

# SHOALHAVEN STARCHES ENVIRONMENTAL PROCEDURE

<b>TITLE:</b>	<a href="#">Stormwater Management Plan</a>
<b>PURPOSE:</b>	To prevent stormwater contaminated with product, from being released into nearby waterways. To protect and maintain surface and groundwater quality. To effectively dispose of excess rainwater.
<b>SCOPE:</b>	Factory site Environmental Coordinator Shift Fitter
<b>SPECIFICATION:</b>	No stormwater contaminated with product to be released from site.
<b>ACTION ON NON-CONFORMANCE:</b>	Notify Environmental Coordinator Notify Maintenance Supervisor / Manager
<b>FREQUENCY:</b>	As required.
<b>REFERENCES:</b>	Environment Protection Licence 883 Stormwater Management Plan, Stephenson Environmental Management, 3 July 2009 Surface Water Management Site Plan ( <a href="#">FMEN039</a> ) Chemical or Liquid Spill procedure ( <a href="#">EN-P-0170</a> ) Process Water Containment in Main Driveway procedure ( <a href="#">EN-P-254</a> ) Operation of the Ethanol First Flush Pit System procedure ( <a href="#">EN-P-262</a> ) Release of Rainwater at Abernathy's Creek Drain Valve procedure ( <a href="#">EN-P-260</a> ) Stormwater Management Plan, Temporary Car Park (MOD 6), 7-12-2015 Proposed Stormwater for Starch Dryer No. 5, Allen Price & Associates 11-2-2016

## 1. Introduction

This Stormwater Management Plan has been developed to satisfy Condition 22 of Shoalhaven Starches Consolidated Project Approval MP06\_0228. The plan has been developed based on the information contained in the Stormwater Management Plan (Including Erosion and Sediment Control), Revision B, 3 July 2009 prepared by Stephenson Environmental Management Australia, and approved by the NSW Department of Planning & Environment on 17<sup>th</sup> April 2009.

Project specific stormwater management plans for the Temporary Car Park (MOD 6) and Starch Dryer No.5 (MOD 7) have been developed.

This plan is reviewed on at least an annual basis as part of the Document Control System. Any required changes to surface water management are updated on the Surface Water Management Site Plan ([FMEN039](#)); refer to Appendix A.

## 2. Stormwater Management System

Stormwater on site must be managed to prevent contaminated runoff flowing into nearby waterways. The Surface Water Management Site Plan (Appendix A) details the stormwater flow catchment areas and collection pits for the factory site.

Appendix B shows the factory zones and the location of hazardous substances storage areas. All hazardous substance storage areas have appropriate bunding in place.

The majority of stormwater collected on site is contained within the sites drainage system and sent to the Company's waste water treatment plant (WWTP). The site drainage system consists of a series of pits and drains across the factory zones which pump to the factory 'Farm Tank'. The Farm Tank automatically pumps the contents of the tank to the site's WWTP located at the Environmental Farm.

## 3. Stormwater Management Procedures

Shoalhaven Starches has a number of procedures in place to manage stormwater on site to prevent pollution of surrounding waterways. A summary of the management actions, main catchment areas and stormwater pits that can be released to a waterway are described below. In all cases, the rainwater must be checked/sampled for contamination prior to release to a waterway.

### ZONES 1, 3, 4 & 6 (CENTRAL FACTORY AREA) – MAIN DRIVEWAY ENTRANCE TO FACTORY (PIT 52)

- A rainwater sump (Pit 52) is located at the front gate entrance to the factory. The contents of this collection pit is automatically pumped directly to the WWTP.
- Any contaminated rainwater must be prevented from escaping the premises onto Bolong Rd or Abernathy's Creek.
- If the driveway becomes flooded, contact the Boilerhouse operator to transport sand or ash to raise the bund level, or utilise sand bags to contain any contaminated water.
- If necessary, organise a pump truck to lower the water level and contact the Maintenance Fitter to rectify the problem.
- Overflows from the main driveway flow via the Bolong Rd kerb drain underground to a drainage swale located on the Northern side of Bolong Rd. The drainage swale (located on Manildra owned land) has a gate valve which remains closed to prevent any contaminated water from entering Abernathy's Creek.
- During heavy storm events, the gate valve can be opened to release rain water to the Creek.

- For further details refer to Shoalhaven Starches procedure titled ‘Process Water Containment in Main Driveway’ ([EN-P-254](#))

#### ZONE 2 (EASTERN FACTORY AREA) – ETHANOL FIRST FLUSH PIT (PIT 103)

- All stormwater collection pits in this zone flow to the First Flush Pit which is automatically pumped to the WWTP.
- On substantial rainfall the First Flush Pit PLC automation may allow rain water to overflow into the Shoalhaven River once a predetermined volume of rain water has been collected and diverted to the WWTP.
- Gate valves have been installed on the stormwater outlet to the Shoalhaven River to contain any potential spills, contaminated stormwater, etc, on site. As a precaution, the gates valves are to remain closed, and are only opened during heavy rainfall events as required.
- Under no circumstances must rainwater containing product be released; any contaminated rainwater must be pumped to the waste water treatment plant; consult with the Environmental Coordinator if there are any concerns.
- For further details refer to Shoalhaven Starches procedure titled ‘Operation of the Ethanol First Flush Pit System’ ([EN-P-262](#))

#### ZONES 5 & 7 (CENTRAL FACTORY AREA) – ABERNATHY’S CREEK PEDESTRIAN FOOTBRIDGE RAINWATER SUMP (PIT 65)

- On moderate rainfall the submersible pump in Pit 65 will automatically pump stormwater to the Farm Tank (which automatically pumps to the WWTP).
- Only during HEAVY rainfall (i.e. when the pump cannot keep up) causing the Container Yard to flood should the drain valve be OPENED to Abernathy’s Creek.
- A visual check of the rainwater and surrounding areas for spills/contamination must be made prior to release (take sample if possible). Under NO circumstances must rainwater containing process water be released.
- When the rainwater level in the yard drops the valve is to be closed and padlocked (the shift fitter holds the keys). If rainfall persists it may be necessary to repeat the above steps.
- Notify the Environmental Coordinator to advise that the drain valve has been opened.
- For further details refer to the Shoalhaven Starches procedure titled ‘Release of Rainwater at Abernathy’s Creek Drain Valve’ ([EN-P-260](#)).

#### ZONE 8 (WESTERN FACTORY AREA) – HUMECEPTOR TREATMENT DEVICE (Pit 128)

- All stormwater from the eastern (Zone 8) area of the site flows to the ‘Humeceptor’ stormwater treatment device.
- The Humeceptor removes suspended solids (& floating oils) from the rainwater prior to discharge to Bomaderry Creek via a vegetated drainage swale.
- Gate valves have been installed on the drainage swale outlet to Bomaderry Creek, and may be closed to contain spills, contaminated firewater, etc, on site.
- Stormwater from a small section of roadway in the NE corner of zone 8 drains to a pit with a slide gate installed which remains closed as precaution. During rainfall events the valve may be opened. This pit is connected to a vegetated swale which flows to Abernathys Creek.

#### ZONE 9 STARCH DRYER NO.5 AND MAINTENANCE CAR PARK (Pit 98)

- All stormwater from this zone flows to Pit 98 which discharges to Abernathys Creek.
- A stormwater pit and valve located on the eastern side of Starch Dryer No.5 remains closed

- to prevent contaminated rain water, spills, etc., from entering Pit 98.
- The ‘first-flush’ rainwater is pumped to the nearby Starch Dryer No.5 bund, prior to opening the valve during rainfall events.

#### **4. Stormwater Management Practices**

The following management practice / mitigation measures are implemented to minimise risk of contaminated stormwater discharges to the adjacent waterways:

- Any material stockpiles are to be designed and located to prevent any loss of sediment, or other materials, to the Shoalhaven River system.
- All fuels, chemicals and liquids are to be stored at least 50 m (where possible and practical) away from any waterway within an impervious bunded area.
- Refuelling of plant and maintenance machinery is to be undertaken within impervious bunded areas.
- Vehicle wash-downs are undertaken within a designated bunded area with impervious surfaces.
- All spillages are to be contained and cleaned up immediately; refer to the Chemical or Liquid Spill procedure ([EN-P-0170](#)).
- Road sweeping of internal roads is to occur on a regular basis to minimise contaminated surface water from entering factory drains.

PREPARED BY: J. Studdert

AUTHORISED BY: J. Studdert

DATE: 19-3-2019

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**APPENDIX A: Surface Water Management Plan**

*SURFACE WATER  
MANAGEMENT PLAN*



**STORMWATER FLOWS**

**FULLY CONTROLLED FLOWS**  
 STORMWATER DIRECTED TO WASTE WATER TREATMENT PLANT

**CONTROLLED FLOWS**

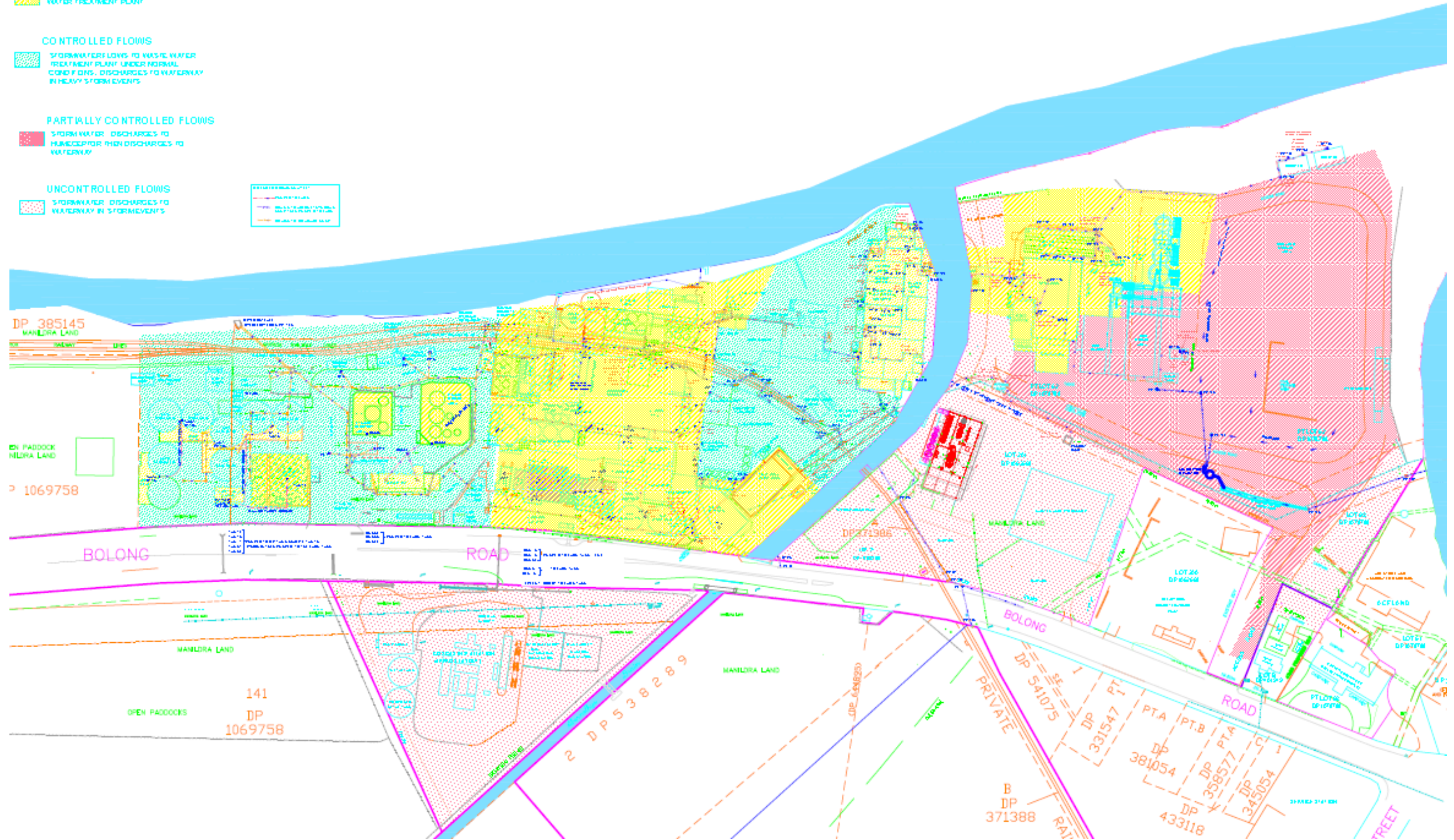
STORMWATER FLOWS TO WASTE WATER TREATMENT PLANT UNDER NORMAL CONDITIONS. DISCHARGES TO WATERWAY IN HEAVY STORM EVENTS

**PARTIALLY CONTROLLED FLOWS**




STORMWATER DISCHARGES TO MUNEICIPAL THEN DISCHARGES TO WATERWAY

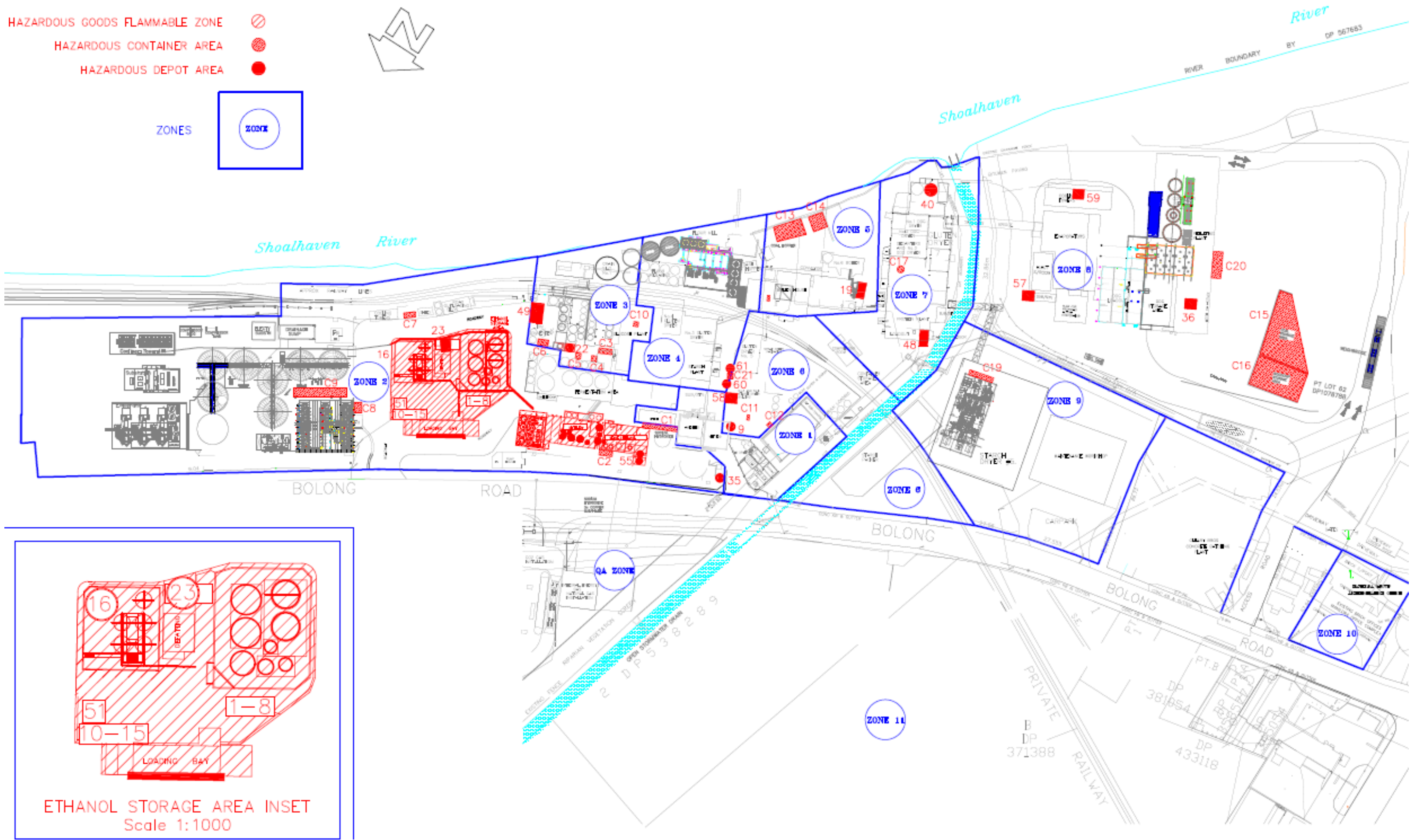
**UNCONTROLLED FLOWS**

STORMWATER DISCHARGES TO WATERWAY IN STORMEVENTS



**APPENDIX B: Site Zones and Hazardous Substances Storage Areas**

- HAZARDOUS GOODS FLAMMABLE ZONE 
- HAZARDOUS CONTAINER AREA 
- HAZARDOUS DEPOT AREA 



ETHANOL STORAGE AREA INSET  
Scale 1:1000