



**Fact-sheet - How to establish a drainage plan?**



**What is the objective?**

The objective is to have a **clear picture of all the wastewater flows generated** by the factory and to control **how and where they are discharged**. In particular, the point is to control that the drainage system ensures that no wastewater is discharged into the environment. Therefore the drainage plan is needed to identify:

- Wastewater **discharge points**: sewer, effluent treatment plant (ETP)<sup>1</sup>, etc.
- Different types of **drainage lines**: for domestic wastewater, industrial wastewater, rainwater/storm water, etc.

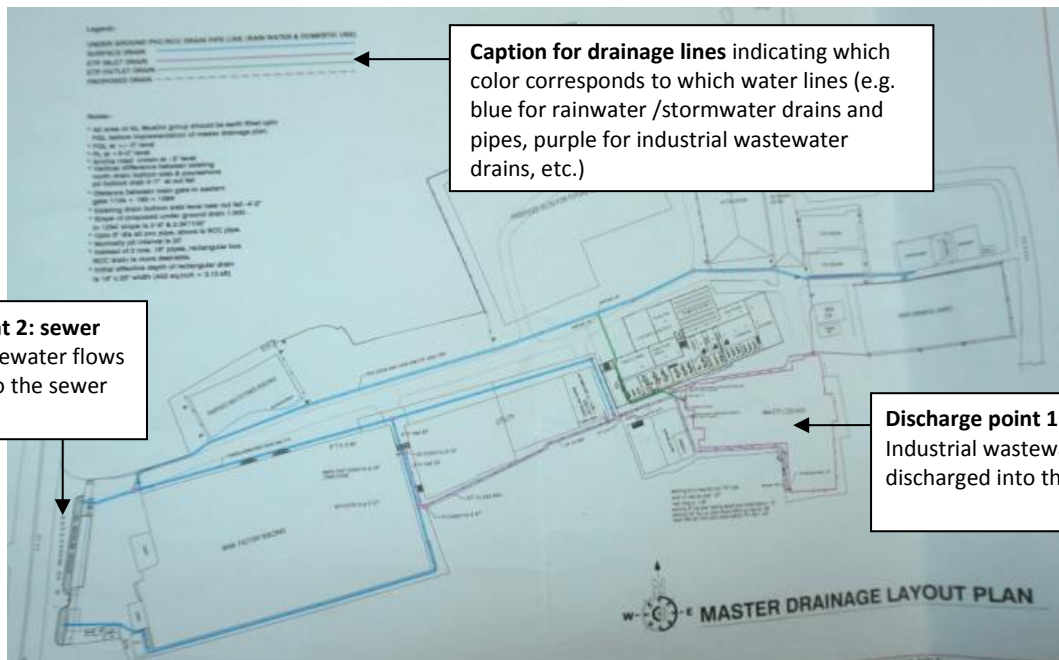
Indeed, rainwater drains and pipes have to be indicated as well in the drainage plan, to ensure there is no mix between the wastewater and the rainwater flows (rainwater should not enter in the industrial wastewater drains and vice versa).



**How to achieve this objective?**

**Step 1: Get** the drainage plan and make sure the drainage plan is up-to-date; it means that the drainage plan has to correspond to the current factory layout (for example, if a new building was constructed 1 year ago, this new building must be indicated on the current factory layout and on the drainage plan).

**Step 2: Control** the drainage plan is accurate: have to be indicated the different drainage lines with different colors and have to be clearly indicated all the discharge points. See example below:



**Step 3: Control** that no wastewater source point across the site is left apart (there is a drainage line for all sections/areas from where domestic or industrial wastewater is generated).

**Step 4: Compare**, observing visible / open drains across and around the factory, the drainage plan and the actual drainage system built on-site to make sure there is no inconsistency.



- **Request** a drain layer / plumbing engineer to inspect the drainage system and confirm the accuracy of your map;
- **Include** in drainage plan this header or footer to provide accurate details about the map:

Production site details	Plan name	Design by	Approved by	Date
Name	Drainage layout plan	Name of the Engineer in charge and engineering/plumbing company	Name of the manager in charge	When was prepared this plan
Address				

<sup>1</sup> See all the factsheets of Chapter 4 – Wastewater and Effluent

**Fact-sheet - How to establish a drainage plan?****Common non-compliances****Drainage plan based on a factory layout not up-to-date**

The factory drainage plan is not accurate since the date of the plan is 2016 and in 2017 a new production section was built on-site but the new building is not designed in the factory layout of the drainage plan. The new section is generating wastewater and based on documentation, there is no evidence this additional wastewater flow is directed to the ETP.

**No proper drainage system to avoid the risk of mixing of rainwater and wastewater flows**

There is an open drain for the industrial wastewater along the building of the factory (see picture below) so in case of rain, the rainwater will enter in this open pipeline and the risks are:

- 1) Overflow and risk of soil contamination nearby the drain;
- 2) Excessive volume of wastewater (mixed with rainwater) directed to the Effluent Treatment Plant (ETP). If overloaded, the ETP might not work properly. Moreover, rainwater is treated uselessly.

The factory should modify the drainage system to ensure no possible mixing of rainwater and wastewater. Moreover, the factory should ensure the rainwater is not directed to the ETP.

