



Tauranga City

BEST PRACTICE GUIDELINES FOR
STORMWATER POLLUTION PREVENTION

Pollution Prevention Plan



A **step by step** guide for developing a **Pollution Prevention Plan** for your site





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PART A

Introduction

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Introduction

This Pollution Prevention Plan (“Plan”) guide is available on the [Tauranga City Council](#) website. Please call a Pollution Prevention Officer on (07) 577 7000 for any further advice that you might need.

Fact sheets on pollution prevention and best practice guidelines are also available on the [website](#) and you may wish to include these as part of your Plan.

What is a Pollution Prevention Plan?

A Plan is a written record detailing how you will manage the stormwater pollution risks from your site. It is designed to ensure your site is set up correctly and that you and your employees know how to minimise the potential for pollution to occur. A Plan may also be known as a Stormwater Management Plan (SMP).

A Plan is designed to protect you, your company and the environment. It is written by you and will only work if you and your staff follow it and ensure it is updated regularly.

Your Plan will contain important information about your site such as stormwater drainage, chemical storage areas, loading areas, processing areas, etc. It will also contain information about activities that are undertaken by you and the risks for pollution from these.

Your Plan will have written procedures in the event of spills or other emergencies. It will also capture the details of staff training that you undertake to ensure preparedness for pollution incidents.

What is the Benefit of Having a Pollution Prevention Plan?

A Plan will reduce the chance that your business causes pollution. Tauranga's waterways and harbour are valuable and a reduction in water quality affects us all. A Plan will give you peace of mind in knowing you are doing your best to protect these valuable assets.

Council also needs to ensure that all parties are aware that under the [Resource Management Act 1991 \(RMA\)](#), it is illegal for businesses to discharge contaminants onto or into land, water or air.*1

In addition to this Tauranga City Council's [Stormwater](#)

[\(Pollution Prevention\) Bylaw 2010](#), prohibits the discharge of contaminants into Council's stormwater network.*2

Under the RMA, polluters can face fines of up to \$600,000 and even imprisonment. A Plan will reduce the chance of your site causing pollution, and being fined as a result.

A Plan will also have the added benefit of reducing your



Blue Fish - Educating people that "The Drain is Just for Rain"

chances of damage or loss of stock, and/or lost revenue due to damage to company image, time lost or costs associated with clean-up or repairs.

A Plan can help your business to become more efficient. Investing in good management practices saves money in the long run.

Customers also often choose to support businesses with a good environmental record and a drive towards sustainability.

Note

Throughout this guide, reference to 'Council' means Tauranga City Council and BOPRC means Bay of Plenty Regional Council

*1 - unless the discharge is allowed by a rule in a regional plan, resource consent or regulations.

*2 - and specifies a minimum water quality standard which stormwater discharging into the public network must meet.

When Will a Plan Be Required By Council?

A Plan may be required under Council's [Stormwater \(Pollution Prevention\) Bylaw 2010](#), depending on the type of activity you are carrying out. It will generally be required for facilities that undertake high risk activities*³ and sites that have on-going stormwater pollution issues.

Bay of Plenty Regional Council's (BOPRC's) Operative [Regional Water and Land Plan](#) also outlines the rules for stormwater discharges and identifies criteria for the requirement of a stormwater discharge consent.

Your site is likely to require a Plan as part of a [stormwater discharge consent](#) from BOPRC. Consents Officers at BOPRC will be able to give you advice about this.

How to use this Guide

This guide has been produced to help you write your Plan – you will go through each part, step by step. By entering and completing the necessary information your Plan will be formulated. This will be a final working document specific to your site.

- Part A: Introduction
- Part B: How to identify and manage risks and controls
- Part C: Process, procedures and housekeeping
- Part D: Site layout and drainage plan and completing the final template

This guide has checklists to help you assess your site for actual and potential stormwater pollution issues.

Parts B, C & D have several tasks in them which provide information that you will use in subsequent tasks, or that completes relevant sections of your Plan.

As you progress through the tasks in each part, you will also fill in a template – this template will become your Plan when it is completed.

Getting Started

Gather any existing information about your site layout, drainage system and neighbouring environment. Find out about the potential risks to the environment from your particular industry type.

If you have any existing documents around emergency response procedures, staff training etc. Collect these together for reference.

Preparing Your Plan

Read each section and work through the checklists – fill out the template in section D, as you go.

You may need to carry out, or plan physical changes to your site, or changes to your practices and procedures. If action is required you should undertake this as soon as practicable.

You can identify and write future improvements into your Plan. An example of this might be “upgrade the bunding around washbay in the next six months”.

Working To Your Pollution Prevention Plan

Once your Plan is complete it is very important it becomes a working document. It needs to be understood by staff and followed. Training and maintenance must be carried out according to specified timeframes and any training should be documented. The Plan should be reviewed regularly, particularly following any changes to processes or practices on the site.



Orca in Tauranga Harbour (image www.shanewasik.com).

*3 - as outlined in Schedule 4 of Bay of Plenty Regional Council's Operative Regional Water and Land Plan

Useful Information

Best Management Practice Guidelines (BMPs)

These can be located on the [Tauranga City Council](#) website.

Spill Response

For spills that enter Tauranga City Council's stormwater system call 07 577 7000 (24 hours).

For spills that affect waterways or the harbour call Bay of Plenty Regional Council on their 24 hour hotline 0800 884 883.

For hazardous spills notify the fire service on 111.

Contacts

[Tauranga City Council](#)

91 Willow Street
Tauranga
Phone: 07 577-7000

[Bay of Plenty Regional Council](#)

PO Box 364
Whakatane 3158
Phone: 0800 884 880

[Department of Labour](#)

P.O. Box 3705
Wellington, New Zealand
Telephone 04 915 4400
0800 20 90 20

[Fire Service](#)

111 (Emergencies)
Phone: 07 578 7099

[Police](#)

111 (Emergencies)
Phone: 07 577 4300

[Ambulance](#)

111 (Emergencies)
Phone: 07 578 6746

[National Poisons Centre](#)

Phone: 0800 764 766

[Ministry for the Environment \(MfE\)](#)

Phone : 0800 499 700



Glossary Terms used in this document

Term	Description
BOPRC	Bay of Plenty Regional Council
Bunding	A physical barrier for containment of spills. Usually a wall around liquid storage tanks.
Contaminants	Any substance (including gases, liquids, solids and micro-organisms) or energy or heat, that either by itself or in combination; a) When discharged into water changes or is likely to change the physical, chemical or biological condition of the water; or b) When discharged onto or into land or air, changes or is likely to change the physical, chemical or biological condition of the land or air onto or into which it is discharged.
Council	Tauranga City Council
Decanting areas	To pour (a liquid) from one container into another in a contained area.
Drainage	The way stormwater drains from properties and infrastructure into the ground, water bodies or the stormwater network.
Hazardous substances	A substance that does or could have a negative effect on people or the environment. Hazardous substances may be flammable, highly reactive and/or toxic; they could be a solid, liquid or gas; or anything which may react with air or water to produce a hazardous substance under normal conditions.
Hazardous substances New Organisms Act (1996)	A business plan for safety. A process for managing health and safety in your workplace.
SDS	Safety Data Sheet, contains key information about a chemical/substance and is required for all hazardous substances under the Hazardous Substances and new Organisms (1996) Act.

Term	Description
Receiving environment	Areas that can or do receive site discharges.
RMA	Resource Management Act (1991)
Secondary containment	See 'bundling'.
Site layout	The physical location of structures or processing works on site.
Stormwater network	The stormwater network is to give rain water a safe exit to prevent flooding. Water that runs off your property and from roads and footpaths goes into the stormwater system and, for the most part, ends up, untreated, in Tauranga's waterways & Harbour.
Sustainability	Smart business practice - balancing as best as possible the four well-beings of economic, environmental, social and cultural impacts.
Storage	A space for storing goods.
Spill plan	A written plan detailing the correct way for dealing with a spill or leak. All staff should be aware of it and receive regular training.
Spills	May result in overflows into the stormwater systems and/or waterways.
Spill kit or spill station	A box, wheelie bin, trolley or location where information/ instructions and adequate equipment are kept for use to contain and clean up a spill.
Trade waste	The liquid "by-product" from your industrial processes.

PART B

How to Identify and Manage Risks and Controls

(fill this out as you go through Part B to monitor your progress)

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Checklist - Part B

(fill this out as you go through Part B to monitor your progress)

Task No.	Task	Section Reference	Done	Action List
1.	Inventory of all material stored on site completed?	1.2		
2.	Storage tanks and containers checked and in good condition?	1.3		
3.	Storage and work areas roofed if practical?	1.4		
4.	Secondary containment checked <ul style="list-style-type: none"> • sized correctly • roofed if possible • stormwater release valve/tap locked if present) in sound condition 	1.5		
5.	Stormwater treatment installed if required?	1.6		
6.	Storage areas reviewed (to minimise potential for contamination of stormwater)?	1.7		
7.	Drainage plans obtained?	1.8		
8.	Loading/Unloading and Decanting area risks identified and managed?	1.9		
9.	All stormwater pipes/grates/inlets checked for trace of wastes?	1.10		
10.	Final stormwater manhole on-site identified?	1.11		
11.	Stormwater discharge location off-site identified?	1.11		
12.	Re-fuelling areas correctly set up?	1.12		
13.	Waste oil stored in accordance with MfE guidelines?	1.13		
14.	Waste skips and stockpiles checked and managed correctly? Waste disposed of by authorised contractor? Receipts retained?	1.14 & 1.15		
15.	Wash water correctly disposed of including trade waste consent(s)?	1.16		

Task No.	Task	Section Reference	Done	Action List
16.	All gully traps compliant?	1.17		
17.	“Incident Report Form” drawn up?	1.18		
18.	Site specific spill procedure written?	1.18		
19.	Spill procedure checklist written up to use when a spill occurs?	1.18		
20.	Spill stations set up around the site with the following: <ul style="list-style-type: none"> - clean equipment - PPE - MSD's - first aid supplies - spills procedure/poster - spills procedure checklist - emergency contacts list - site layout and drainage plan 	1.18		
21.	System in place for recording and evaluating staff training?	1.18		
22.	Hazardous substances managed correctly and in accordance with HSNO Act (1996)?	1.19		
23.	Relevant consents held (or applied for)?	1.20		

Any items in the “Action List” will need to be addressed (or planned for the future and listed in the proposed actions in your plan)

Notes:

1. Risks and Controls

1.1 Introduction

In this part you need to look at and record details about the storage and handling of materials on your site such as oil, solvents, acids, paints, cleaners, pesticides and other chemicals.

Any material or substance that is spilt onto the ground outside or left uncovered can flow or be washed by rainwater off the site. This can then cause land or water pollution.

Even seemingly harmless materials like dirt and gravel from unpaved areas will cause pollution, if not managed correctly.

A number of tasks are highlighted in Part B to assist you to prepare your plan. Tick these off on the checklist at the front link as you go through this section to monitor your progress.

1.2 Storage

It is your responsibility to take all reasonable steps to eliminate or minimise the risk of pollution from stored material on your site.

You should have an inventory of each place where you store:

- Hazardous substances.
- Raw materials.
- Finished product.
- Waste, by-products, materials for re-use or recycling, including out-of-date stock or material you no longer use.
- Fuels, lubricants, cleaners and other non-process substances.



(Above) poor storage of engines allowing soil contamination.

Task 1

Use the attached example form to create your own site 'inventory list' (see page 32)

Hazardous substances are grouped according to the following properties:

- Explosiveness (e.g. fireworks).
- Flammability (e.g. fuels, solvents).
- A capacity to oxidise (e.g. peroxides, hypochlorites).
- Corrosiveness (e.g. acids, ammonia).
- Toxicity (e.g. pesticides, some industrial chemicals).
- Ecotoxicity (e.g. pesticides, chemicals, oils).

Other substances like food or beverages that do not fit into the categories on that list should be classed as harmful to the environment and living things – because of the harm they can do if spilled into water.

If you store petroleum products, chlorinated hydrocarbons, pesticides, timber treatment preservatives or substances containing one or more of the following chemicals: arsenic, cadmium, chromium, cyanide, lead, mercury or nickel, you need to contact Council's HSNO Officer for further information.



(Above) correct storage of engines - inside.



(Above) poor storage of waste oil allowing soil contamination. These containers should be stored in a covered and bunded area.



(Above) poor storage of IBC's and drums without any form of spill containment.



(Above) an uncovered stockpile causes water and soil contamination during rain. This stockpile should be covered or indoors.

1.3 Storage and Handling Practices

Poor storage and handling often comes down to one of three things – poor site set-up, incorrect processes or poor housekeeping. These practices may include some of the following:

- Corroded storage tanks.
- Unsecured loads on forklifts.
- Uncontained light materials (e.g. soil, sawdust, cement).
- Unlabelled or incorrectly labelled containers.

- Uncovered waste skips.
- Hazardous substances storage areas without secondary containment.
- Drums punctured by forklifts.
- Secondary containment with holes in it.
- Lids left off containers.

Often it only takes a few minor changes to how you operate, such as labelling containers, or storing materials inside to reduce the risk of causing pollution.

Task 2

Storage tanks and containers checked and in good condition?

1.4 Roofing Your Activity

Roofing stops rainfall coming into contact with contaminants and washing them into the stormwater system.

If your storage, working or decanting areas cannot reasonably be kept clean then roofing them is the simplest solution.

Work out if it is cheaper and easier in the long run to roof an area than to put a lot of effort into keeping it clean or managing stormwater.

Roofing an outdoor area also allows your staff to carry on working in the rain.

Task 3

Storage and work areas roofed if practical?



(Above) a simple roof covers a bunded wash down area



(Above) uncovered work areas like this result in polluted run-off and dust problems

1.5 Secondary Containment and Above Ground Storage Areas



(Above) waste oil tank is well bunded but should be roofed to prevent rainwater filling the bund

Secondary containment means storing your bulk containers to protect the environment from spills or leaks. Secondary containment can range from major facilities able to

contain all the liquids stored in the vessels inside them to bunds which stop spills from indoor workspaces escaping into yards.

Secondary containment lets you detect and control any small or slow leaks and will contain spills from sudden ruptures of tanks or drums.

The size of the secondary containment depends on the size of the containers stored in it. If you are storing hazardous substances, you need to check the secondary containment requirements under the Hazardous Substance and New Organisms Act,

1996 (HSNO). These are set out in the Hazardous Substance (Emergency Management) Regulations 2001. The capacity of the secondary containment required under these regulations varies according to the volume of hazardous substance held within the storage area and the size of the containers.



(Above) IBC on a portable bund which is good practice and would contain a leak

Remember:

- Locate pumps, pipes and decanting vessels associated with your containers inside secondary containment. In the event of equipment failure the spill will be contained.
- Locate the loading point inside the secondary containment – loading is a high risk activity.
- Make sure the floors, walls and joints on pipe work and any sealant used inside the secondary containment are impervious to and compatible with the materials stored.
- Maintain the required minimum separation from the inner edge of the secondary containment by a distance of half the height of the tank or stack of drums.
- If empty drums are stored, the containment area should be sized as if all drums are full – this will benefit you if your operations change.
- Consider having separate or compartmentalised containment for different materials – this will help you to be able to collect spilled materials for re-use.



(Above) a hole drilled into a bund wall to drain rainwater making the bund completely ineffective.

It is common on many sites to see secondary containment in place but because of poor practice the containment is not working properly. Some common mistakes include:

- Holes in containment walls/floors made to let rainwater out.
- Containment walls too low to contain spills and splashes.
- Volume of secondary containment is too small to contain the tank's contents.
- Capacity of secondary containment is reduced by rainwater.
- Pipes and pumps are stored outside the contained area, allowing leaks.
- Containment drain taps/valves left unlocked or permanently left open.

To work properly, secondary containment needs regular inspection and maintenance, use the checklist (see task 4, page 15) to make sure you operate your secondary containment areas correctly.



(Above) a bund drain tap is left open allowing contaminated water to flow out and contaminate ground and stormwater. Bund taps should be shut and locked and the key left with an authorised person.

1.5.1 Roofing your secondary containment – a simple solution

Roof your secondary containment and do away with the need for stormwater drain valves altogether. Benefits include:

- Preventing valves being left open after uncontaminated stormwater has been drained.
- Avoiding the need for staff monitoring.
- Protecting valuable stock and equipment from rain.
- Making a safer and more pleasant work environment in all weather conditions.

Task 4

Secondary containment checked?

- sized correctly?
- roofed if possible?
- stormwater release valve/tap?
- locked (if present)?
- roofed if possible?
- in sound condition?



(Right) shows an undersized bund with filler hose outside bund. (Above) shows a larger bund, enclosing filler hose with lockable drain tap. The bund should be larger however to contain 110% of the tank volume.



1.5.2 Stormwater Control

If you can't roof your secondary containment, then grade the floor towards a collection sump and drain so you can get rid of uncontaminated rain water. Install a drain valve to the sump outlet and keep it closed and locked until you need to drain away accumulated water. Before unlocking and opening the valve, first make sure the water is clean so it won't pollute stormwater or soil. This process may require water testing prior to discharge.

If the water is contaminated, call your waste disposal contractor to remove it or ask Council if discharge into the sewer is acceptable.

Make a reliable staff member responsible for regularly inspecting and draining outdoor secondary containment areas.

1.6 Stormwater Treatment Systems

Source control i.e. preventing the discharge of contaminants in the first place, can only be achieved when there is a good understanding of the site operations and processes, and the site drainage system. Once you have an understanding of where and how contaminants are generated you can plan how to manage them including installing stormwater treatment devices.

All stormwater leaving your site has the potential to be carrying contaminants, for example, from:

- Oil/fuel leaks in car parking areas or transport zones.
- Uncovered waste storage areas.
- Sediment that is washed or blown off stock piles and areas of bare ground, or tracking from gravelled areas.
- Any materials that fall onto hardstand areas from processing, drilling, cutting etc.

Sediment is one of the most significant contaminants of our streams, lakes and coastal waters. Industrial sites are a major source and sediments are likely to carry other pollutants including heavy metals and petroleum compounds.

Untreated stormwater runoff may contain a wide range of other contaminants.



(Above) a catch pit or sump filter bag can be used to trap sediments and larger debris. The majority of filters are not suitable for run-off with high or low pH, hydrocarbons or dissolved heavy metals.



(Above) end of line treatment devices, such as, using filter pods or hydrodynamic separation can be used to treat run-off. These need to be appropriate to the volume and type of run-off.

You are responsible for ensuring that stormwater running off your site is clean. Stormwater from some parts of your site may need to be treated before it can be discharged into the environment.

You can make your stormwater treatment system very cost effective by minimising the extent of contaminated runoff on your site and diverting clean stormwater away from your treatment system. This will target your 'hot spots' and treat only contaminated runoff.

If you consider that stormwater treatment may be required please talk to a Council Pollution Prevention Officer for advice prior to carrying out any works.

Task 5

Stormwater treatment installed if required?

1.7 Keep Your Stormwater Clean

Locate high risk working/processing areas and waste storage areas away from stormwater catchpits.

Identify the last point of entry to the stormwater system prior to leaving your site. Install a shut-off valve at this location to intercept any spills.

Cover waste storage and stockpiling areas to prevent rain coming into contact with waste or product and contaminating stormwater.

Outdoor drum storage and other high risk areas (for example, loading and unloading areas) should be roofed with secondary containment.

Ensure any areas of the site that are washed down/hosed off, or areas for vehicle or equipment washing are set up so wash water does not discharge to stormwater drains. For more information see Councils guide 'Managing Wash Water – Best Practice Guideline for Stormwater Pollution Prevention'.

Appropriate treatment devices for stormwater discharges from high risk areas may need to be installed. The type of devices required will depend on the type of contaminants and the level of treatment required. Contact Pollution Prevention Officers at



(Above and below) interceptors and shut-off valves, including signage.



Council before installing any treatment device to ensure that it is appropriate and will meet Council's requirements.

- Implement regular procedures for inspection and maintenance/cleaning of all components of the drainage system, e.g. cleaning of cesspits, treatment devices, shutoff valves.
- Manage stormwater flows on, off and through your site to eliminate contact between stormwater and sources of contamination (including sediments).

Task 6

Storage areas reviewed (to minimise potential for contamination of stormwater)?

1.8 Your Site Layout and Drainage Plan

You must prepare an accurate and up-to-date site layout and drainage plan detailing the drainage systems on the site and all activity areas and their use. You will do this in Part D. This information will help you develop other aspects of your Plan (especially identifying risk areas of your site and how contaminants can enter receiving environments). To start this process you will need to obtain a copy of your site drainage plan. See Task 7: Site Drainage Plan for an example of a site Drainage Plan. Council holds building files that usually contain drainage maps. Often, however, due to changes and upgrades to sites, these plans are incomplete or inaccurate. You can request building files from Council and these will include any drainage records held.

The Site Layout and Drainage Plan will also become an essential part of your Spill Response Plan.

This plan should be printed out, ideally A3 size or larger and be displayed in prominent areas around the site. Staff training should include ensuring all staff can read and understand the map.

Task 7

Drainage plans obtained? (see Site Drainage Plan Example, page 33)



(Above) a tree pit can be used to filter stormwater run-off



(Above and below) wetlands, swales and rain gardens can be effective and low cost options for treating stormwater run-off. These can be retrofitted to industrial sites in many cases.





(Above) a pump hose for loading of product leaks onto hard stand leading to stormwater. Loading areas like this should be isolated to contain spills.



waste oil is left on a hard stand for collection. There is no protection from spills that may occur during storage or loading. Products should be stored and loaded in an area where spills will be contained.



vehicle wrecks are loaded and unloaded on Councils berm and road resulting in spills of oil to land and stormwater drains.

1.9 Loading, Unloading and Decanting Areas

There is always a higher risk of spillage in any area where goods are being handled. To minimise this risk:

- Designate and clearly mark loading and unloading areas.
- Isolate loading and unloading areas from the stormwater system, or locate stormwater protection by drains.
- Ensure all forklift and loader drivers are trained and that they know what to do in the event of a spill.
- Contain leaks and spills that occur during transfer.
- Provide a spill station that is easy to access.
- Roof yard areas used for loading and unloading.
- Supervise deliveries of potentially hazardous materials.
- Fit automatic cut-off valves to delivery pipes to prevent overfilling.
- Check and maintain filling and transfer equipment regularly.
- Provide regular staff training in your spill response procedures. This should include a “spill drill” exercise at least once a year.
- Maintain staff awareness of your spill control procedures.

Task 8

Loading/unloading and decanting area risks identified and managed?



(Above) a vehicle wreck is unloaded over bare soil on a site resulting in pollution of the land.



skips of waste are set out ready for loading on a hardstand with no bunding resulting in pollution entering stormwater drains.



drums punctured by a forklift. Loading areas should be isolated or have a spill containment area where leaking drums can be placed quickly.

1.10 Stormwater Runoff

Check that only stormwater – clean rainfall runoff – enters your stormwater system.

To do this check all stormwater pipes and inlets connected to the stormwater system. Confirm that your stormwater pipes do not contain any trace of waste. Wastes include:

- Boiler blow down waters
- Sewage
- Compressor condensates
- Trade wastes
- Treated recirculated cooling water
- Wash bay or wash down water
- Other process waste waters
- Sediment

If you are unsure, you will need to trace the source of pollution and remove it. Depending on the level of contamination you may need to contact a liquid/hazardous waste contractor to remove the pollution.

If you find that there are waste pipes connected to the stormwater system then you will need to remove that connection immediately. You should discuss the problem with Council to find out how to legally connect your pipes.

Are there areas on your site where stormwater runs freely across outdoor surfaces during or after rain?



(Above) cooling system wastewater flows directly to stormwater. This presents a health risk to Council staff working on the network and an environmental risk to aquatic life. This should be plumbed to sewer (with consent from Council).

If YES: does the stormwater come into contact with: -

- Stockpiles that could be washed away.
- Areas of bare soil or gravel
- Wash bay and wash down areas
- Any spilt substances or storage areas
- Refuelling areas

If YES; you will need to manage the stormwater entering and exiting these areas. If not managed properly rainwater will pick up contaminants and discharge them to the local waterways or groundwater. Some areas, such as refuelling areas and hazardous substance stores, will require some form of onsite treatment before stormwater can be appropriately disposed of.

Task 9

All stormwater pipes/grates/inlets checked for trace of wastes?



(Above and top) a process wastewater overflow pipe discharges wastewater to a stormwater grate (this is shown on the plan as connected to sewer but is in fact connected to stormwater). Wastewater discharges to an open drain leading to the harbour. Always check connections – never assume a drainage plan is correct unless it has been checked by a drain layer.



(Above) boiler blow down is directed to hardstand where it flows into a stormwater drain. This should be connected to sewer (with consent from Council).



(Above) car washing water flowing directly to stormwater. Any wash down areas must not flow to stormwater (including soakage pits).



(Above) bare soil on sites will result in sediment (and other contaminants) being washed into stormwater drains. Bare soil should be sealed (with appropriate stormwater disposal installed).



(Above) wash bays like this must be roofed and connected to sewer (with consent from council).

1.11 Stormwater Outfalls

If you know where stormwater from your site reaches a river, stream or beach, you will be able to go straight there to contain a spill that gets off your site.

1. Do you know where the last stormwater manhole and inspection point is on your site where you can intercept a spill and stop it from escaping from your site?

If NO: you will need to inspect your site and locate the last manhole(s) on your site. It may be appropriate to install an emergency stormwater shut off valve at this point.

2. Does your drainage plan show or point to the place where your on-site stormwater pipes discharge into either:

- The Council's stormwater reticulation system
- A soak hole
- An open watercourse or harbour

Show your staff where your stormwater ends up, to make them more aware of the consequences of a spill.



(Left) the final manhole on site with a shut off valve fitted. Signage should be installed here to clearly identify the location of the valve.

(Below) stormwater outfalls. Your staff should know where your stormwater discharges to and how to access this point in the event of a discharge or spillage.



Task 10
Final stormwater manhole on-site identified?
Task 11
Stormwater discharge location off-site identified?

1.12 Refuelling

Vehicle refuelling can cause widespread soil contamination and hydrocarbon pollution of stormwater.

Any staining around refuelling areas is evidence that leaks and spills are occurring. Some simple good practice techniques can prevent this happening.

Check the refuelling area for the following: -

- All tanks have secondary containment
- No signs of damage or corrosion
- Pipes, valves and gauges are within the secondary containment
- It is isolated from the drainage system
- A spill station is located nearby
- Pumps are fitted with automatic cut off switches

When refuelling, all staff should ensure that:

- Refuelling does not start until the nozzle is within the vehicle
- The nozzle is not removed until the flow of fuel has stopped
- Any spills that do occur are cleaned up quickly and disposed of correctly
- Pipes and nozzles are stored correctly within the secondary containment when finished

All fuelling hoses used on site should have 'weak links' with shut-off valves to prevent drive away problems or to allow shut-off if unforeseen breakages occur.

Task 12

Re-fuelling areas correctly set up?



(Above) spills to a refuelling pad cause tracking of contaminants resulting in polluted stormwater runoff. Refuelling hoses should be checked regularly and spills cleaned up as they occur.



(Above left) A poorly set-up refuelling area (left). Refuelling areas should have a concrete pad around the fill point and have a containment area for spills and treatment for stormwater run-off. (Below right) all refuelling areas should have a spill kit.

1.13 Waste Oil Storage Tanks

1.13.1 Guidelines for the Management and Handling of Used Oil (MfE)

Tanks are to be sited to minimise the possibility of leakage through malicious or accidental damage. The tank location must be located where there is some degree of supervision by the site operator, who has responsibility for what is emptied into the container. The tanks should be sited so that oil can be safely loaded and unloaded from the tank.

Tanks must always be mounted on an impermeable surface such as concrete or asphalt. They must not be placed on soil. If the tanks are located near vehicular traffic they should be protected by suitable bollards. Tankers must be able to manoeuvre safely around the site, and potential hazards, such as recycling and rubbish bins, should not be placed within two metres of a used oil tank sited outdoors.

Used oil storage tanks should be located outdoors wherever possible.

On outdoor sites with drainage interceptors, tanks must be located within the interceptor's catchment area. Bunding should be provided for at least 20 percent of the tank's capacity, unless it can be shown that spillage can be contained by some other means. On sites not equipped with interceptors, the tank should be located at

least eight metres from any stormwater, sump or other drain. Bunding for 50 percent of the tank's capacity must be provided on sites not equipped with interceptors.

Tanks may be located inside only at controlled sites*⁴. Indoor tanks are to be bunded or sited so that any spillage can be contained away from storm or wastewater drains. Indoor tanks should also be located so that a used oil truck can park within five metres.

1.13.2 Interceptors

Interceptors that are required to contain oil from used oil tanks are to be built to the standards specified in Environmental Guidelines for Water Discharges from Petroleum Industry Sites in New Zealand (MFE, 1998)

1.13.3 Marking/labelling

Each container shall be permanently marked, in a clear and legible manner, with the following:

- The manufacturer's name or registered trademark.
- The safe fill level, in litres, in conjunction with a mark indicating that level.
- An indication of the year of manufacture of the container and, for plastic containers, also the month of manufacture.

Task 13

Waste oil stored in accordance with MfE guidelines?



(Above) a waste oil igloo is a perfect storage solution for waste oil. This one should ideally be sited on a paved surface and under a roof.



(Above) two drums used to store waste oil. This is a very poor set up due to the risk of spills and vandalism. Drums are not ideal for storage of waste oil. These should at least be bunded and under cover. A funnel should be used for filling.



(Above) a number of spillages have occurred when filling this waste oil igloo. Contaminants will be washed away to stormwater when it rains. Ideally tanks should have a piped line for filling from the workshop or at a minimum a funnel should be used. This tank should also be covered.

1.13.4 General collection sites

Tanks at general collection sites are to be labelled with a Class 3 Dangerous Goods diamond.

1.13.5 Tanks at all sites

All tanks used for the collection of used oil should have the following labels attached.

USED LUBRICATING OIL

Contains Spillage

(76 pt black print yellow highlight)

LUBRICATING OIL

TRANSMISSION AND HYDRAULIC FLUIDS ONLY

(46 pt green highlight)

PROHIBITED SUBSTANCES

(Black 76 pt yellow highlight)

**PETROL, DIESEL, COOLANTS, PAINT SOLVENTS, PARTS
WASHING FLUIDS and KEROSENE are forbidden**

(Black 46 pt, red highlight)

1.13.6 Underground Storage Tanks

Underground storage tanks (UST) can be used to store a variety of hazardous substances including petrol, diesel, oil, kerosene and industrial solvents. Leaks from USTs present a major threat to soil and groundwater quality and can contaminate surrounding land, affecting its use.

Installation, design and day-to-day operation of USTs should be in accordance with the Department of Labour's Code of Practice for the Design, Installation and Operation of Underground Petroleum Storage Systems.

USTs must be regularly maintained and checked for leaks.

1.14 Stockpiles

Stockpiles exposed to rain will contaminate stormwater running off your site. All stockpiles should be covered or stored indoors. Air pollution caused by wind blown materials can be avoided if stock piles are covered.

Common types of stockpiled materials that can contaminate surface runoff:

- Newly treated timber (which may contain copper, chromium, arsenic or boron)
- Scrap metal dumps
- Bare soils or other sediments
- Organic materials such as compost and green waste
- Fertilisers



(Above) a newly treated timber stockpile leaches contaminants which are washed into a stormwater drain by rain. Treated timber should be covered or stored indoors.



(Above) a stockpile is correctly stored undercover. Stockpiles should be covered or stored inside.

1.15 Waste

All industrial and commercial wastes must be stored and disposed of correctly. To search for disposal options for various wastes use the search tool on the Regional Councils website www.recycle.boprc.govt.nz

- Contaminated liquid leaking from skips and entering stormwater drains
- Poorly contained waste being blown off site
- Contaminated waste spilling onto unsealed surfaces
- Incorrect waste segregation resulting in incorrect disposal

Handling and storage of waste on site can be improved using some simple techniques

1.15.1 Labelling

Labelling skips and waste containers prevents the wrong type of waste being put in the wrong type of container. Failure to do so can result in staff injuries, inappropriate disposal and increased disposal costs.

Labels should be:

- Easy to read
- Accurate
- Up to date



(Above) scrap metal filings are stored in an open skip. Transferring of waste has led to spill around the skip which will be washed to stormwater when it rains. Positioning of skips is important to prevent tracking and spreading of waste from the source.

1.15.2 Lids

Many skips have lids and covers but often they are not used.

Using lockable skip covers prevents:

- Rain entering skips
- Waste being blown out of skips
- Vandals interfering with the contents of skips
- Others adding to your waste

1.15.3 Location

The location of skips and containers on your site is important.

There should be a dedicated waste storage area that is marked out and labelled. Ideally skips should be located:

- Away from members of the public or vandals
- Away from stormwater drains
- On sealed ground

1.15.4 Condition

Ensure that the bin and lid are kept in good condition.

Bins should be free of holes and rust which may allow rain water to enter the bin, pass through the waste material and discharge from the bin.



(Above) scrap steel bins are labelled correctly but should have lids to prevent rain flushing contaminants away.

1.15.5 Legal Liability for Waste

It is important to know that you are legally still the owner of your waste even after it has been removed from your site. Some wastes and especially hazardous wastes (e.g. asbestos) need special treatment and disposal, ask for proof of proper disposal – you are paying extra for it after all.

Furthermore you are liable for what your waste disposal contractor does with waste from your site. Keep receipts as proof of correct disposal.

It is recommended that waste is disposed of by contractors utilising “WasteTRACK” www.wastetrack.co.nz and those that are compliant with the “Liquid and Hazardous Waste Contractors Code of Practice”. Check this before engaging a waste disposal contractor.

If you are disposing of waste to a “cleanfill site” you need to ensure it meets to following definition:

Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- i) combustible, putrescible, degradable or leachable components*
- ii) hazardous substances*
- iii) products or materials derived from hazardous waste treatment, hazardous waste*
- iv) stabilisation or hazardous waste disposal practices*
- v) materials that may present a risk to human or animal health such as medical and veterinary*



(Above) a 44 gallon drum for storing waste food oil shows evidence of spills. This drum should be stored in a covered and bunded area.



(Above) a waste skip for storing scrap metal is leaking oily water. Scrap metal bins should have lids to prevent rainwater entering them.



(Above) offal left in an uncovered skip. This causes contaminated product to leak out of the skip and also causes odour problems.



(Above) a landfill site. Do you know where your waste ends up? You are legally responsible for ensuring your waste is disposed of correctly.

vi) *waste, asbestos or radioactive substances*

vii) *liquid waste.*

For spills that affect waterways or the harbour call Bay of Plenty Regional Council on their 24 hour hotline 0800 884 883.

For hazardous spills notify the fire service on 111.

Task 14

Waste skips and stockpiles managed correctly?

Waste disposed of by authorised contractor? Receipts retained?

1.16 Washing Wastewater

Is all wash water on your site disposed of either via Council trade waste consent or resource consents, or in a way that stormwater or groundwater is not contaminated?

If NO then you will need to look at some of the management options in Council’s brochure - “[Managing wastewater](#)” and see if any of these options could be used on your site.

You cannot discharge waste water directly to soak holes or surface water without resource consent from BOPRC.

Do you keep accurate records of how much liquid waste you discharge and how much it costs you every year to dispose of it to the sewer?

If NO, you must keep accurate records of all waste disposal. Council may request records to prove you are disposing of wastes in the correct way.

Do you use a waste treatment, storage or disposal contractor/s to remove your liquid trade waste?

If NO, did you know it is a requirement to ensure that your waste is removed from your site by either a trade waste consent or an authorised waste disposal contractor to a facility authorised to accept / or treat that waste.

If YES, do you know

- Who takes it away
- Where it goes
- Date, volume, mass and types of wastes removed
- The cost of removal

Are all wash down areas maintained in a clean state to prevent the build up of contaminants on surfaces, and operated in accordance with consents?

Do you have maintenance contracts with your suppliers, a site management plan or monitoring plan to ensure good ongoing performance of:

- First flush/diversion valves
- Treatment/recirculation systems

1.16.1 Trade Waste Consents

Are all facilities no longer in use (disused systems) properly drained and/or decommissioned?

Do you have a trade waste consent? You will need one if you are a commercial or industrial trade premises discharging any process water to the sewer other than just toilet waste.

If you have a wash-bay or other trade waste discharges you will require a trade waste consent from Council. Contact Council’s Trade Waste Officer for an application form. If you are unsure if you require a consent, see 1.20 “Consent Requirements” for further detail.

Task 15

Wash water correctly disposed of including trade waste consent(s)?

1.17 Gully Traps

Is every gully trap walled off to prevent stormwater runoff getting into it?

If NO or you are unsure, contact Council's Drainage Engineer for specific requirements.

Are these gully traps properly contained or connected to the trade waste or sewers?

For example:

- Trade wastes from process area, laboratories, etc
- Wastes from toilets and changing rooms, cafeteria etc
- Any floor drains in indoor areas

If NO then discuss it with your Council and connect the pipe legally to the sewer. Failure to do so will result in pollution and increase your risk of prosecution.

Task 16

All gully traps compliant?

1.18 Spills

A spill outdoors may run straight into the stormwater system and pollute the nearest stream, river, beach or groundwater system, unless you and your staff know what to do and do it immediately.

Even apparently harmless products like sugar or milk can be lethal to stream or sea life. Biodegradable substances like foodstuffs, cleaning agents, as well as many other everyday substances, can harm our environment.

Every spill has to be recorded on an Incident Report Form, which should be included in your Emergency Procedures or Health & Safety Policy. Use the form (attached as task 17, page 35) or develop your own.

Task 17

"Incident Report Form" drawn up? (see Task 17, page 35)

Every spill must be cleaned up in order to:

- Protect staff safety
- Prevent water pollution
- Allow safe, prompt disposal
- Prevent soil contamination
- Minimise your environmental liability

If spills get into stormwater drains and into the environment:

- Contamination may affect a wide area
- Members of the public may be placed at risk
- Controlling the pollution is much more difficult
- Clean up costs are greatly increased
- Enforcement action is more likely to be taken against you, your staff, and your company

Accidents happen, even in the best workplaces, so you must be prepared.

To reduce your environmental and occupational liability from spills, you need to:

- Assess your risk by knowing exactly what you keep on site, with clear and accurate labels. Hold SDSs for all chemicals.
- Reduce your risk by ensuring good housekeeping, inspection and maintenance practices. Ensure your activities are not located near or on sensitive areas of your site, i.e. near streams or waterways.
- Think ahead; what equipment will you and your staff need in the event of a spill.
- Write your spill procedure; what you need to do if you have a spill.
- Train your staff and practice your spill procedures.



(Above) a spill station set up with kit and appropriate signage

1.18.1 Spill Procedure

A spill procedure should include the following:

- Be safe (ensure you wear correct PPE)
- Stop the source
- Protect stormwater
- Notify
- Clean up
- Dispose
- Restock and review

Use our Spill Procedure Checklist (see Task 19, page 39) to prepare your own spill procedure which is tailored for the specific activities you carry out on your site. Think about those activities or areas where there is a high potential for spillages to occur.

Task 18

Site specific spill procedure written?

1.18.2 Spill Station

All sites need to have equipment readily available to contain and clean up spills safely. This equipment should be located in designated places that are accessible and known to everyone on site. Depending on the size of your site and the type of materials used, you may need one or several spill stations located near high risk areas.

Each spill station should have a spill kit which should hold equipment for:

- Containing and cleaning up a spill such as a shovel, broom, drain covers, sandbags, booms and absorbent material. Some spills need to be handled with compatible materials.
- Storage and disposal containers to be used for absorbent material such as safe containers, bags, and drum holders.
- Protecting the health and safety of your staff. Consider the need for things like gloves, respirators, chemical protection suits, buddy systems, first aid and emergency treatment.

You can buy a standard kit/s or buy a wheelie bin and fill it with what you have identified you will need, utilising suitable materials currently on site.

In addition to the spill kit, your spill station should have on the walls and shelves close by:

- A copy of the Council's Pollution Prevention "Spill Procedure Poster". This poster can be used as is or can be modified to suit your operation specifically. Place it around your site (see 'Spills Poster' page 34).

Task 19

Spill procedure checklist written up to use when a spill occurs?



(Above) workers practice their spill response procedures. A spill drill should be held at least once a year.

- Copies of up to date SDS's for all substances stored on site.
- A copy of the completed emergency telephone contacts sheet.
- Your spill procedure and drainage plan.
- Your spill procedure checklist.

Task 20

Spill stations set up around the site with the following:

- Clean equipment
- PPE
- SDS's
- first aid supplies
- spills procedure/poster
- spills procedure checklist
- emergency contacts list
- site layout and drainage plan

1.18.3 Training your staff

Make sure your staff know what to do if a spill occurs. Practise your procedures and repeat training regularly, including practical exercises. Ensure new staff are trained immediately, when they begin.

Your staff should be able to correctly answer the following:

- Where do you find the SDS's in a hurry?
- Who do you notify that a spill has occurred?
- How do you identify what the spill material is?
- How do you find out if it needs special handling?
- Is anyone hurt? What do you do if they are?
- How do you contain the source?
- Where is the spill most likely to go?
- How do you prevent the spill escaping off site?
- Where are the spill stations?
- Where is a copy of the spill procedure kept?
- How do you clean up the spill and dispose of the spill and clean-up material without causing pollution?
- What happens after the spill has been dealt with?

Write an Incident Report (see page 35) after every spill. You can use your own reports or the form at the back of this module. Depending on the extent of the spill, your Incident Report need not be more than a few sentences. You may want to consider doing this for near misses as well. In many cases near misses are not reported and later turn into full-blown emergencies. By reporting all incidents or potential risks on site it is possible to take action and possibly implement changes or new procedures to prevent further incidents.

Task 21

System in place for recording and evaluating staff training?

1.19 Hazardous Substances & Waste

It is important to manage hazardous wastes and hazardous substances in a responsible way, to prevent damage to the environment and harm to people. Good management of hazardous substances involves safe storage, use, transportation and disposal. Most controls on hazardous substances come under the Hazardous Substances and New Organisms Act (1996) (HSNO) but they are also covered by sections of the Resource Management Act (1991) (RMA).

1.19.1 Hazardous Substances

A hazardous substance is a substance that does or could have a negative effect on people or the environment. Hazardous substances may be flammable, highly reactive and/or toxic; they could be a solid, liquid or gas; a pure substance, an ingredient or contaminant; or anything which may react with air or water to produce a hazardous substance under normal conditions.

All hazardous substances must be managed according to the HSNO regulations, and just because a substance was not a 'dangerous good' under the old dangerous goods regulations does not mean it is exempt from HSNO. Common requirements include secondary containment such as bunds or double skinned tanks, incompatible substances stored separately and emergency procedures.

Remember it can still be a hazardous substance if it is a waste, so treat hazardous wastes the same. For example, you should use the same precautions for waste oil as you do for new oil.

If you use or store a hazardous substance on your site you should read the 'Storage and Handling' (Section 1.3) and 'Spills' (Section 1.18) sections to ensure they are properly managed. You may also have obligations under HSNO; to find out more about the requirements for the substances you have on site contact your chemical supplier; or contact Council's HSNO or Pollution Prevention Officers for further information. Council has pamphlets which provide detail on Hazardous Substance requirements.

1.19.2 Hazardous Waste

Hazardous waste is any waste containing or contaminated with a hazardous substance or which in itself has hazardous properties or could have harmful effects on people or the environment. Common hazardous wastes include: asbestos, used oils, paints, agrichemicals, chemicals, vehicle batteries and heavy metals.

Hazardous waste should be kept separate from general waste and removed by a hazardous waste contractor who is authorised to can handle, treat, dispose of, recycle or recover any useful material from it safely. Hazardous wastes must never be placed in a clean fill, farm dump or thrown out with other waste, as this could result in environmental contamination for which you would be liable. Look in the Yellow Pages under HAZARDOUS WASTE for a suitable contractor. You may want to confirm with Council that a particular operator is appropriate before engaging them. You may need different contractors for different wastes depending on what you have on site.

Some examples of hazardous waste and disposal options:

- Sludges and liquids containing metals should be disposed of via trade waste (consent required from Council) or a liquid and hazardous waste disposal contractor.
- Unwanted paint should be recycled through a paint recycling scheme.
- Separate solvents that are reusable on your site. Non-reusable solvents should be sent to a solvent recovery company; check with them whether different solvents need to be separated.
- Used oil should be kept separate from other waste liquids, such as engine coolant, and removed for reuse or refining by an appropriate contractor.

- Any materials containing or contaminated with asbestos require special handling and disposal at approved landfills. These materials must be handled by a licensed contractor with expertise in disposing of them.
- Contaminated soil needs to go to a licensed facility. If you are excavating contaminated soil there are rules or regulations you need to follow – contact a BoPRC Consents Officer before you start work to check these.

Task 22

Hazardous substances managed correctly and in accordance with HSNO Act (1996)?

1.20 Consent Requirements

1.20.1 Trade Waste Consents

Trade wastes from manufacturing or industrial processes may be permitted to discharge into the sewer for treatment and disposal. Some firms have dedicated sewer lines for their trade wastes which discharge into the area's main sewer.

If you discharge trade wastes into the sewers, you are likely to need a consent from Council. Contact Council's Trade Waste Officer and tell them:

- What material you discharge;
- How much you discharge; and
- Whether stormwater is excluded.

They will then advise you of any trade waste requirements, such as maximum discharge volumes, and any pre-treatment required. If you have a washpad on your site you will definitely require a trade waste consent.

A trade waste consent ensures that:

- The health and safety of sewer and treatment plant workers are protected
- The sewer system and the waste treatment plant are protected from damage
- The environment(s) where the treated wastewater and sludge are disposed of is protected; and,

- You pay a fair share of the cost of treating and disposing of your wastes.

You will have responsibilities if you have a trade waste consent. You must comply with the conditions of your consent and maintain any treatment systems, (such as grease traps), to avoid damaging sewers or causing wastewater overflows.

If your trade waste is not suitable for disposal into the sewer, you will need to find an appropriately licensed waste operator who will take it to a licensed treatment and/or disposal facility.

Trade waste can cause a number of potential problems if not managed properly

- Wastes which contain solvents, acids or alkalis, explosive, poisonous or other dangerous substances pose a health risk to sewer staff and the public. They can also cause damage to the system that is expensive to repair.
- Metals in some trade wastes can make the sludge from the waste treatment plant toxic and difficult to re-use or dispose of safely.
- Sewer overflows occur if the volumes discharged exceed the sewer capacity or if discharges occur at times of peak sewer flow.
- High loads of fats or solids clog drains and pump stations, causing overflows which Council must respond to and clean up at a cost to the ratepayer.

1.20.2 Building Consents

If you are planning to build something new, make changes to an existing structure, or do something with your land that may impact on the environment, there are certain guidelines you need to adhere to and consents you need to obtain.

The Building and Planning areas of Council can provide advice on working within New Zealand's building and resource management legislation.

Council also processes building, resource and subdivision consents. All three consents are very different, and depending on your project you may need one, two, or all three.

For further information about building or renovating, visit the Building Section on Councils Website.

For further information about the way you use your land, resource and subdivision consents and compliance with the Resource Management Act, visit the Planning Section on Councils website.

1.20.3 Stormwater Discharge Consents

BoPRC discharge consents cover activities which discharge to air, land or water.

Contact a BoPRC Consents Officer for further information on 0800 884 880.

1.20.4 Other Consents and Authorisations

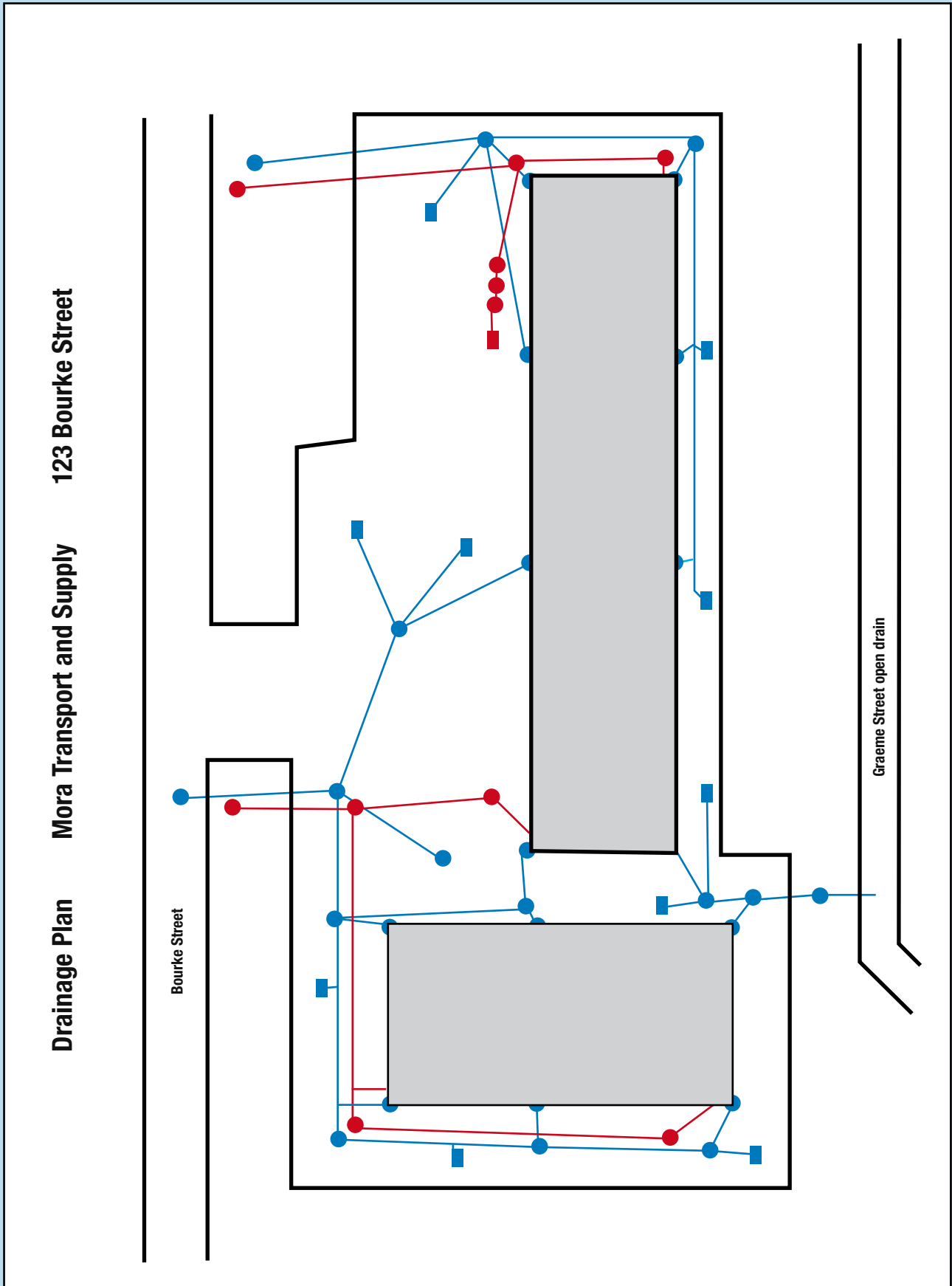
Depending on the type of activity or site works you are undertaking, you may need additional authorisations or consents from either Council or BoPRC. You should contact both councils to check you have everything covered.

Task 23

Relevant consents held (or applied for)?

Task 7: Site Drainage Plan

Example (use this to create your own site specific document)



Spills Example Poster (see Section 1.18)

SPIILLS

REMEMBER - THE DRAIN IS JUST FOR RAIN!

BE READY

- Have an up-to-date Spill Response Plan
- Make sure workers know what to do
- check spill kits regularly and re-check them after any spills

BE SAFE

- Fire Brigade/Ambulance required? Dial **111**
- Do you need special safety gear
- Is it hazardous? Check Safety Data Sheets (S.D.S's)

STOP THE SOURCE

- Stand containers upright
- Plug the leak
- Shut off pumps, close taps and valves
- Block off all stormwater drains

CALL FOR HELP

- Tell your supervisors and managers
- Call the Pollution Hotline if the spill has contaminated ground, drains or waterways

CLEAN UP

- Neutralise hazardous substances
- Is a specialised clean up needed?
- Sweep, shovel and vacuum all contaminated material into safe containers
- Dispose of all waste correctly

REVIEW

- What caused the spill?
- How can you stop it from happening again?



- Follow your Spill Response Plan



- Wear your safety gear
- Neutralise hazardous substances



- Stop the source
- Stand containers upright and plug leaks



- Stop it spreading
- Block off drains



- Clean up and dispose of waste correctly



Tauranga City Council
Stormwater Pollution Hotline **07 577 7000**



NEVER HOSE SPILLS DOWN STORMWATER DRAINS!

Task 17: Incident Report

Example Form (use the Microsoft Word file 'Task 17 Incident Report.doc' to create your own checklist)

Incident Spill Report Form	
From:	_____
To:	_____
Date:	_____
Subject:	_____

DATE OF EVENT

Location of discharge

Material/s discharged

Amount/s discharged

Cause of discharge

Did any material escape off site? If yes, where to?

What environmental or other effects resulted?

Action taken

Who detected the spill and what did they do?

Who else on the staff was notified and what did they do?

Other agency response

Were there any other agencies involved in the event? If yes, please list and describe their role.

Injury report

Were there any injuries: Yes No [please circle one]

Cross reference to:

Costs report

Estimate costs of staff down-time for clean-up and other response.

External clean-up costs

Disposal costs

Any other costs (e.g. value of lost product)

Incident review

What was done well?

What was done that shouldn't have been done?

What was done wrong or could have been done better?

Prevention

Discuss any changes needed to prevent similar accidents in the future:

Spill procedures

Equipment

Staff training

Drains or structures

Housekeeping practices

Site management systems

Standard operating procedures

Other things to prevent a similar event

Future response

Have spill control and safety supplies been topped up?

Have staff been de-briefed and, if necessary, retrained?

Other recommendations

Further action

Actions, timing, responsibility, budget, completion, review

Example

Task 19: Spill Procedure Checklist

Example Form (use the Microsoft Word file 'Task 19 Spill Procedure Checklist.doc' to create your own checklist)

TASK	DONE	ACTION LIST
Instruct staff how to be safe		
Identify the spilt material		
Wear PPE		
Instruct staff to stop the source		
Turn off the tap or valve, plug leak		
Roll drum so hole is on top		
Move leaking barrels/drums to a contained area		
Provide protection of stormwater		
Block off access to stormwater drains or unpaved ground with drain covers, sandbags, booms or materials appropriate to the spill		
Liquid spills: contain with compatible materials		
Powder type spills: cover with plastic to stop them blowing around.		
Instruction on whom to notify		
Site Supervisor		
TCC Pollution Prevention Officer (07) 577 7000		
BOPRC Pollution Hotline 0800 884 884		
Fire Service (emergencies) or (07) 577 7099		
Police 111 (emergencies) or (07) 577 4300		
National Poisons Centre 0800 64 766		
Clean up the spill		
Liquid spills: pump into a safe container, absorb them with appropriate materials or neutralise them with a compatible solution. Sweep them up for disposal. Don't use dispersants or emulsifiers.		
Powder spills: vacuum up and put them in a safe container.		
Keep the contaminated area as small as possible; if it can be avoided don't walk through the spill.		
Clean up the area and any contaminated equipment or clothing after removing the spill – keep within the contained area, stop wash water or sweepings getting into the stormwater or soil.		

TASK	DONE	ACTION LIST
Instruct staff to dispose responsibly		
Re-use uncontaminated materials.		
Dispose of contaminated materials and clean up gear or clothing as a hazardous waste or ask your waste disposal contractor to dispose of it for you.		
Do not hose spill, or tip wastes down stormwater drain.		
Provide for the restock and review of spill station equipment		
Replace any containment equipment or protective gear immediately.		
Do a spill report immediately to find out how and why the spill happened, also review root causes and ensure that actions are taken to ensure you don't have a recurrence (preventative action)		
Check your spill procedure: do you need to update it to be better prepared?		

PART C

Processes, Procedures and Housekeeping

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Checklist - Part C

(fill this out as you go through Part C to monitor your progress)

Task No.	Task	Section Reference	Done	Action List
24.	<ul style="list-style-type: none"> • Drums, containers etc stored securely, clean and tidy? • Taps and valves not leaking? • Site checked for spills? • All rubbish removed for correct disposal? • All external wash down areas checked to ensure hoses and taps are not incorrectly used? • Programme for regular cleaning in place? • Staff encouraged and given times to keep the site clean and tidy? 	1		
25.	Inspection and maintenance programme developed, including template documents?	2		
26.	Management programme for stormwater treatment devices set-up?	3		
27.	Staff training programme drawn up?	4		
28.	A sound record keeping system is in place?	5		
29.	The roles and responsibilities of staff and contractors detailed?	6		
30.	A minimum three yearly review set up?	7		

Any items in the “Action List” will need to be addressed (or planned for the future and listed in the proposed actions in your plan)

Notes:

1. Housekeeping

Sloppy work and bad housekeeping is the most common cause of industrial pollution. It is easily avoided by establishing better work practises. Clean tidy and well-managed sites are far less likely to cause pollution than untidy sites.

Good housekeeping prevents pollution and staff accidents. It reduces your environmental liability. It's also great for staff morale and your company's image when your customers visit.

Once you've looked at your drainage plan, material storage and handling on your site, you need to make regular checks to ensure that structures, equipment, procedures and activities also minimise pollution.

As with anything you want done, make it someone's job, and make sure they have the training and the time to do it well.

1.1 Bad Housekeeping is Unsightly, Unsafe and Environmentally Harmful

Typical careless housekeeping practices found on many sites are:

- Drums, storage or waste containers with no lids getting flooded by rain, washing contaminants into stormwater and out to the nearest water way.
- Sloppy decanting or dripping taps and valves letting material spill onto the ground and find its way into stormwater.
- Outdoor working areas covered with spills or litter which are not cleaned up, causing pollution every time it rains.
- Washdown of 'empty' drums, which may contain small amounts of sometimes very concentrated product, in open yards or even over stormwater drains.
- Drip trays overflowing onto yards and into stormwater
- Leaky containers left outside because they are 'only leaking a little bit', creating a chronic source of pollution.

1.2 Good Housekeeping Makes Preventing Pollution Easy!

- Keep lids securely on outdoor drums and other storage vessels so rain can't get in and lids can't fall off if they are knocked over.
- Create a maintenance programme so that all sources or potential sources of pollution are avoided. Good maintenance is a part of good housekeeping.
- Keep clean all surfaces that rain lands on.
- Clean up regularly during the day and have an extra thorough clean at the end of each day and end of each week.
- Never leave open taps or valves unattended – always have either an automatic cut-off or a staff member watching at all times.

2. Inspection and Maintenance Programme

To make sure your Plan is effective in preventing pollution, you need to make sure the structural controls are in good working order and that the procedural controls are being followed. The way to do this is to develop an inspection and maintenance programme.

You must make sure that your programme covers all of your risks and make sure that the frequency of checks and repairs are sufficient to stop problems before they occur. To do this some may need to be done more regularly than others, i.e. if the risk is greater. Some might need to be done before or after rainfall whenever the risk of pollution is more likely. Make sure the person doing the check knows what to look for, what to record and what to do if there is a problem.

Your completed inspections checklists and maintenance logs will create a 'paper trail' to demonstrate that your inspection and maintenance programme is being followed and will be looked on favourably in the event of an unforeseen spill or non-compliance issue.

Task 25

Inspection and maintenance programme developed, including template documents?

3. Management and Monitoring Programme for Stormwater Treatment Devices

Stormwater treatment devices often require more comprehensive checks and more intensive maintenance – they have therefore been given this separate section to outline their specific management and monitoring.

The conditions on some resource consents require some sites to prepare a stormwater management and monitoring plan. If you don't have any stormwater management and monitoring requirements on site, and you don't have a stormwater treatment device, you can skip this task.

You should include:

- Details of operational and maintenance requirements, inspection checklists for all components including all stormwater pipes, catchpits, soakholes, sandfilters, interceptors and rain gardens under typical and storm flow conditions.
- The frequency of inspections required, and the methods for undertaking and reporting on stormwater discharge monitoring.
- The methods for dealing with any problems found with the levels of a discharged contaminant.
- The person who has responsibility for ongoing monitoring and maintenance of this system should also be named.

Task 26

Management programme for stormwater treatment devices set-up?

4. Training Programme

Each person in your organisation needs to understand the company line and their role in minimising risk of pollution, damage to the environment and risk of enforcement action against themselves and the company under the RMA. To get buy-in you need to do training and preferably involve staff in the process of setting up the Pollution Prevention Plan and identifying their preferred workable solutions to common procedural risks.

Any contractors you use and any lessees on your site must also know about their responsibilities to avoid pollution so that any problems do not become your liability.

An effective training programme will:

- Include induction and refresher training
- Cover general environmental issues and the purpose of pollution prevention goals
- Outline site-specific details i.e. location of stormwater drains and the particular sensitivity of the receiving environment that they drain to.
- Provide details of specific pollution controls relevant to individual job areas.
- Include overview and hands-on spill response training.

You should keep good records of who is trained, when and in what aspects to further reduce your company's risk and liability. This could be integrated into an overall Health, Safety and Environmental training programme.

You may wish to use the training programme to record specific training details for your site (see Training Programme Example Form, page 47).

Task 27

Staff training programme drawn up?

5. Record keeping

Good records are the paper trail that proves you are following your plan and that it is working as intended. Records to be compiled and retained should include:

- Completed forms, checklists and maintenance logs
- Identified problems and corrective actions undertaken
- Monitoring data/results e.g. for stormwater treatment device monitoring

Some other types of records will also be valuable in assisting with the implementation of your plan and/or your plan review, including:

- Incident forms (especially pollution incidents and responses)
- Internal and external communications regarding the plan (e.g. with waste disposal contractors where you specify that the waste must be disposed of appropriately)
- Results of internal or external assessments and compliance visits.

You will need to decide which records you will keep, how and where they will be kept (hard copies and/or electronic format), and for how long. If you have a resource consent, keep key records (e.g. on discharge monitoring) for the whole time period for which the consent is issued, as they will be very helpful when you need to reapply. You will also need to decide who will be ultimately responsible for these records.

Task 28

A sound record keeping system is in place?

6. Roles and responsibilities

Nearly every member of your business will have a role or responsibility in ensuring your plan is followed and that it is effective in preventing pollution and minimising compliance costs to the company. In order for staff and contractors to understand what is required, you will need to record this in your plan. These roles and responsibilities (and associated reporting lines) can be recorded in various ways. You could create role diagrams showing responsibilities and reporting lines or list responsibility summaries detailing what plan tasks have been assigned to which roles within your organisation.

Task 29

The roles and responsibilities of staff and contractors detailed?

7. Pollution Prevention Plan Review

You will need to review and update your plan regularly to make sure it reflects the changing shape of your business and current best-practice techniques. However, even if nothing changes on-site, there should be ongoing reviews to ensure continuous improvement. Opportunities may be raised informally by staff, customers or contractors or you may notice a competitor is managing a pollution risk better than you. Alternatively, the need for improvements could be identified through regular inspections or maintenance, or through a spill or near-miss incident highlighting a gap in pollution controls. For this plan to be effective in minimising risk to the environment, and your company, it needs to be a living document, kept updated and with input from staff and support from the highest level of management.

A three-yearly review is required as a minimum; however, in some circumstances a more frequent review or update may be needed. This may arise due to an incident such as a spill highlighting a major gap in your pollution controls, or an inspection may highlight an on-going problem that requires a significant change to stop it re-occurring. Similarly, monitoring data may show that a treatment device hasn't been installed properly and it may need to be altered.

The three-yearly review of the Plan should include:

- Any significant changes to the site's activities, facilities or pollution controls
- Key changes to the company
- Changes in industry best practice standards or recommended pollution controls
- Changes in legal requirements
- Results of: inspection and maintenance programmes, and logs of incidents, corrective actions, internal or external assessments (including external compliance audits)
- Public complaints
- Specific results of your stormwater management and monitoring programme compared with consent requirements if you have one

Any changes need to be reflected in the information in your Pollution Prevention Plan about your site, your pollution controls, and/or your programmes and systems. Each of these will need to be updated.

Task 30

A minimum three yearly review set up?

7.1 Council Review of Pollution Prevention Plan

You will need to submit your plan to Council so that it can be checked by a Pollution Prevention Officer after every three-yearly review. Council will go through your site information, your pollution controls and your programmes and systems and give you feedback on any changes that are required or recommended.

A Plan should also be submitted to Council where a review has taken place in response to a significant change in the site or site process.

Task 27: Training programme

Example Form (use the Microsoft Word file 'Task 27 Training Programme.doc' to create your own checklist)

Fill this table in using the training programme you have developed that is appropriate to your business's needs and risks. You may use this table or create a similar one of your own. Add cross-references to the location of any supporting information that will be used for the training.

Training topic	Summary of training purpose and content	Recipients (specify job titles of relevant staff and/or contractors)	Frequency or target date
Induction to Plan	Overview of Plan including site information, pollution risks and controls, programmes & systems.	All staff / contractors	At beginning of employment / contract
Refresher for Plan	Refresher overview of Plan including recent changes and updates	All staff / contractors	One year after implementation of Plan, or more frequently if required
Detail of activity or area specific pollution risks and controls			
Emergency spill response plan	Identification of on-site 'environmentally hazardous substances' and required spill response	Insert staff / contractors who require this specific training	Insert details
Insert specific activity or area	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert specific activity or area	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert specific activity or area	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert specific activity or area	Insert details	Insert staff / contractors who require this specific training	Insert details
Inspection and maintenance programme			
Insert specific aspect of programme	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert specific aspect of programme	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert specific aspect of programme	Insert details	Insert staff / contractors who require this specific training	Insert details
Stormwater treatment device(s) and 'Stormwater management and maintenance programme'			
Insert specific aspect of programme	Insert details	Insert staff / contractors who require this specific training	Insert details

Training topic	Summary of training purpose and content	Recipients (specify job titles of relevant staff and/or contractors)	Frequency or target date
Specialised training (e.g. handling hazardous substances or hazardous wastes)			
Insert details	Insert details	Insert staff / contractors who require this specific training	Insert details
Insert details	Insert details	Insert staff / contractors who require this specific training	Insert details
Training programme	Insert details	Insert title of staff member(s) who will be responsible for implementing the Plan training programme	Insert details

PART D

Site Layout and Drainage Plan and Completing the Final Template

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Checklist - Part D

(fill this out as you go through Part D to monitor your progress)

Task No.	Task	Section Reference	Done	Action List
31.	Plan template with following information: <ul style="list-style-type: none"> • company description and site locations • scope of plan • site activities, facilities and stores • site receiving environments • consents and permits 	1.1 to 1.6		
32.	Site layout and drainage plan, completed?	2.1 to 2.7		
33.	Site layouts and drainage plan printed (A3 or larger) and placed around your site?	2.1 to 2.7		
34.	Drainage on site identified and marked (painted) including stormwater (grates, manholes and soak pits) and wastewater manholes?	2.8		
35.	All structural and procedural controls (existing and proposed) are recorded?	2.9		
36.	All appropriate attachments are attached to the plan?	3.0		

Any items in the “Action List” will need to be addressed (or planned for the future and listed in the proposal actions in your plan)

Notes:

1. About Your Site

1.1 Introduction

In this part you need to record information about your site including company details, site layout and drainage, the surrounding area, and any consents or permits you currently hold or are in the process of obtaining.

You will also detail the existing and proposed structural and procedural controls by working through Parts B, C and D.

Use the checklist on page 50 to monitor your progress.

1.2 Company Description and Site Location

A company description and details of the site location is needed to give context for the Plan. This is particularly important information for new staff or contractors who may be unfamiliar with your site and operations. In the Template briefly describe the following:

- **Company operations:** What does your company do or produce? (Include operations undertaken on the site, or support operations that occur in off-site areas).
- **Staff numbers:** How many staff work at the site? (Include also regular contractors that you use for the site's operation).
- **Company structure:** Include key responsibilities and reporting lines where relevant e.g. an organisational chart.
- **Site address and legal description:** Include address and legal details for all the areas your company utilises for the operation, and land owner details.

1.3 Scope of Pollution Prevention Plan

Describe the legal requirements and the aspects of your site and/or company that you will cover in your Plan.

- **Legal requirements:** Your Plan must address the requirements under regional policies and plans with respect to stormwater management. You may also wish to include any other best practice measures and industry guidelines that are relevant to your business.
- **Multiple processes on site:** Will your Plan cover your whole site and all of the processes that you carry out?, e.g. if you have a large, complex site with many different processes you may prefer to develop separate Plans for each process rather than one complete Plan for all of them.

- **On-site and off-site activities:** Your company may carry out some of its activities at a site but other activities may be carried out off-site. Your plan is only required to address on-site activities; however, you may wish to include management plans and procedures for off-site activities in an Appendix to this document.
- **Contractors:** If you have contractors, your Plan needs to include information on what they do or produce for you.

1.4 Site Activities, Facilities and Stores

In order to identify your site's pollution risks accurately you need to outline your on-site activities, as well as facilities you operate and substances you store. [Link to Template.](#)

Explain in detail the following:

- What you do/make/process/handle on the site and methods used.
- Raw materials and chemicals used including what processes they are used in and where on site those processes occur.
- Where you store materials on site (include volumes and locations/containers).
- End-products and by-products, the volumes of both and where they are stored or used on site.
- Wastes produced, the volumes of those wastes, where they are stored on site and how they are disposed of.
- Other supporting activities like vehicle and equipment maintenance and washing, loading and unloading, product transfers etc.

You can present this information in written descriptions, summary tables and/or diagrams.

You will develop a 'Site Layout and Drainage Map' so make sure you cross-reference text, tables and diagrams to this map and ensure the locations of activities and facilities is accurate.

1.5 Site Receiving Environments

Receiving environments are those areas of land or water that can or do receive run-off or discharges from your site (Where does water from wash down, processing wastes or rain run-off end up)?

Explain in detail the following:

- Immediate receiving environments; including site soils/ land and surface water (stormwater drains, streams) in addition to underlying geology.
- Shallow underground waters (this is especially important if you are situated in an area where stormwater is managed via soakage (e.g. soakholes).
- Ultimate receiving environments; including the streams or rivers that your stormwater flows into, and any environments which they in turn flow into (e.g. wetlands, estuaries and harbours) as well as any deeper underground waters.

This information will help show how your site is connected to the surrounding environment, how easily pollutants from your site can end up in the environment and how sensitive they are to potential pollution from your site.

1.6 Authorisations, Consents and Permits

Your Plan will help you comply with relevant legislation and therefore manage your operation's land and water pollution risks.

In this section you will list other authorisations, consents and permits that impact on your pollution prevention goals. These may be ones that you already comply with or ones that you are working towards compliance or a consent/permit application.

You only need to list those consents that relate to environmental performance or effects e.g. air discharge consents, stormwater discharge consents, trade waste permits. You do not need to list those relating to non-environmental factors such as health and safety or buildings.

Your Plan can include the following information:

- Consent/permit type and purpose (and number and expiry if already granted).
- Status (e.g. applied, granted, investigation for requirement).
- If the consent/permit is for a specific area and/or specific volume of discharge.
- Issuing agency (e.g. BOPRC, TCC).
- Key conditions and monitoring required.

Task 31

Plan template with following information:

- company description and site locations
- scope of plan
- site activities, facilities and stores
- site receiving environments
- consents and permits

2. Site Layout and Drainage

2.1 Introduction

In this part you need to record detailed information about your site layout including where materials are stored and where emergency response equipment is located. Site stormwater and wastewater drainage must be clearly identified. You will develop a "Site Layout and Drainage Map" (see Task 32, page 56) which is an essential component of your Plan. Example of a site layout and drainage map.

Recording this information will help to identify and manage the actual and potential risks of your operation causing pollution.

2.2 Drainage Systems Explained

When it comes to drainage on sites, it is often a case of out of sight and out of mind. It is easy to think that once a material goes down the drain it is no longer a problem. This is definitely not the case.

The drainage from your site is one of the most important routes by which pollutants enter the environment. To prevent water pollution, you must understand the difference between drains on your site.

On most sites there will be two systems – Stormwater and Wastewater (Sewer)

- Stormwater pipes collect rainfall that lands on OUTDOOR surfaces like roofs, roads, yards, driveways and car parks. The rain running off these surfaces is channelled through stormwater drains and grates into stormwater pipes. These pipes carry this runoff to a stream, harbour, beach, lake or underground water system. In Tauranga, the harbour receives most of this.

- Wastewater pipes (sewers) collect waste flows primarily from INSIDE houses, offices, factories, hotels, shops, schools and other buildings in the city. Wastes from sinks, laundries, toilets, baths, showers and liquid trade wastes from most industrial processes flow through the sewer network to a treatment plant where they are treated before disposal to the environment. Industrial/commercial site discharges to sewer are usually known as trade waste.

Some sites may have soakage drains or pits. These allow stormwater to drain into the land. They should be treated the same as stormwater drains.

It is your responsibility to ensure your site drainage map is up to date and accurate.

Contaminants or wastes that enter stormwater pipes end up untreated in our rivers, harbours or groundwater. Much of Tauranga's urban pollution happens because people don't know where stormwater pipes go. They misuse stormwater drains for waste disposal or let polluted runoff get into them.

It is important to use each drain for the right purpose. Only uncontaminated rainwater goes down your stormwater drains. Only trade waste, toilet waste and grey water goes into the sewer.

Often drains on industrial or commercial sites are not clearly identified, or may be incorrectly connected to the wrong system (called a cross-connection). It is also common for drainage maps to be incorrect, out of date or incomplete. You may need to employ a drain layer to inspect drainage and either create a drainage map if you don't have one or confirm the accuracy of your map. **Do not assume drainage is set up correctly ~ have it checked!**

If toilet or trade wastes enter stormwater pipes, they flow out untreated and pollute streams, beaches or groundwater.

If stormwater enters the sewer, it can overload the sewers and pump stations which pump sewage to the treatment plant. This can cause overflows of untreated sewage and industrial wastes onto private properties and into rivers, streams and the harbour.

2.3 Drainage and Site Layout

To complete the map you need to locate your drainage map. Council holds building files that usually contain drainage maps. Often, however, due to changes and upgrades to sites, these plans are incomplete or inaccurate. Have your site drainage checked by a certified drain layer to confirm any existing

plans. Your landlord may also have some records available. This will form the basis of your site layout and drainage map.

Summarise your site layout and drainage. Also note that you will need to attach and include with your Plan a map of your site identifying your drainage.

2.4 Wastewater

Wastewater is anything that is not clean rainwater. Wastewater pipes are not designed for stormwater. Check that no stormwater gets into your sewer drains.

Look for any liquid circulation or recirculation systems like hydraulic oil systems or cooling water. Although these do not generally discharge, they have the potential to cause pollution from leaks or ruptures.

2.5 Disused Systems

You may not need to show these on your main drainage map, but you do need a map of any old pipes and underground storage tanks on your site, as pollution problems can sometimes be traced back to them. The older your site the more likely it will have disused pipe systems; you may need to contact a drain layer to assist with this.

Does your drainage map show:

- Sewer pipes on the site and their inlets: gully traps, internal floor drains, manholes, toilets, sinks and trade waste connections.
- Closed loop systems, including:
 - ▶ All inlets and top up points.
 - ▶ All outlets from maintenance discharges.
 - ▶ All overflows from liquid process systems, including recycling or;
 - ▶ Recirculating systems and pressure release points.
- Disused systems, consider:
 - ▶ Old pipes.
 - ▶ Underground storage tanks.

2.6 Other Wastewater Systems

Walk over your site to determine:

- Where all your drains go;
- Are they all being used for the right purpose; and
- Are they all shown on the map?

When you are walking over your site, look for the following common mistakes:

- Wrong connections, for example outside sinks hooked into downpipes going to stormwater drains, or roof water put into gully traps going to the sewer.
- No raised walls around gully traps allowing surface water from the yard to flow into the sewer.
- Overflow pipes, air valves that will drain onto handstand areas that flow to stormwater drains.
- Holes in roof guttering and broken or crushed downpipes that do not reach the ground meaning stormwater does not go where it is intended.

To create a plan or confirm the accuracy of an existing plan you may need to involve a specialist to investigate your drainage system (e.g. using CCTV or dye tests). A registered drain layer will be able to draw up or amend your drainage map for you.

2.7 Completing your “Site Layout and Drainage Map”

Your drainage map will form the basis of your “site layout and drainage map” which needs to show more detail including:

- Site boundaries
- All activity areas with labels showing their use (include all indoor and outdoor areas and buildings)
- Stormwater pipes and their inlets, downpipes, stormwater drains and manholes
- Wastewater pipes and their inlets, wastewater drains and manholes
- Any open drains
- Any low point(s) where runoff might pool
- Direction of flow for sewers and stormwater pipes
- Neighbouring sites and what happens there, especially if these are sensitive activities like a kindergarten, hospital, rest home, wetlands etc.
- Water bodies and their direction of flow

- Unsealed areas (open ground) or where stormwater flows overland off your site
- Stormwater treatment systems, for example:
 - ▶ Treatment devices
 - ▶ Flow control or shut-off devices
 - ▶ Swales
 - ▶ Ponds

Task 32

Site layout and drainage map, completed?

Task 33

Site layouts and drainage map printed (A3 or larger) and placed around your site?

2.8 Identifying Your Drains

One of the most common reasons for water pollution incidents is a lack of awareness of the purpose of drains.

Are workers on your site easily able to tell which drains on your site lead to sewer and which are stormwater drains?

If NO, you can use stencils, blue hatching or blue "Drains only for Rain" fish available from www.ecobluefish.com. Labelling stormwater drains and colour coding manholes is a simple and successful way of making sure that anyone working your site does not tip anything down stormwater drains.

An easily recognisable colour code system is:

- White for sewer or trade waste sewer manholes, pipes and drains
- Blue for stormwater manholes, pipes and drains.

1. Does your site map show every outdoor activity such as:

- Loading/unloading areas
- Decanting areas
- Refuelling and/or lubricating oils storage areas
- Pumping or dispensing areas

Does your site map show all areas where materials are stored?

- Raw materials
- Regular stockpiling areas for material that can be blown or washed away

- Wastes, including hazardous wastes
- Cleaning liquids or other cleaning products
- Biocides (like weedkillers)
- Other hazardous substances (fuel, paint)
- Underground storage tanks
- Above ground storage tanks
- All finished goods

Does your site map show any other outdoor areas that could pose a water pollution risk?

For large or complex sites you may prefer to separate out the layout and drainage information and create two separate but linked plans.

Task 34

Drainage on site identified and marked (painted) including stormwater (grates, manholes and soak pits) and wastewater manholes?

2.9 Structural and Procedural Control

All the structural and procedural parts B, C and D should be written up into a table. You should detail existing and proposed controls. Proposed changes to the site or operation should be detailed with time frames for completion. You can use the table provided on pages 57-58 as the basis for this information.

Task 35

All structural and procedural controls (existing and proposed) are recorded (see example table Task 35, pages 57-58)

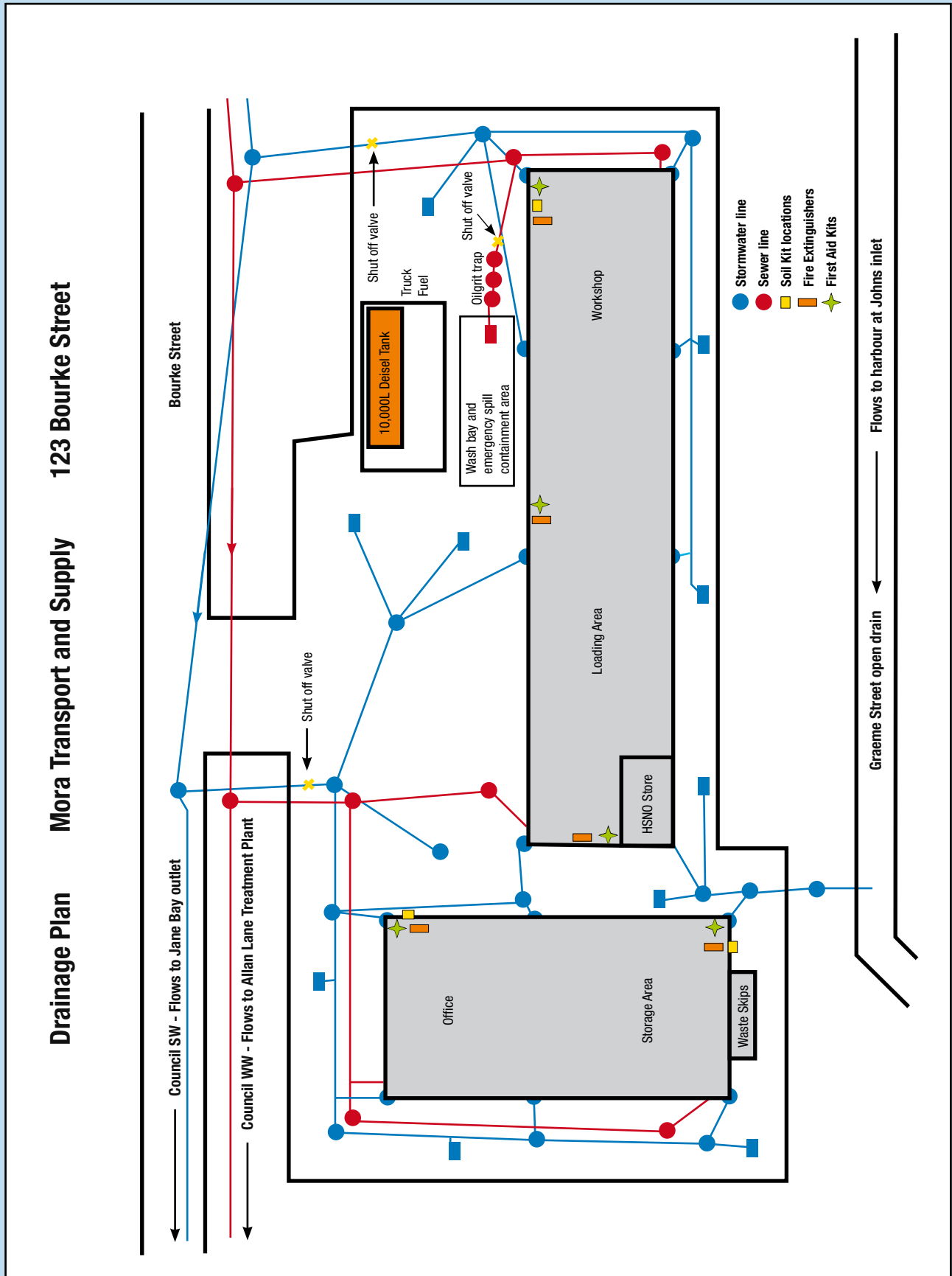
3. Attachments

All the documents you have collated or drawn up in parts B, C and D should be attached and form part of your new plan. Use the checklist on page 61 to make sure you attach all the relevant documents.

Task 36

All appropriate attachments are attached to the plan?

Task 32: Site Layout and Drainage Plan Example



Task 35: Structural and procedural controls – Existing

Example Form (use the Microsoft Word file 'Task 35 Structural and Procedural Controls.doc' to create your own checklist)

This table relates to the 'Pollution risks' and 'Pollution controls'. You may use this table or create a similar one of your own. You should create a draft version and then update it after addressing any immediate pollution prevention actions that come out of your risk assessment. Some examples have been provided in the template below to get you started. You should edit or delete these examples and replace them with issues specific to your business.

'Comply' in the following table(s) relates to whether the pollution controls achieve compliance with Tauranga City Council's Stormwater Bylaw, Bay of Plenty Regional Council's Land and Water Plan and/or any resource consents that your company may hold. Where there is a non-compliance, urgent action will be required to address this non-compliance.

Example: Area of site: Chemical storage area in Warehouse B **Activity/facility/store:** Activity – Chemical delivery

Risk identification and contaminants of concern		Existing pollution controls		Comply?	Improved or new pollution controls required	
Risk	Contaminant(s)	Structural	Procedural	Yes or No	Structural	Procedural
Spills during unloading of chemicals	<ul style="list-style-type: none"> Hydrocarbons Dissolved metals Glycols – refer to 'Chemical Inventory' for Warehouse B 	<ul style="list-style-type: none"> Boundaries of chemical storage area sealed suitably 	Procedure X.X (Refer to Appendix xx) – including: <ul style="list-style-type: none"> Deliveries only within bounded area Contractors use safe practices (pallets wrapping, trolleyjacks) Inspection for: (Refer to Appendix xx) <ul style="list-style-type: none"> Permeability of bund and bund integrity etc Training for employees Staff/contractors trained in procedures and Inspections. 	No – existing controls do not include a Spill Response Plan	n/a – no further structural controls required	Procedure / Spill Response required for Staff and contractors to follow in the event of a spill or leak.
Traces of contaminants tracked from bounded chemical delivery area to yard	As above	<ul style="list-style-type: none"> Yard area sealed 	Inspection X.X (refer Appendix xx) including: <ul style="list-style-type: none"> Yard area regularly swept and residue collected for disposal. Integrity of concrete checked 6 monthly. 	No – existing controls do not deal with trace contaminants in stormwater	Stormwater Treatment – oil interceptor and sand/peat filter for trace hydrocarbons and metals in yard stormwater	Procedures required for operation and maintenance of stormwater treatment devices

Task 35: Structural and procedural controls – Proposed

Example Table

This table relates to the 'Pollution risks' and 'Pollution controls'. You could use this table or create a similar one of your own. Some examples have been inserted into the table to give you an idea of things that could be included. You should edit or delete these and replace them with controls that you have identified that will reduce environmental risk for your own business site.

Note: In the 'Roles and Responsibilities' section of your Pollution Prevention Plan you will identify who is ultimately responsible for ensuring these actions are completed. You may wish to add a column to this table to identify who is responsible for the actions and what resources are needed etc.

Example: Area of site: Chemical storage area in Warehouse B **Activity/facility/store:** Activity – Chemical delivery

Risk identification and contaminants of concern		Proposed pollution controls					
Risk	Contaminant(s)	Structural	Procedural	Pollution Risk Priority	Order for Completion	Initiation	Timeframe Completion
Traces of contaminants tracked from the bundled chemical delivery area to the yard	<ul style="list-style-type: none"> Hydrocarbons Dissolved metals Glycols – refer to 'Chemical Inventory' for Warehouse B 	Stormwater Treatment – oil interceptor and sand/peat filter for trace hydrocarbons and metals in yard stormwater	Processes required for operation of stormwater treatment devices	1	1	May 2008 - oil interceptor August 2008 - sand or peat filter	May 2008 - oil interceptor August 2008 - sand or peat filter

Pollution Prevention Plan

Plan correct as at 'insert date'

Company Description and Site Location	
Company name	
Company address	
Company operations	
Staff numbers	
Company structure	
Site address and legal description	
Scope of Pollution Prevention Plan	
Legal requirements	
Multiple processes on site	
On-site activities	
Off-site activities	
Contractors	
Site Activities, Facilities and Stores	
Raw materials and chemicals	
Materials storage	

Wastes produced and volumes	
End-products and by-products	
Other supporting activities	
Site Receiving Environments	
Immediate receiving environments (e.g. stormwater drains, streams)	
Shallow underground waters (e.g. soakage, soakholes).	
Ultimate receiving (e.g. wetlands, estuaries and harbour environments)	
Authorisations, Consents and Permits	
Current authorisations, consents and permits (OR – state as per attachments)	Type and Number:
	Agency:
	Status:
	Key Conditions:
Site Layout and Drainage	
Summarise your site layout and drainage plan	

Task 6: Attachments Checklist

Attachments

Insert attachments of documents that support your Stormwater Plan; (use the following list as prompts for what to insert), and then update the heading names to reflect your attachments.

■ **Site Layout and Drainage Plan(s)**

Attach your Site Layout and Drainage Plan. Print an A3 copy(s) for display in prominent areas on site.

■ **Receiving Environments Information**

Attach information about your site's receiving environments (maps, photos, plans).

■ **Authorisations, Consents and Permits**

Attach summaries of your site's authorisation, consents and permits.

■ **Pollution Controls - Structural**

Attach information regarding your site's structural controls e.g. as-built plans. You can also include (or cross-reference to) any supporting information such as manufacturer's specifications.

■ **Pollution Controls - Procedural**

Attach copies of your procedural controls, e.g. 'standard operating procedures'. Your 'Spill Response Plan' is a key procedural control and should be attached separately.

■ **Spill Response Plan(s)**

Attach a copy of your Spill Contingency (or Response) Plan(s)

■ **Inspection and Maintenance Programme**

Attach copies of the forms for your Inspection and Maintenance Programme

■ **Stormwater Treatment Device – Management and Monitoring Plan**

Attach a copy of your Management and Monitoring Programme for your company's stormwater treatment devices.

■ **Training Programme**

Attach copies of your 'Training programme' content and forms.

■ **Stormwater Management Plan Review**

Attach details of the process you will follow to review your Stormwater Management Plan.

