



Environmental Management System: Discharges to Water Management Procedure

Approval Page

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1.0	Sustainability Committee	7 May 2021

Discharges to Water Management Procedure

Leads:	Operations Managers, Estates and Facilities
Reviewed by:	Head of Sustainability
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Purpose

This procedure details how discharges to water are managed across Queen Mary, University of London (Queen Mary) UK campuses in order to:

- Define actions, controls and responsibilities regarding discharges to surface water and effluent drains
- Appropriately identify the potential risks from discharges into surface water and effluent drains across Queen Mary campuses
- Minimise discharges into surface water
- Mitigate and control any discharges into surface water and effluent drains
- Ensure compliance with the Queen Mary's effluent discharge consent
- Ensure compliance with all relevant environmental regulations

Scope

This procedure covers all discharges to surface water and effluent drains across Queen Mary's UK Campuses.

This procedure covers any individuals or organisations carrying out activities across Queen Mary's campuses that may result in discharges into surface water and effluent drains.

This procedure forms part of Queen Mary's Environmental Management System (EMS).

Definitions (ISO14001:2015)

Risks and Opportunities: potential adverse effects (threats) and potential beneficial effects (opportunities).

Procedure: Set of interrelated or interactive activities, which transforms inputs into outputs.

Responsibilities

Role / Position	Responsibilities
Operations Managers, EAF	Provide assurance that all drainage systems across Queen Mary's campuses are fit for purpose and custodian of information of the status of all surface water and effluent drains across Queen Mary's campuses.
Head of Sustainability	Responsibility for coordinating training and learning opportunities for all interested parties and relevant stakeholders on environmental compliance and risks associated with water pollution.
Sustainability and Environment Manager	Coordinates the auditing of all relevant operations across Queen Mary that could potentially result in discharges to water, as well as based on relevant regulations, standards and Queen Mary's environmental objectives.
Estates Operations / Maintenance Team	Responsible for maintaining and conducting minor repairs to surface water and effluent drain systems across Queen Mary's campuses. Report all incidents and emergencies associated with discharges into surface water and effluent drains.
Health and Safety Directorate	Responsible for providing health and safety advice and guidance on the most appropriate ways to store, dispose and respond to emergencies associated with chemicals, all hazardous and polluting substances across Queen Mary's campuses
Senior Lab Technician / Managers	Responsible for ensuring compliance with Queen Mary's trade effluent discharge consents and permits, safely and appropriately store and dispose of all chemicals and hazardous wastes. Report all incidents and emergencies associated with discharges into surface water and effluent drains within their areas of responsibilities.

Related Documents

This procedure is linked to:

- Queen Mary's Environmental Sustainability Policy 2020
- Queen Mary's Environmental Sustainability Action Plan (2020-23)
- Queen Mary's Environmental Aspects and Impacts Register
- Queen Mary's EMS Emergency Spill Response Procedure
- Queen Mary's EMS Emergency Preparedness and Response Procedure
- Queen Mary's Health and Safety Spills Management Guidance

Procedure

This section details systems and procedures that must be complied with to prevent the discharge of harmful materials into surface drains across our campuses.

Drainage system:

1. The information about all surface water surface and effluent drainage systems across Queen Mary UK campuses are held by the Operations Managers, Estates and Facilities
2. The drainage system is maintained by the Operations and Maintenance team who conduct minor works / repairs as and when required
3. Prior to the commencement of construction works appropriate drainage surveys are conducted, in relevant areas, to determine the structural integrity of the drainage system. The outcome of these surveys are held by the Operations Managers, Estates and Facilities
4. The Operations Managers with the support of the Estates and Operations Team are responsible for managing all issues relating to the drainage system across Queen Mary's campuses

Waste Water and Trade Effluent:

The main types of wastewater generated across Queen Mary's campuses are:

- Normal wastewater from sinks, toilets, etc.
- Surface water runoff from rain falling on the ground and buildings (this is the reason why the management of spills is important)
- Trade effluent waste generated from certain operations, such as from educational research
- Laboratory wastes associated with publicly funded research and teaching.

Environmental Permit

Queen Mary has trade effluent permit and consent for its Mile End, Whitechapel and Charterhouse Square Campuses. These consents preclude Queen Mary or its agents from discharging anything other than rainwater into the surface water drains.

Queen Mary, also possess environmental permits for its Mile End, Whitechapel and Charterhouse Campuses concerned with the control of radioactive material and the receipt, transfer, accumulation and disposal of radioactive waste.

Vehicle washing is strictly prohibited across all Queen Mary's campuses.

What chemicals can be disposed of down the sink?

Aqueous chemical solutions can be disposed of via standard sinks provided that these:

- Chemicals are dilute and below relevant hazardous waste threshold level(s).
- They are not on the prescribed substances list of chemicals that should never be disposed via standard sink.
- They are not excluded on the permits / exemptions of the specific campus.

We are aware that some research laboratories generate small volumes (a few hundred millilitres) of relatively harmless chemical solutions that are not classified as hazardous following moderate dilution. As such, it is acceptable for solutions of small volumes (typically < 500 ml) of non-toxic water-soluble chemicals to be carefully washed down standard sinks with plenty of running water.

The assessment of what is a “small amount” relies on professional judgement; bearing in mind the concentration levels at which these substance(s) are toxic or otherwise harmful.

Larger quantities or highly concentrated chemical substances must not be disposed via any drain and the disposal of such substances must comply with Queen Mary’s hazardous waste disposal procedures, guides, and chemical datasheet.

Examples of low hazard, water-soluble waste that can be disposed via standard sink include:

- Diluted acids, alkalis and alcohols
- Harmless inorganic salts (including drying agents such as CaCl_2 , MgSO_4 , Na_2SO_4 , P_2O_5)
- Alcohols containing salts (e.g., from destroying sodium)
- All disinfectant solutions used to inactivate Hazard Groups 1 and 2 biological agents
- Hypochlorite solutions (e.g., from destroying cyanides, phosphines)

If any individual is in doubt whether a solution can be disposed via standard sink; they should contact the designated Faculty Health and Safety Manager/Adviser.

What chemicals must not be disposed via standard sink?

No waste substances should be disposed via standard sinks that could ultimately harm:

- The environment
- The sewerage system
- The health and safety of the public or have the potential to interact with other substances to cause such effects

However, it is acceptable for waste solutions from experiments containing trace / low levels of hazardous organic or water-soluble chemicals to be disposed of via standard sinks but these must be flushed with plenty of water.

Examples of wastes that should never be discharged into surface water or effluent drain via standard sinks across our campuses:

- Persistent chemicals such as heavy metals and various organic compounds
- None-soluble organic liquids such as petroleum hydrocarbons and chlorinated compounds
- Compounds which produce toxic vapours, such as cyanide, ammonia, formaldehyde and glutaraldehyde
- Strongly acidic or alkaline wastes (pH < 6 or pH > 11)
- Highly reactive chemicals or flammable wastes
- Prescribed substances as per Trade Effluent Regulations 1989

Trade Effluent Regulations 1989 (Prescribed Substances) as seen in the table below:

Mercury and its compounds	Dieldrin	Simazine
Cadmium and its compounds	Endrin	Tributyltin compounds
γ-Hexachlorocyclohexane	Carbon Tetrachloride	Triphenyltin compounds
DDT	Polychlorinated Biphenyls	Trifluralin
Pentachlorophenol	Diclorvos	Fenitrothion
Hexachlorobenzene	1,2-Dichloroethane	Azinphos-methyl
Hexachlorobutadiene	Trichlorobenzene	Malathion
Aldrin	Atrazine	Endosulfan

Whenever in doubt about the status of any solution; contact your Faculty Health and Safety Manager/Adviser

Emergency response:

1. Relevant spill kits are available wherever hazardous or potentially hazardous substances are stored across Queen Mary's campuses
2. Queen Mary's Environmental Emergency Preparedness and Response Procedure contain further details regarding how to manage effluent, chemicals or oil spillages.

Review

This procedure will be reviewed at least once every year and it will be updated in the following circumstances (minimum):

- Following any significant incidents or adverse audit findings relating to discharges of water
- In the event of relevant changes to external or regulatory requirements
- When significant changes are made to the existing drains across Queen Mary's campuses

Effects and Actions on Non-Conformance

Failure to comply with this procedure may result in:

- Non-conformance with the requirements of ISO 14001:2015 standard.
- Civil and / or criminal prosecution as a result of spillage or accidental discharge of hazardous materials into surface water and effluent drains across Queen Mary campuses

Departure from this procedure is addressed within the **Non-Conformance, Corrective and Preventive Action Procedure** of Queen Mary's Environmental Management System

Version Control

Date	Version	Leads	Due for Review
7 May 2021	1.0	Operations Managers, Estates and Facilities	6 May 2022

EMS: Discharges to Water Management Procedure

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