EXPRO National Manual for Projects Management

Volume 11 Chapter 5

Project Waste Management Procedure

Document No. EPM-KSE-PR-000002 Rev 003

Document Submittal History:

Revision:	Date:	Reason For Issue
000	08/10/2017	For Use
001	03/12/2017	For Use
002	09/12/2018	For Use
003	09/08/2021	For Use

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Table of Contents

1.0 PURPOSE

The purpose of this procedure is to detail the minimum requirements for managing waste on construction sites. It covers responsibilities, segregation, treatment, handling, transport and disposal of recyclable materials and residual wastes to maximize opportunities and value by reusing or recycling materials and to minimize the quantity of residual materials discarded as waste.

2.0 SCOPE

The scope of this procedure applies to all works performed under all Government Construction Contracts executed throughout the Kingdom of Saudi Arabia.

3.0 DEFINITIONS

Definitions	Description
PEL	Project Environmental Lead
AWMC	Approved Waste Management Contractor
Waste Management Hierarchy	A classification of waste management options in order of their environmental impact, such as: reduction, reuse, recycling and recovery.
Clean-up operation	an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the goal of making the site safer for people or the environment.
Decontamination	The removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects.
Construction Waste	Consists of unwanted material produced directly or incidentally by the construction or industries
Solid Waste	Any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, mining and agriculture operations and from community activities.
Stage	A temporary location for storage of earthwork on a site with the future intent to use, transport, or dispose of the material.
Landfill	A place, location, tract of land, area, or premises used for the disposal of solid wastes. The term is synonymous with “solid waste disposal site” and is also known as garbage dump and trash dump.
Hazardous Material	Materials harmful to human health and/or the environment that is solid, semi-solid, liquid, or gas and may include hazardous wastes.
OSHA	Occupational Safety and Health Standards
CSM	Construction Site Manager
FM	Facility Manager
AWMC	Approved Waste Management Contractor.
JHA	The identification of all tasks that contain installation steps which may pose a hazard risk to personnel.
STARRT	Safe Task Analysis Risk Reduction Talk
HSSE	HSSE Health, Safety, Security and Environment
WMS	Work Method Statement
PPE	Personal Protective Equipment

4.0 REFERENCES

- OSHA 29CFR 1926 Subpart D Occupational Health and Environmental Controls
- OSHA 29CFR 1926 Subpart Z Toxic and Hazardous Substances
- OSHA 29CFR 1926 Subpart C General Safety and Health Provisions

- OSHA 29CFR 1910 Subpart Z Toxic and Hazardous Substances
- OSHA 29CFR 1910 Subpart I Personal Protective Equipment
- EPM-KSS-PR-000001 Project General Safe Work Requirements Procedure
- EPM-KSS-PR-000002 Project Housekeeping Requirements Procedure
- EPM-KSS-PR-000003 Project Personal Protective Equipment Procedure
- EPM-KSH-PR-000004 Project Respiratory Protective Equipment Procedure
- EPM-KSH-PR-000007 Project Control of Hazardous Materials Procedure
- EPM-KSH-PR-000009 Project Asbestos Management Procedure

5.0 RESPONSIBILITIES

5.1 Project Manager

The Project Manager is responsible for ensuring the resources and arrangements are available for the implementation and management of this procedure.

5.2 Construction Site Manager (CSM)/Facility Manager (FM)

The CSM/FM shall ensure that this procedure is implemented. They are responsible for:

- Ensuring a suitable Approved Waste Management Contractor is appointed.
- Helping to formulate efficient and effective waste disposal plans.
- Liaising with private waste collection companies.
- Devising and administering waste management budgets.
- Managing outside contractors.
- Keeping statistical records and preparing reports.
- Ensuring compliance with current waste disposal/handling/transportation legislation.
- Monitoring levels of pollution from waste disposal sites.
- Handling queries or complaints from the public.

5.3 Supervisors

Superintendents, foremen, and other responsible supervisors are responsible for:

- Ensuring that work areas and tasks under their responsibility have been assessed for waste management requirements.
- Ensuring that adequate waste receptacles are available throughout the work and that these are emptied / changed over as required.
- Ensuring that employees have been trained in accordance with the project's training requirements.
- Enforcing the requirements of this procedure.

5.4 Employees

Employees are responsible for:

- Adhering to the requirements of this Procedure.
- Reporting if instances of leakage, missing covers, or misuse of material receptacles or any concerns regarding waste management to their line manager.
- Determining the type of waste, they need to dispose of and following the procedure to ensure it is disposed of properly.

5.5 Approved Waste Management Contractor (AWMC)

The AWMC is responsible for ensuring that they are properly registered and licensed and that all waste is stored, transported and disposed of without harming the environment.

6.0 RISK ASSESSMENT

An integral aspect of the work planning process is the performance of a proper risk assessment. Risk Assessments must be conducted at the Planning Stage to identify the hazard risks and determine control measures. Improper handling and disposal of waste can have significant environmental and regulatory impacts. Staff should work to minimize the generation of waste the greatest extent practical and ensure that generated waste cannot generate additional waste by keeping dumpsters closed and covered. Significant environmental aspects relating to waste management and their associated potential impacts should be identified and appropriate control measures must be implemented.
The Risk Assessments that shall be conducted at the Planning Stage are as follows:

- Project Risk Assessment.
- Work Method Statements (WMS)
- Job Hazard Analysis (JHA).
- Safety Task Analysis and Risk Reduction Talk (STARRT).

It is imperative that prior to beginning any work activity, a STARRT briefing occurs to discuss the contents of the WMS/JHA which includes mitigations for any other hazards noted by the crew at the jobsite. The discussion shall also include job steps, expected hazards associated with the activity, and the mitigation and protection methods that shall be implemented to prevent incidents.

If circumstances change by way of the environment, other work crews are in the area, additional hazards are now present, change of methodology of the task etc..... another STARRT briefing shall occur.

The Hierarchy of control shall be used to reduce the likelihood of an incident occurring.

- ***Elimination*** (Remove the Hazard)
- ***Substitution/Isolation*** (Replacing material, process or hazard with a lower risk one/ separate people from the hazard (such as suitable guarding, distance, etc.)
- ***Engineering Controls*** (Redesign or replacement of plant and equipment)
- ***Administration Controls*** (Procedures, training, signage)
- **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

No work is to commence until the above has been implemented and signed by the relevant Supervisor in charge.

7.0 REQUIREMENTS

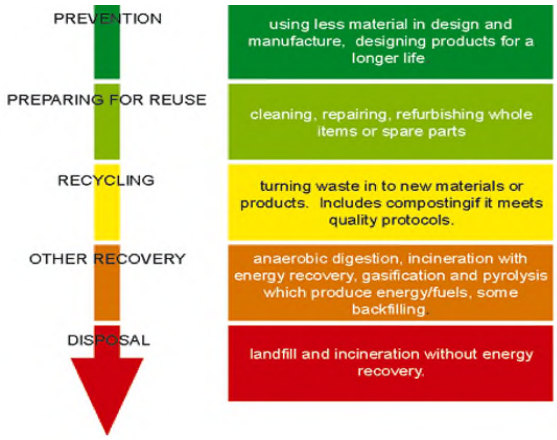

Figure 1

- Responsible Contractor shall comply with all Environmental Regulations, legislation, standards and codes in relation to waste management.
- When required a detailed Construction Waste Management Plan will be developed by the Responsible Contractor.
- Responsible Contractor shall be in possession of any permit requirements, such as a valid landfill permit.
- Responsible Contractor must maintain adequate records of waste management activities relating to their site, including invoices from waste management contractor, evidence of disposal at Landfill, weighbridge receipts for waste and recyclable materials and where applicable, monthly recycling reports.
- Responsible Contractor shall adhere to the waste management hierarchy, Figure 1.
- During construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.
- Combustible scrap and debris shall be removed at regular intervals during construction. Safe means shall be provided to facilitate such removal.
- Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

7.1 Waste Prevention and Minimization

- Responsible Contractor shall adopt a waste prevention approach to management of their materials on site during the execution of their Project.
- The Responsible Contractor shall adhere to following waste prevention techniques.
- Responsible Contractor shall maintain a tidy site by implementing good housekeeping, which can reduce waste generation.
- Responsible Contractor shall store construction material at site in a safe and responsible manner to preserve the quality and in turn minimize waste.
- Wooden pallets, waste oil, scrap metal, cardboard and plastic waste will be segregated on site and sent to recycling.
- Bricks and concrete can be crushed by an onsite crusher or transported to an off-site crusher. The resulting material can then be used as granular fill or aggregate and reused in temporary haul roads.
- Excess concrete from pours can be re-used as formwork (e.g. paving slabs or concrete jersey barriers) instead of being sent for recycling or disposal.
- Wooden pallets can be reused instead of purchasing new products.

7.2 Waste Storage

- Where waste is unavoidable, the Responsible Contractor must provide adequate waste storage containers.
- The Responsible Contractor will store waste appropriately, with a sufficient number of skips/storage areas for the different wastes. All hazardous materials shall be segregated from ordinary waste.
- An adequate number of containers (skips, bins or similar) will be strategically placed throughout the construction areas and temporary facilities.
- All unsorted (mixed) waste must be stored in containers, such as skips, bins or drums.
- The storage containers will be of sufficient size and number to contain all solid wastes generated on site, under reasonably foreseeable levels of construction activity.
- The Responsible Contractor shall remove waste containers from site as soon as they are full. Waste containers shall not be allowed to overflow.
- Waste must not be stockpiled or stored directly on unsealed or bare ground.
- The Responsible Contractor shall not dump, bury or burn waste on the site.

7.3 Recyclable Waste

Responsible Contractor producing recyclable wastes as part of their project execution activities are required to recycle such wastes to the greatest possible extent including, but not limited to:

- Wooden Pallets.
- Waste Oil.
- Metal including aluminum, steel, copper, tin, and Brass Spent Vehicle Batteries.
- Cardboard Waste.
- Plastic Waste.
- Electronics including CDs and DVDs, cell phones and chargers, used ink jet cartridges, tapes, jewel cases, computers, printers, and TVs.
- Glass including clear and all colored glass.
- White Paper includes any white paper such as printer/copy paper, notebook paper, and spiral bound notebooks.
- Mixed Office Paper includes colored paper, newspaper, magazines, envelopes, phone books, post-it notes, and index cards.
- Waste intended for reuse or recycling must be stored separately in clearly marked areas, with signs indicating the type of waste to be stored there. Responsible Contractor are required to establish a dedicated waste recycling storage area for the storage of the above listed waste materials.
- The area should be clearly labeled and have dedicated bays or containers for each separate recyclable waste stream being generated on site.
- All light-weight waste skips (particularly those for plastic/cardboard) should have covers (tarpaulin/netting) to stop light waste being blown around site by the wind.
- Waste types must be segregated at source and stored separately. Mixing of recyclable waste streams is prohibited.
- Flammable substances will be kept away from sources of ignition.
- As necessary, the Responsible Contractor shall arrange for the removal of recyclable waste streams from their site, by an Approved Waste Management Company (henceforth known as AWMC).
- The AWMC shall remove the waste and provide the Responsible Contractor with documented evidence of the waste transfer off site.
- The Responsible Contractor must retain all such documentation provided by the AWMC on site for review, in a dedicated file titled “Waste Management”, held in the Responsible Contractor HSSE Office.
- At the end of each calendar month, the Responsible Contractor shall submit a ‘Monthly Recycling Report’ which details the amount of each recyclable waste removed from their project site during the period being reported on.
- The figures detailed by the Responsible Contractor in the Monthly Recycling Report must be supported by evidence of waste removal / processing – copies of documentation provided by the AWMC.

7.4 Other Waste Considerations

- Where food consumption is permitted on site, all food waste will be properly stored in containers with closed metal or hard plastic tops to minimize the possibility of vermin infestation or odor emanating.
- Old tires are a fire hazard - stockpiling of used tires is prohibited. Used tires must be taken to a tire recycling Responsible Contractor or landfill for disposal.
- Dry concrete waste and demolished concrete pieces must not be stored in Concrete Washout Pits. A separate dedicated waste skips or fenced off area for storing dry concrete (breezeblocks or spilled concrete material) shall be provided by the Responsible Contractor on site as necessary.
- Lead Containing Material, including material covered with lead-based paint, should be deposited in a separate dumpster. The lead dumpster should remain covered when not in active use.
- Asbestos Containing Material should be dealt with as detailed in EPM-KSH-PR-000009 Project Asbestos Management Procedure.

7.5 Waste Removal from Site

- Waste materials should only be transported by an Approved Waste Management Contractor.
- If there is concern about the standard of transport or destination of the waste, the Responsible Contractor must not release the waste from site.
- No waste will be disposed of or removed from the construction site without the knowledge and approval of the Responsible Contractor HSSE Health, Safety, Security and Environment (HSSE) Manager.
- Vehicles transporting waste will be covered where necessary, to prevent dropping, leaking, sifting or blowing of solid waste from the vehicle.

7.6 Waste Chutes

- Waste Chutes are often used to transfer waste from elevated construction locations to the ground level, aste chutes should deposit the waste directly into waste skip bins.
- The Responsible Contractor shall provide enclosed chutes where materials are dropped to the ground. Chutes usually consist of a plastic or metal tube (about 1 meter in diameter) through which waste is dropped.
- Waste chutes must be inspected and approved before being brought into use.
- The area onto which the material is dropped shall be provided with suitable enclosed protection barriers and warning signs of the hazard of falling materials;
- Waste materials shall not be removed from the lower area until handling of materials above has ceased.
- Waste chutes should deposit the waste directly into waste skips and not deposit them on to the ground.
- Dust netting or similar should be placed around the skip and along the length of the chute to contain any dust clouds upon impact and to stop any loose waste escaping.
- If there is multiple access points to the rubbish chute at different heights that no two workers can access the rubbish chute at the same time.

8.0 ATTACHMENTS

N/A