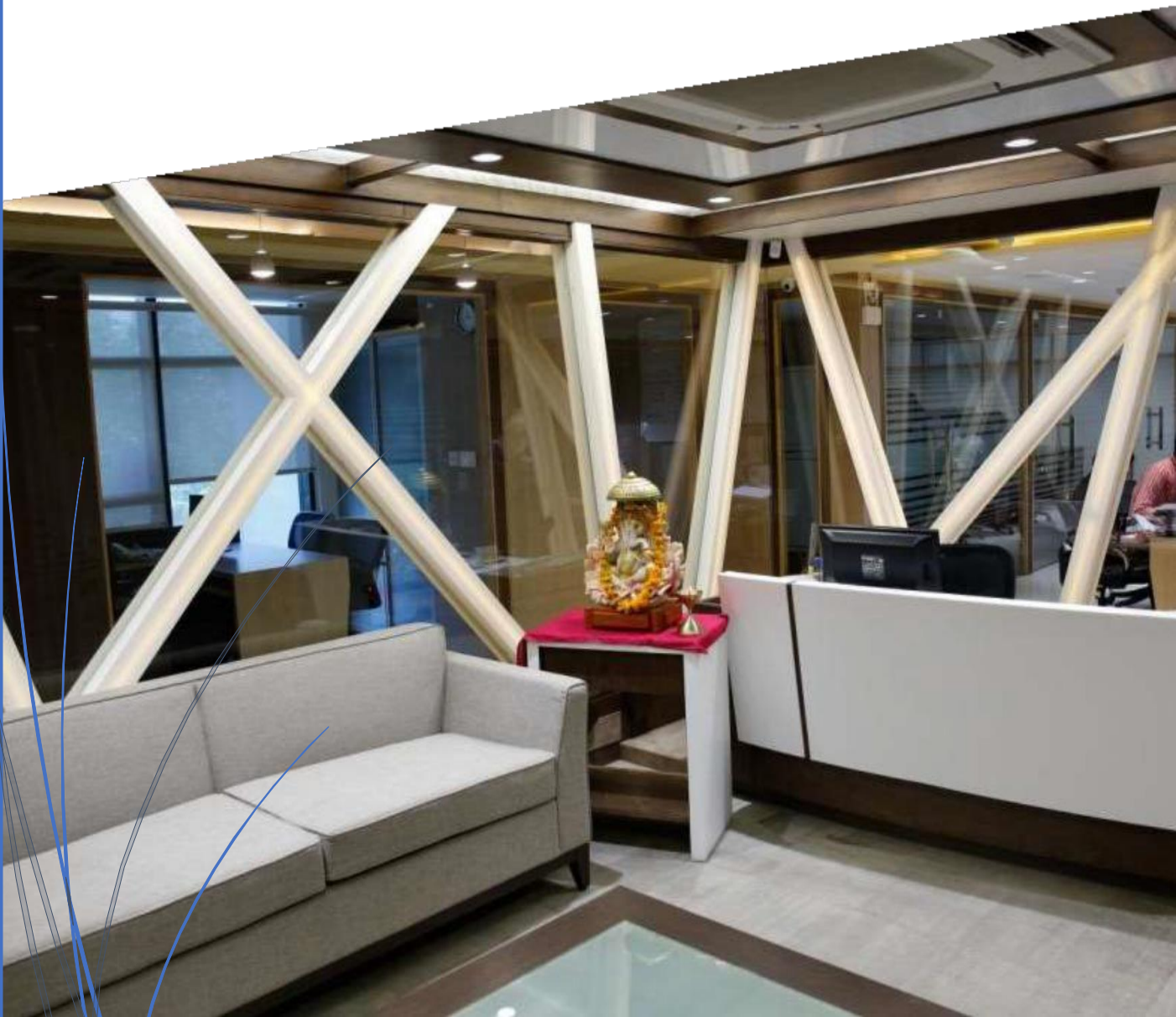





HGIEL
We Make People Move...

Version 1.0

Waste Management Plan & Standard Operating Procedures




Document Owner:
Plant & Machinery - Head
H. G. INFRA ENGINEERING LIMITED

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

Contents

1.	PURPOSE.....	3
2.	APPLICABLE RULES & REGULATIONS	3
3.	SCOPE	3
4.	RESPONSIBILITY	4
4.1	Project head.....	4
4.2	Administration Head.....	4
4.3	Section in-charge	4
4.4	Personnel Performing Activities	4
4.5	HR Team	4
4.6	ESG Council.....	4
5.	PROCEDURES	5
5.1	Siting Waste Storage Area(s)	5
5.2	Waste Segregation and Storage	5
5.3	Disposal	6
5.4	Waste water	7
6.	REVIEW OF PROCEDURE/TRAINING.....	7
7.	RECORDS.....	7
8.	CONTROL MEASURES	8
9.	QUERIES.....	8

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

1. PURPOSE

- 1.1 To identify the waste material, source of waste generation and its classification.
- 1.2 To minimize potential impacts of waste storage & to ensure its disposal as per the waste management & handling rules.
- 1.3 To adopt new technological practices for waste management.
- 1.4 To minimize the volume of waste by maximizing recycling/reuse wherever possible.
- 1.5 To provide standard operating procedures for the handling & disposal of waste.
- 1.6 To develop and maintain human & technological infrastructures to build an information base of insights and good international industry practices on waste management & seek constant improvement.
- 1.7 To set waste management as a performance indicator throughout the company and seek to improve HGIEL environmental performance by adopting innovative, resource-efficient and low-carbon technologies.
- 1.8 To identify and then assess the probable risks and impacts caused by business operations as a result of waste generation.
- 1.9 To adhere with domestic statutory compliances and international conventions with respect to waste management.
- 1.10 To create awareness among stakeholders through focused campaigns and programs.
- 1.11 To conduct training and awareness programs for the employees & contract workers to improve the waste management practices.

2. APPLICABLE RULES & REGULATIONS

- Environment Protection Act, 1986
- Solid Waste Management Rules, 2016
- Hazardous Waste (Management & Handling) Rules, 2016
- Construction and Demolition Waste Management Rules, 2016
- Plastic Waste (Management & Handling) Rules, 2011
- Biomedical Waste Management Rules, 2016
- E-waste (Management & Handling) Rules, 2022
- Battery Waste (Management & Handling) Rules, 2022
- Precedents of Court of law (Apex Court and National Green Tribunal Bench) pertaining to waste management

3. SCOPE

These procedures apply to the identification, generation, minimization, collection, handling, transportation, and disposal of waste.

The table below summarizes what wastes are managed according to this SOP.

Sr. No.	Type of waste
1	Waste water (Sand wash, Batching plant residual)
2	Waste Lubricant oil/ Hydraulic oil
3	Dead batteries
4	Scrap filters
5	Scrap tyres
6	Metal Scrap
7	Electrical& electronic Waste

8	Bituminous mix waste & Waste concrete (construction & demolition waste)
9	Rubber waste
10	Plastic waste
11	Municipal waste

4. RESPONSIBILITY

4.1 Project head

Project head has the overall responsibility to implement & monitor the SOP's of waste management. He is responsible for ensuring hazardous waste (used oil) generated in the projects is kept separately with all the adequate measures to avoid any kind of spillage. It must be ensured that hazardous waste is not stored in the premises for more than 180 days in case of any justifiable grounds. All the used batteries, e-waste, construction & demolition waste and hazardous waste generated in the projects should be disposed of through an authorized vendor.

4.2 Administration Head

Administration head is responsible to ensure that entire housekeeping staff is aware of the waste management practices- of the Company and implementing the same. Housekeeping staff is to be provided with all the required MSDS (in case of chemicals), cleaning and handling equipment.

4.3 Section in-charge

Section in-charge is responsible for ensuring all staff involved with generating or managing waste are trained on the procedures outlined in the most recent version of this SOP. Managers and supervisors are responsible for maintaining waste disposal records.

4.4 Personnel Performing Activities


All employees are responsible for the proper temporary storage, containment, and disposal of all waste generated. Separation of waste is a critical part of this process. personnel must follow the procedures outlined in this SOP. If personnel are unsure of the proper procedures, they should contact their supervisor.

4.5 HR Team

HR team is responsible for communicating all the employees about the policy and procedure on waste management. All the new joiners shall also have training on the policy and procedure during time of induction.

4.6 ESG Council

ESG Council is responsible for Setting Policy & reviewing Objective & Targets. The ESG Council is responsible for record tracking and yearly reporting of Waste management report. ESG Council is responsible for developing waste management strategy and implementation procedures. ESG Council will monitor the waste generated and disposed quantity.

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

5. PROCEDURES

5.1 Siting Waste Storage Area(s)

- 5.1.1 Where feasible, locate dumpsters away from the project boundary and sensitive receptors. Sensitive receptors may include stormwater drop inlets, curb inlets, wetland areas, sensitive vegetation, other waterways.
- 5.1.2 Locate waste storage areas away from critical pathways including pedestrian and vehicular access, overhead utilities, fire hydrants, and generators.
- 5.1.3 Maintain adequate ingress/egress to storage areas to allow adequate loading of waste materials for removal from the site.
- 5.1.4 Wherever feasible, Hazardous waste storage on an impervious surface. Plastic sheeting can be used to provide an impervious surface, if needed, where none is present.
- 5.1.5 Use only designated storage/disposal areas for storage of segregated waste.

5.2 Waste Segregation and Storage-


Waste segregation should be according to type of waste cited in **Annex 1**.

- 5.2.1 Ensure source segregation of all the waste generated and it is stored promptly in the correct waste container.
- 5.2.2 The Bituminous mix waste & Waste concrete must be collected separately and must be placed in designated construction waste dumpsters.
- 5.2.3 E-Waste, Light bulbs/lamps should be managed intact under all circumstances and should not be crushed for any reason. Bulbs/lamps should be segregated and stored for disposal in a designated container, which will prevent breakage.
- 5.2.4 “Dead Batteries” should be stored at a separate place and the record of the same should be shared in monthly reports.
- 5.2.5 “Chocked filters” should be stored at a separate place and the record of the same should be shared in monthly reports.
- 5.2.6 “Scrap tyres” should be stored at workshop or store waste area for proper disposal.
- 5.2.7 “Metal scrap” should be stored properly at a designated area away from the general pedestrian area because of hazardous nature.
- 5.2.8 “Waste lubricant oil/ hydraulic oil” should be stored separately. To prevent spillage of the oil, the storage area should always have a cemented base or should cover by the plastic sheets.

If any spillage happens, oil must be collected back through designated drains or place plastic sheets to collect it carefully.

To prevent misuse of the waste lube oil (like- burning for heat, etc.) the waste quantity shall always be recorded and the responsibility of the Supervisor/workshop in charge.

- 5.2.9 “Municipal waste”- to be stored at a dry area and cleaning and pest control should be done monthly.
- 5.2.10 “Plastic & Rubber waste”- Waste should collect separately for proper disposal.
- 5.2.11 Liquid containing cans/containers must be completely emptied of its contents by being thoroughly used. Residual materials should be dried/cured completely. This includes: paints, solvents, glues, caulk, gypsum mud, etc.

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

5.3 Disposal


Disposal of waste should be based on the nature of waste generated. The sop contains type of waste disposal methods and procedures based on categories of the waste.

- 5.3.1 Ensure all waste generated is disposed of promptly through the correct process.
- 5.3.2 The Bituminous mix waste & Waste concrete should be used as clean fill, so must be collected separately away from running water or rain water clogging area.
- 5.3.3 E-Waste, Light bulbs/lamps should be managed intact under all circumstances and should be dispose of through recycling companies which have govt. authorization.
- 5.3.4 “Dead Batteries” should be disposed of through licensee third party companies. And the record of the firm (like- name, address, contact no., licence no.) should be recorded.
- 5.3.5 “Choked filters” should be disposed of through licensee third party companies. And the record of the same should be shared in monthly reports.
- 5.3.6 “Scrap tyres” should be disposed of through licensee third party companies. And the record of the same should be shared in monthly reports.
- 5.3.7 “Metal scrap” should be dispose of properly with certified vendor.
- 5.3.8 “Waste lubricant oil/ hydraulic oil” should be stored separately and the disposal of the same should always through the licensee third party. To prevent spillage of the oil the storage area should always have a cemented base or should cover by the plastic sheets.

If any spillage happens oil must be collected back through designated drains or place plastic sheets to collect it carefully.

To prevent misuse of the waste lube oil (like- burning for heat, etc.) the waste quantity shall always be recorded and the responsibility of the Supervisor/workshop in charge.

- 5.3.9 “Municipal waste”- to dispose of the municipal waste, have to coordinate with local municipal authorities and assure that all waste will be handover to them on daily basis to prevent piling and other health and environmental issues.
- 5.3.10 “Plastic & Rubber waste”- Waste should collect separately for proper disposal. Licensee third party vendors should be hired for the disposal of the plastic waste they may be govt. recycling facilities or local waste management facilities.
- 5.3.11 “Liquid containing cans/containers” must be disposed separately as liquid waste by appropriate means. Residual materials should be dried/cured completely and disposed along with the container.
- 5.3.12 Equipment containing fluids (e.g., spray applying apparatus, piping/tubing/hoses, mixing equipment) must be fully drained of these products prior to disposal in general construction trash. In addition, equipment designated for disposal or recycling must have a tag placed on it that is signed and dated by a supervisor or designated staff certifying that all fluids have been removed.
- 5.3.13 “Chemical Waste” - All chemicals used in the facility for housekeeping, cafeteria cleaning, pest control, or any other purpose shall be reviewed and approved before use. A chemical request form shall be filled out by the Admin Executive. The Facilities Manager shall review the Material Safety Data Sheets (MSDS) before approval. The format of the chemical request form is available in the Manual of Checklists and Formats. If the chemical is approved, it will be added to the ‘Approved Master Chemical List’. The Approved Master Chemical List will be evaluated once every year and updated when needed. The Approved Master Chemical List shall be made available to the security team. The security team shall restrict the entry of any unapproved chemical into the facility. Material Safety Data Sheet (MSDS) is a detailed document prepared by the manufacturer or importer of a chemical. It describes the physical

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

and chemical properties of the chemical. Material Safety Data Sheets shall be maintained for each chemical stored at the facility. MSDS shall be displayed in both English and vernacular language. PPE as mentioned in MSDS shall be provided to all personnel who will be handling the chemicals. Spill kit shall be provided in the chemical storeroom. Training on spill kits shall be conducted for HK staff periodically. Proper records of the same shall be maintained. Mock drills on chemical spills shall be conducted on annual basis. Proper records of the same shall be maintained. In case of any major incidents, actions, as laid down in the emergency response procedure, shall be taken.

5.4 Waste water

Water waste shall be treated first before reuse so the waste water generated through all process shall be collected in a tank. After collection of the waste water the sedimentation tanks shall be provided to settle down the impurities and the clear water will be transferred to another tank for reuse of the water. Some additives (Like Coagulants and polymer flocculants, Alum etc.) shall also be added to the tank to improve the rate of sedimentation and it also sediment the dissolved impurities. The water then can be used for sprinkling.

6. REVIEW OF PROCEDURE/TRAINING


Managers are responsible for reviewing this procedure with all applicable staff immediately upon start of work on site and refresher training shall be provided as often as needed to ensure compliance. All the records related to the training conducted shall be duly maintained. The signed policy by the top management shall be affixed at the conspicuous premises of the company and in each department

7. RECORDS

The amount of waste generated should be recorded for audits and internal compliance in the provided standard formats. Any missing details can be added to the format as per requirement. All the hazardous material shall be recycled or disposed through the licensee third party vendors.

Following records related to regulatory compliances w.r.t waste management is to be maintained:

- Form 3 Annual e-waste returns
- Form 8 Half-yearly battery returns
- Form 6 E-waste manifest
- Form 10 Hazardous waste manifest

	H. G. Infra Engineering Limited		
	Document No.	Version No.	Date:
	HGIEL/WMP/19/22	V1.0	01.01.2023
	Waste Management Plan - Standard Operating Procedures		

8. CONTROL MEASURES

Control measures to reduce waste generation are given below.

An integrated waste management strategy includes three main components:

1. Source reduction
2. Recycling
3. Disposal

Reduction of Waste Quantity: By implementing various new technologies and innovative approach to reduce the qty generated. The reduction of qty will easily cut off the waste water generation and various long life lubricant oils can be introduced to minimize oil waste.

Reuse of Waste Materials: To reuse the waste firstly the processing of the waste to be done. The waste water treatment system makes the water to reusable and the waste concrete and bituminous waste should be use at landfilling.

Recycling of Materials: Recycling is the reprocessing of discarded materials into new useful products. To recycle the waste various govt and other organisation are working so the waste like Rubber, Plastic, metal scrap etc should be recycled through the certified vendors.

The process of reducing, reusing and recycling saves money, energy, raw materials, land space and also reduces pollution.

9. QUERIES

All are encouraged to raise any concerns or grievances or any questions about the provisions detailed in this document, please contact:

Plant & Machinery - Head

H.G. Infra Engineering Limited

Corporate Office, III Floor, Sheel Mohar Plaza, A-1, Tilak Marg, C-Scheme, Jaipur, Rajasthan - 302001

Board: +91-141-4106 040 / 41

Fax: +91-141 - 4106 044

Mail: pnm.ho@hginfra.com

Sd/-
Chairman's Signature
Authorized Signatory
H. G. Infra Engineering Limited

Annexure I

Sr. No.	Type of waste	Classification	Generated Qty	Cumulative Qty	Disposed Qty	Balance Qty
1	Waste Lubricant oil/ Hydraulic oil	Hazardous				
2	Dead batteries					
3	Scrap filters					
4	Scrap tyres					
5	Metal Scrap					
6	Electrical& electronic Waste					
7	Bituminous mix waste & Waste concrete (Construction & Demolition waste)	Non hazardous				
8	Rubber waste					
9	Plastic waste					