employer and shall not miss use items. Provided for the purpose of safety	Y	NA	Operations	OHSAS Documents
	EHS RI-COP-3.0 Occupational Noise	This COP established the requirements and standards o that the risks associated with the where employees could be exposed to noise levels in excess of 85 dB as measured on an A weighted scale at any time during work shift. Employers shall ensure employees and visitors are not be exposed to any continuous intermittent, or impact noise level above 100 dB(A) unless the appropriate hearing protection is provided	Y	NA	Operations	IMS Documents
	EHS RI-COP-4.0 First Aid and Medical Treatment	insurance that will provide courage for medical care provided in the emirate of Abu Dhabi.	Y	NA	Operations	OHSAS Documents
	EHS RI-COP-5.0 Occupational Health screening and medical surveillance	Employers shall maintain medical records and medical confidentiality Employers with occupational health screening and medical surveillance programs shall use an employer's general health history questionnaire to collect at a minimum the following information	Y	NA	Operations	OHSAS Documents
	EHS RI-COP-6.0 Emergency Requireme	Employers shall maintain medical records and medical confidentiality			Operations	OHSAS Documents
	EHS R Prevention Control	1. UAE fire and safety life safety code of practice 2011-civil defense 2. International building code of the emirate of the Abu Dhabi (department of Municipal affairs) and other requirement of relevant federal and local authorities				OHSAS Documents

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EVALUATION OF COMPLIANCE/ LEGAL REGISTER

Laws	Clause/Article/ Reference	Requirements/ Obligations	Applicable to		Area of Applicability	Licenses/Compliance Records Required
			Entity	Contractor / Supplier		
	EHS RI-COP-8.0 General Work place Amenities	Employers shall set minimum requirements for general worksite Prayer room/Mosque • Appropriate facilities for eating • Clean and sanitary bathroom and changing rooms • House keeping • Windows, Skylights, Ventilators and transparent or translucent doors	Y	NA	Operations	Inspections
	EHS RI-COP-9.0 Work place Wellness	Employers shall actively enhance work place wellness through proper implemented and evaluated workplace health promotion program	Y	NA	Operations	Inspections
	EHS RI-COP-9.2 Managing Work related stress	Employers that employ 50 or people or as deemed necessary by risk assessment. shall develop a work related stress management programs and implement appropriate preventive measurement programs.	NA	NA	Operations	
	EHS RI-COP-14.1 Manual Tasks Involving the Handling of people.	This COP applies to any workplace activity requiring the use of force by a person to hold support transfer or restrain another person at a workplace	Y	NA	Operations	OHSAS Documents

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AL HIKMA BLDG. CONT. (L.L.C.)	**WARNING LETTER FOR SAFETY VIOLATION**
Project : **Client :** **Consultant:** **Contractor:**	**Date :** **Filled By:**

From: HSE Department

To: ID

Date of event: Time:

This is to notify you of the following safety violations committed by you:

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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ALSUWEDI السويدي للاستشارات الهندسية AL SUWEIDI ENGINEERING CONSULTANTS L.L.C. APPROVED AS NOTED

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11 Appendix B: ISO Certificate

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Certificate Of Registration

Awarded to

AL HIKMA BUILDING CONTRACTING L.L.C – ABU DHABI BRANCH

at

P.O.BOX NO: 93780, M43 MUSAFFAH, ABU DHABI CITY, ABU DHABI, UAE

Quality Registrar Systems certify that the management system of the above organization has been audited and found to be in compliance with the QRS & ISO standard requirements for registration of the management system standard detailed below:

ISO 14001:2015

Environmental Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

Officially Registered with QRS since 25 JULY 2019

EA 28

Certificate No: AAU-5915

Originally Registered: 15 JULY 2022

Latest Issue: 01 JULY 2025

Valid up-to: 14 JULY 2028

Quality Registrar Systems

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QUALITY REGISTRAR SYSTEMS
P.O Box :26826
United Arab Emirates

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WORLDWIDE CERTIFICATION

This certificate is the property of Quality Regis subject to satisfactory annual surveillance audit.
This certificate is only valid when c Quality Registrar Systems (qrsyst.com)

AL SUWEIDI ENGINEERING CONSULTANTS L.L.C.
APPROVED AS NOTED

Certificate Of Registration

Awarded to

AL HIKMA BUILDING CONTRACTING L.L.C – ABU DHABI BRANCH

at

P.O.BOX NO: 93780, M43 MUSAFFAH, ABU DHABI CITY, ABU DHABI, UAE

Quality Registrar Systems certify that the management system of the above organization has been audited and found to be in compliance with the QRS & ISO standard requirements for registration of the management system standard detailed below:

ISO 45001:2018

Occupational Health and Safety Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

Officially Registered with QRS since 25 JULY 2019

EA 28

Certificate No: AAU-4013

Originally Registered: 15 JULY 2022

Latest Issue: 01 JULY 2025

Valid up-to: 14 JULY 2028

Quality Registrar Systems

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APPROVED AS NOTED

Certificate Of Registration

Awarded to

AL HIKMA BUILDING CONTRACTING L.L.C – ABU DHABI BRANCH

at

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Quality Registrar Systems certify that the management system of the above organization has been audited and found to be in compliance with the QRS & ISO standard requirements for registration of the management system standard detailed below:

ISO 9001:2015

Quality Management Systems

Scope of work

- METAL CONSTRUCTION CONTRACTING
- ALL KIND BUILDING PROJECTS CONTRACTING
- OIL AND GAS FIELD FACILITIES BUILDING CONTRACTING

Officially Registered with QRS since 25 JULY 2019

EA 28

Certificate No: AAU-2361

Originally Registered: 15 JULY 2022

Latest Issue: 01 JULY 2025

Valid up-to: 14 JULY 2028

Quality Registrar Systems

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12 Appendix C: Environmental Audit Schedule

1. Ensure that all safety, health, and environmental control measures outlined in the CEMP are implemented effectively during site execution.
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Yearly Planner 2026

JANUARY	FEBRUARY	MARCH
CEMP AUIDT 1- 14 JAN 2026 AUDITOR: YUMAIMA NAEEM		

APRIL	MAY	JUNE
CEMP AUIDT 2- 14 APRIL 2026 AUDITOR: YUMAIMA NAEEM		

JULY	AUGUST	SEPTEMBER
CEMP AUIDT 3- 14 JULY 2026 AUDITOR: YUMAIMA NAEEM		

CEI NOVMEBR 2026 AUDITOR: YUMAIMA NAEEM	AL SUWEIDI ENGINEERING CONSULTANTS L.L.C. APPROVED AS NOTED	شركة الحكمة لمقاولات البناء ذ م م HBC P.O. Box : 93780, Abu Dhabi U.A.E. AL HIKMA BUILDING CONT (L.L.C)

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