



**POLLUTION INCIDENT RESPONSE
MANAGEMENT PLAN**

19 September 2024

FOR

**PORTLAND SEWAGE TREATMENT
SYSTEM**

**ENVIRONMENT PROTECTION LICENCE
597**

**Please check if this is the latest version of PIRMP from Council's
website(<https://council.lithgow.com/environment/epa-monitoring/>).**

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Version Control

Version No.	Date	Changes made by	Notes
1.0 to 8.0	Various	Lithgow City Council	Previous versions of PIRMP held in Council records.
2020-1.0 (Draft 1)	3 August 2020	JS Regulatory Services	Major restructuring of PIRMP document and development of response procedures for identified high risks.
2020-1.0 (Final draft)	12 September 2020	JS Regulatory Services	After Council feedback and preliminary testing.
2020-1.0 (Final Draft)	18 October 2020	JS Regulatory Services	After Council feedback on September Final Draft.
2020-1.0	16 November 2020	JS Regulatory Services	Issued document.

1. Purpose

This Pollution Incident Response Management Plan (PIRMP) is a legislative requirement as set out in Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) and the clause 98C of the *Protection of the Environment Operations (General) Regulation 2009* (General Regulation). The purpose of the PIRMP is to

- minimise the risk of a pollution incident occurring,
- establish clear and effective notification, action and communication procedures to ensure the right people are notified, warned and quickly provided with updates and information they may need to act appropriately, including people who may need to be involved in incident responses
- have properly trained staff and up-to-date incident management information available to ensure the potential impact of a pollution incident is minimised. All new licensees must prepare a PIRMP prior to commencing operations

This PIRMP:

- applies to the Portland Sewage Treatment System, including the reticulation system (the premises),
- is a functional document that will be updated from time to time,
- will be tested at least once every 12 months (and within one month of a pollution incident),
- has been prepared to comply with the requirements of the POEO Act and the General Regulation, and
- has been structured to maximise the assistance to Council personnel to quickly identify, assess, respond, and report incidents that do (or may) result in pollution.

2. Distribution

The distribution of this document is controlled to ensure that the correct and most current version is being used to respond to pollution incidents. The current version will always be the electronic version held on Lithgow City Council servers. Details of the version and date of issue are recorded on the footer of each page of the PIRMP and in the version control table on Page 1.

Printed versions may also be used at the premises and by staff with responsibilities in responding to incidents. It is critical to note that all paper copies of this PIRMP are uncontrolled and that it is the responsibility of users of paper copies of this PIRMP to ensure that it is the current version.

When a new version of this PIRMP is created, the old version will be replaced in its entirety. Notification of the revision of the PIRMP will be distributed to the following:

- Director Water and Wastewater, Lithgow City Council,
- Senior Engineer (Operations),
- Supervisor Plants and Pump Stations,
- Supervisor Reticulation; and,
- Council's Electronic Records Management System, Lithgow City Council.

These people will be responsible for informing staff under their supervision that there is a revised version of the PIRMP and to destroy any paper and digital copies of the previous version.

A copy of this PIRMP (electronic or paper) must be kept at the premises and be made available on request by an authorised EPA officer and to any person who is responsible for implementing this plan.

IMPORTANT!

Trigger for implementation of PIRMP

This plan is to be implemented when there is (or likely to be) a leak, spill or other escape of a substance that has, will or likely to result in pollution¹ that causes (or is likely to cause):

- harm to the health or safety of human beings or to ecosystems that is significant, **or**
- actual or potential loss or property damage (including the costs to stop, contain and clean-up any pollution) exceeds \$10,000.²

It does not matter that the harm (or risk of harm) exists only within the site of the sewage treatment plant and/or the sewerage reticulation.

Examples of when the plan must be implemented:

- When a leak or spill of untreated / partially treated sewage or sewage sludge occurs that has, or is likely to reach, a gutter, drain or waterway, or
- When members of the public have been or are likely to be exposed to a leak or spill of untreated / partially treated sewage or sewage sludge, or
- When two (2) or more NSW Fire and Rescue trucks respond to an incident, or
- When an incident will require the removal of spilled sewage, sludge, or chemicals for disposal at another site.

If there is any doubt over whether this plan should be implemented,
implement the plan.

¹ From the Dictionary of the *Protection of the Environment Operations Act 1997*, a **pollution incident** means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

² From section 147 of the *Protection of the Environment Operations Act 1997* **material harm to the environment**:

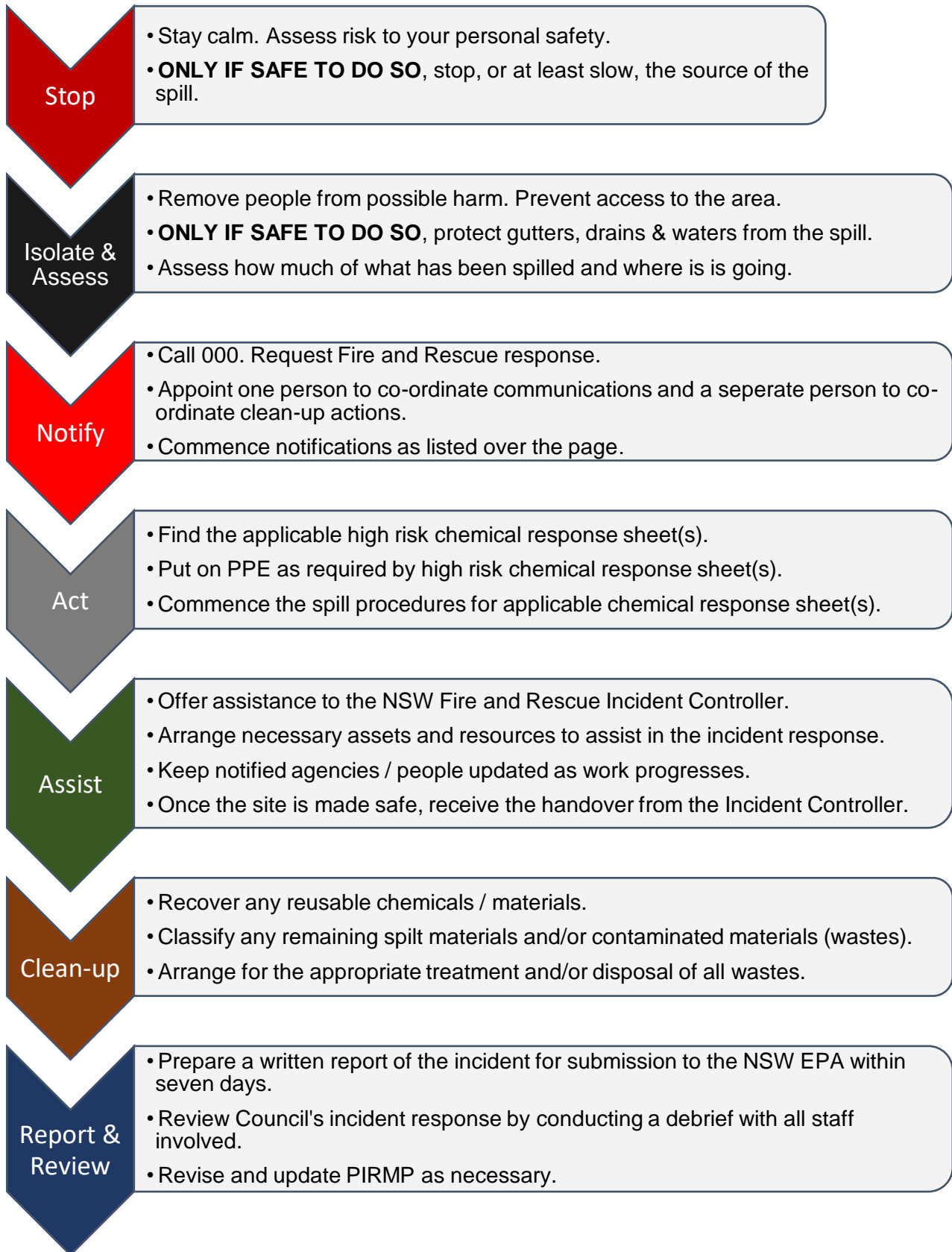
- (i) involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
- (ii) results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), including the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

It does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

3. Incident Response Procedures

1. High Risk Chemical Response
2. Sewer Overflow Response
3. Other Chemical Spill Response
4. Sewer Pump Station Failure Response
5. Treatment System Failure Response
6. Miscellaneous Notifiable Incident Response

High Risk Chemical Spill Response



High Risk Chemical Spill Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any casualties,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
- h) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

Notification is required by the person appointed to co-ordinate communications for the incident. This must occur immediately after a pollution incident becomes known.

Any information required that is not known at the time the incident is notified must be provided when it becomes known.

The Pollution Incident Reporting Form in Appendix A has been designed to assist person co-ordinating communications to recording the notifications made

Statutory Notifications	Phone Number
Environment Protection Authority	131 555
NSW Health (Nepean Blue Mountains)	(02) 4734 2022
SafeWork NSW	13 10 50
Fire & Rescue NSW	Already notified as part of procedure

Lithgow City Council Contacts	Phone Number
Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
Oakey Park WTP	0419 623 597
Lithgow Sewer Plumbers	0409 455 385
Supervisor Reticulation	0417 424 692
Supervisor Plants and Pump Stations	0400 981 667
Senior Engineer (Operations)	0439 395 658
Director Water and Wastewater	0409 256 432
Lithgow City Council 24-hour call centre	0407 928 742

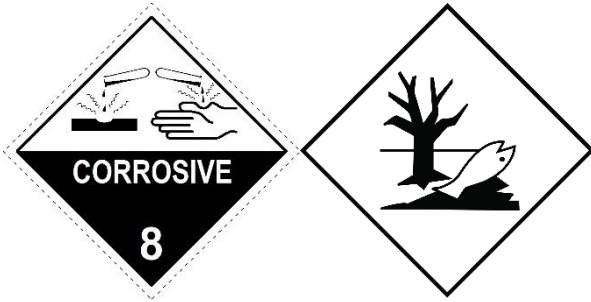
Stakeholder notifications	Phone Number
WaterNSW	1800 061 069
Residents of 56 Albion Road	0409 243 647
Residents of 96 Limestone Creek Rd	6355 5479
Residents of 19 Creek Street	Contact by door knock
Other immediate neighbours	Contact by door knock and/or. Notification on Council website and Facebook page.
Broader community (if required)	Media release and local radio announcement.

High Risk Chemical Response Sheets

1. Aluminium Sulfate Liquid
2. Caustic Soda Liquid

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Aluminium Sulfate Liquid



Maximum amount stored on site	20,000L
Overall risk	HIGH

Description / properties

UN Number	3264
Hazchem Code	2X
Colour	Off white to light grey
Odour	Negligible
Density	Denser than water (sinks in water)
pH	1.8-2.4 (strongly acidic)
Composition	Aluminium sulfate approx. 28% Non-hazardous components to 100%

Minimum PPE for spills

Long sleeved clothes / overalls, chemical goggles, chemical resistant gloves, and chemical resistant boots.



Spill procedures

1. Clear area of unprotected personnel for a minimum of 50 metres in all directions (consider 250 metres in all directions if spill is larger than 200L).
2. Eliminate all ignition sources for a minimum of 50 metres in all directions.
3. **ONLY IF SAFE TO DO SO**, stop the leak / spill. Do not walk through or touch spilled material and keep upwind and to higher ground.
4. **ONLY IF SAFE TO DO SO**, prevent entry to waterways and drains. An excavated pit, pond, trench or holding area can be used to contain spill. If time permits, line these areas with an impermeable membrane.
5. If entry to drains or waterways has occurred, advise NSW Fire and Rescue immediately.
6. Absorb bulk liquid with **DRY** soil, sand, or other inert material.
7. If rain is likely or occurring, cover absorbed chemical with a plastic sheet.
8. Neutralise with agricultural lime or soda ash.

If involved with fire

Non-combustible. If involved in fire, only attempt to extinguish if fire is small and it is safe to.

DO NOT use halogenated extinguishing agents on spilled material. A violent reaction may result. Use an extinguisher appropriate to the surrounding fire conditions.

Fire water **must** be contained for later disposal.

With large fires involving this chemical, call NSW Fire and Rescue immediately. Evacuation may be required 800m in all directions due to the generation of toxic gas.

Significant hazards

- Causes skin irritation.
- Causes serious eye irritation.
- May produce irritating and toxic gasses upon decomposition.
- Toxic to aquatic life with long lasting effects.
- Harmful to terrestrial vertebrates.
- May be corrosive to, and react with, metals - including mild steel and aluminium.
- Will react violently with alkaline substances.

Other incompatibilities

None described.

Disposal procedures

1. Collect any non-recoverable liquid chemical, other contaminated water and any fire water in a vacuum tanker(s) or available appropriate storage container(s).
2. Contain any contaminated soils and solid clean-up materials in a dry and secure location.
3. Classify all wastes in accordance with the NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste*.
4. Depending on the waste classification(s), arrange appropriate treatment and/or disposal at a lawful waste facility.

NOTE: wastes containing this chemical residue may be considered as a Dangerous Good for transport. Ensure all necessary transport requirements are complied with.

Storage location on site



Sodium Hydroxide Solution



Maximum amount stored on site	12,000L
Overall risk	HIGH

Description / properties

UN Number	1824
Hazchem Code	2R
Colour	Colourless
Odour	Odourless
Density	Denser than water (sinks in water)
pH	14 (strongly alkaline)
Composition	Sodium hydroxide 46-50% Water 50-54%

Minimum PPE for spills

Long sleeved clothes / overalls, chemical resistant apron, chemical goggles, face shield, chemical resistant gloves, and chemical resistant boots.



Spill procedures

1. Clear area of unprotected personnel for a minimum of 50 metres in all directions (consider 250 metres in all directions if spill is larger than 200L).
2. Eliminate all ignition sources for a minimum of 50 metres in all directions.
3. **ONLY IF SAFE TO DO SO**, stop the leak / spill. Do not walk through or touch spilled material and keep upwind and to higher ground.
4. **ONLY IF SAFE TO DO SO**, prevent entry to waterways and drains. An excavated pit, pond, trench or holding area can be used to contain spill. If time permits, line these areas with an impermeable membrane.
5. If entry to drains or waterways has occurred, advise NSW Fire and Rescue immediately.
6. Absorb bulk liquid with **DRY** soil, sand, or other inert material.
7. If rain is likely or occurring, cover absorbed chemical with a plastic sheet.

If involved with fire

Non-combustible. If involved in fire, only attempt to extinguish if fire is small and it is safe to. A fine water spray, dry chemical, CO₂, or normal foam extinguisher can be used.



Fire water **must** be contained for later disposal.

With large fires involving this chemical, call NSW Fire and Rescue immediately. Evacuation may be required 800m in all directions due to the generation of toxic gas.

Significant hazards

- Causes severe skin burns and eye damage.
- May cause respiratory irritation.
- May be corrosive to metals.
- Generates heat on contact with water.
- Reacts violently with acids.
- If involved in a fire, may emit toxic fumes.
- Contact with metals may generate flammable hydrogen gas.

Other incompatibilities

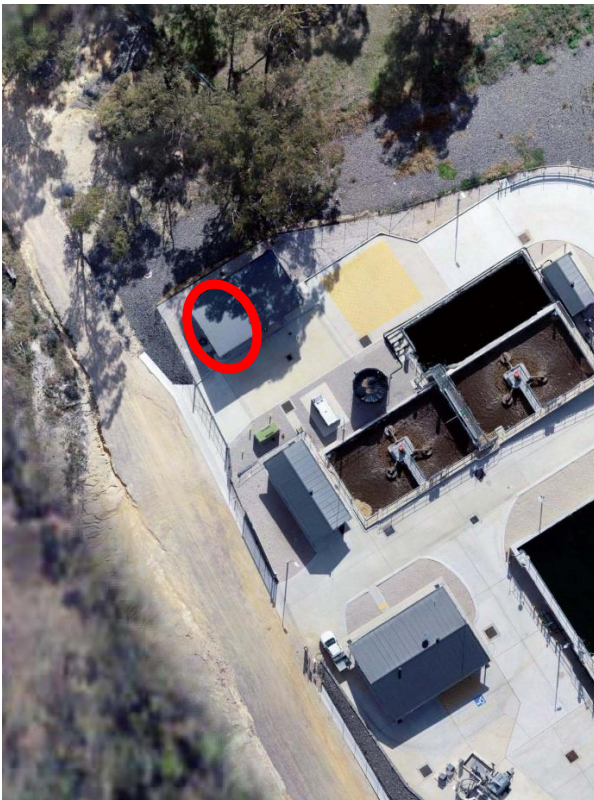
Sugars, ammonium salts, aluminium, tin, zinc, and brass.

Disposal procedures

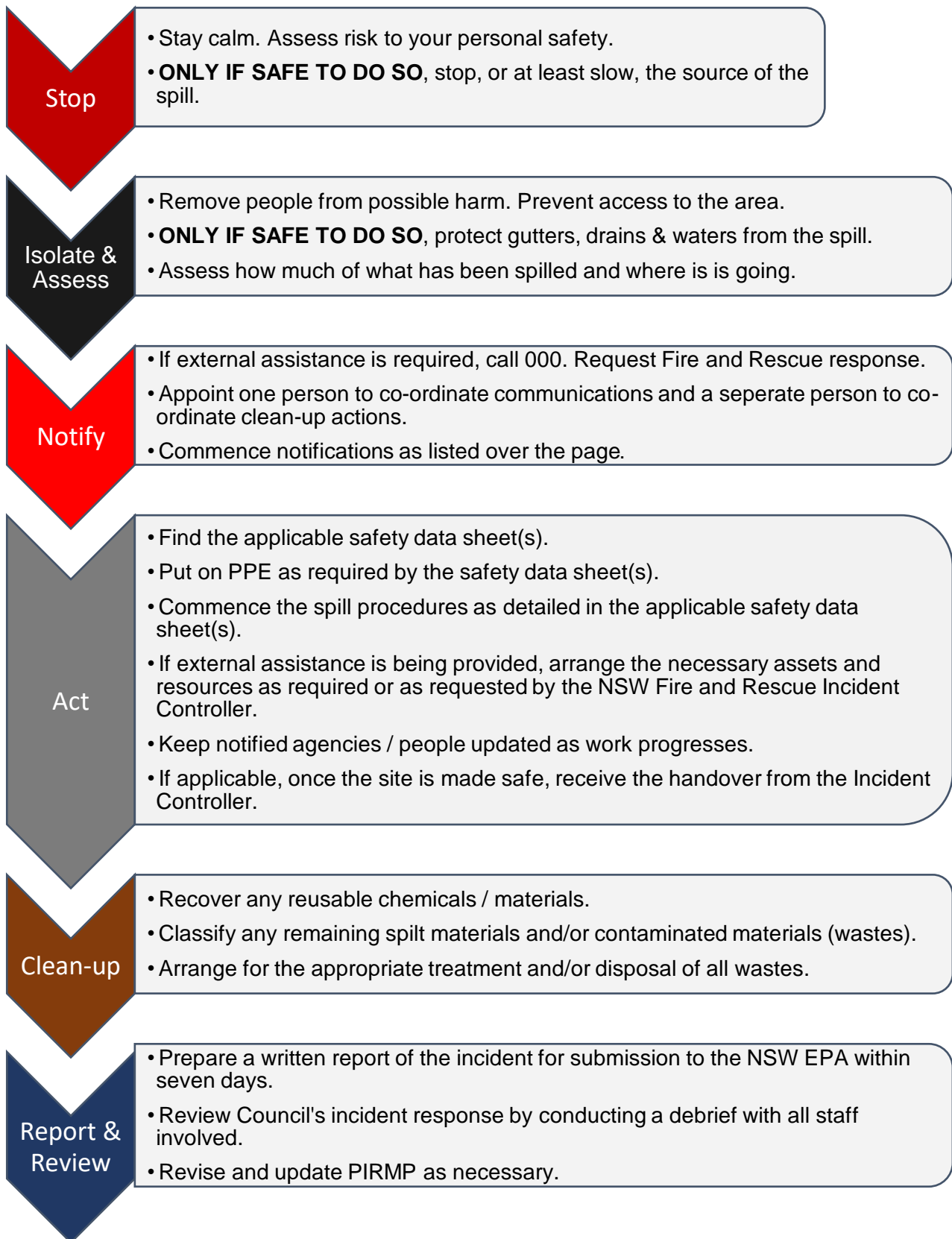
1. Collect any non-recoverable liquid chemical, other contaminated water and any fire water in a vacuum tanker(s) or available appropriate storage container(s).
2. Contain any contaminated soils and solid clean-up materials in a dry and secure location.
3. Classify all wastes in accordance with the NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste*.
4. Depending on the waste classification(s), arrange appropriate treatment and/or disposal at a lawful waste facility.

NOTE: wastes containing this chemical residue may be considered as a Dangerous Good for transport. Ensure all necessary transport requirements are complied with.

Storage location on site



Other Chemical Spill Response



Other Chemical Spill Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any causalities,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
- h) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

Notification is required by the person appointed to co-ordinate communications for the incident. This must occur immediately after a pollution incident becomes known.

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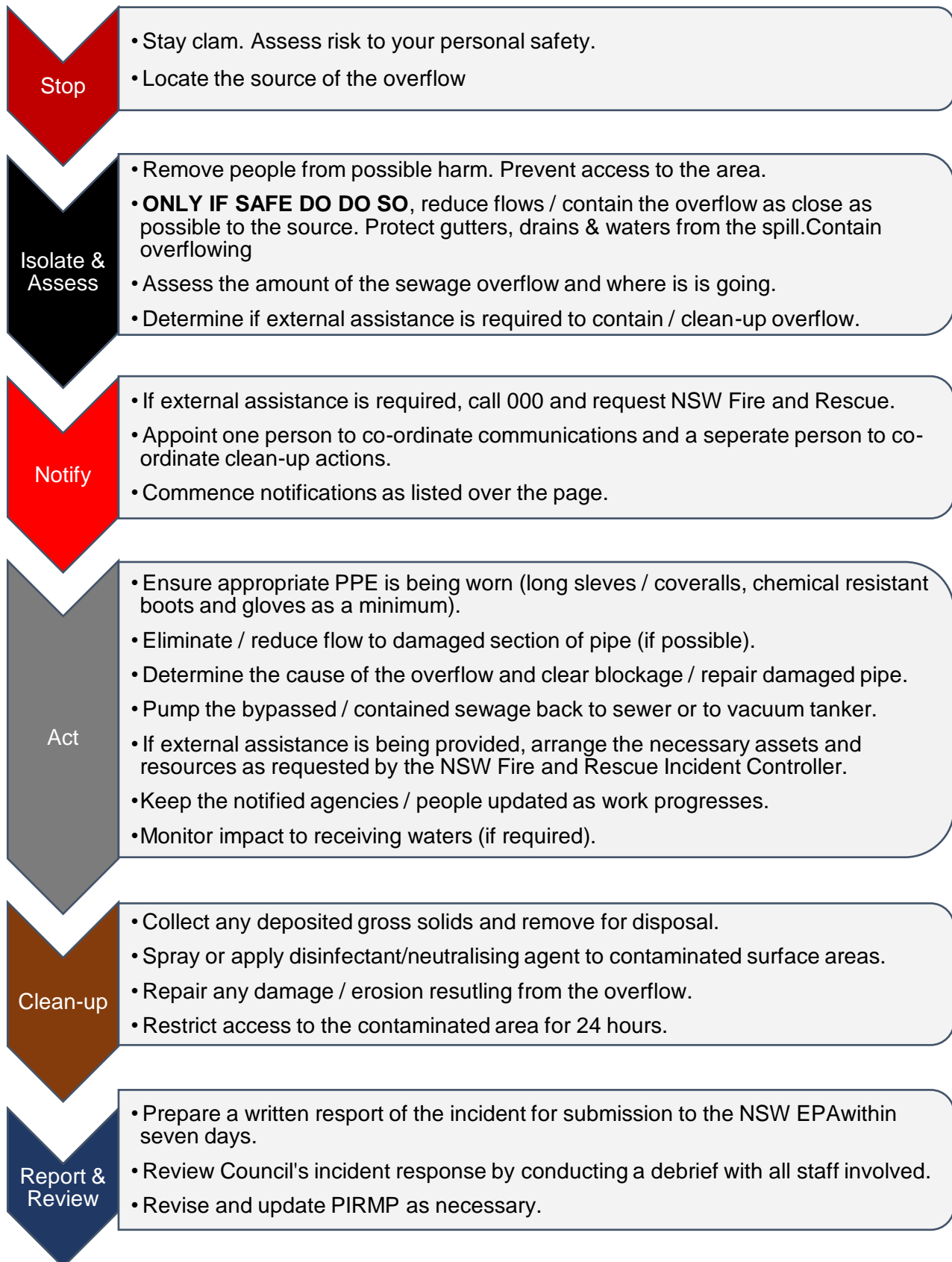
The Pollution Incident Reporting Form in Appendix A has been designed to assist person co-ordinating communications to recording the notifications made

Lithgow City Council Contacts	Phone Number
Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
Oakey Park WTP	0419 623 597
Lithgow Sewer Plumbers	0409 455 385
Supervisor Reticulation	0417 424 692
Supervisor Plants and Pump Stations	0400 981 667
Senior Engineer (Operations)	0439 395 658
Director Water and Wastewater	0409 256 432
Lithgow City Council 24-hour call centre	0407 928 742

Statutory Notifications	Phone Number
Environment Protection Authority	131 555
NSW Health (Nepean Blue Mountains)	(02) 4734 2022
SafeWork NSW	13 10 50
Fire & Rescue NSW (unless already notified as part of the procedure)	1300 729 579

Stakeholder notifications	Phone Number
WaterNSW (if waters are impacted)	1800 061 069
Immediate neighbours	Contacted by door knock.
Broader neighbours (if required)	Notification on Council website and Facebook page.
Broader community (if required)	Media release and local radio announcement.

Sewer Overflow Response



Sewer Overflow Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any causalities,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
- h) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

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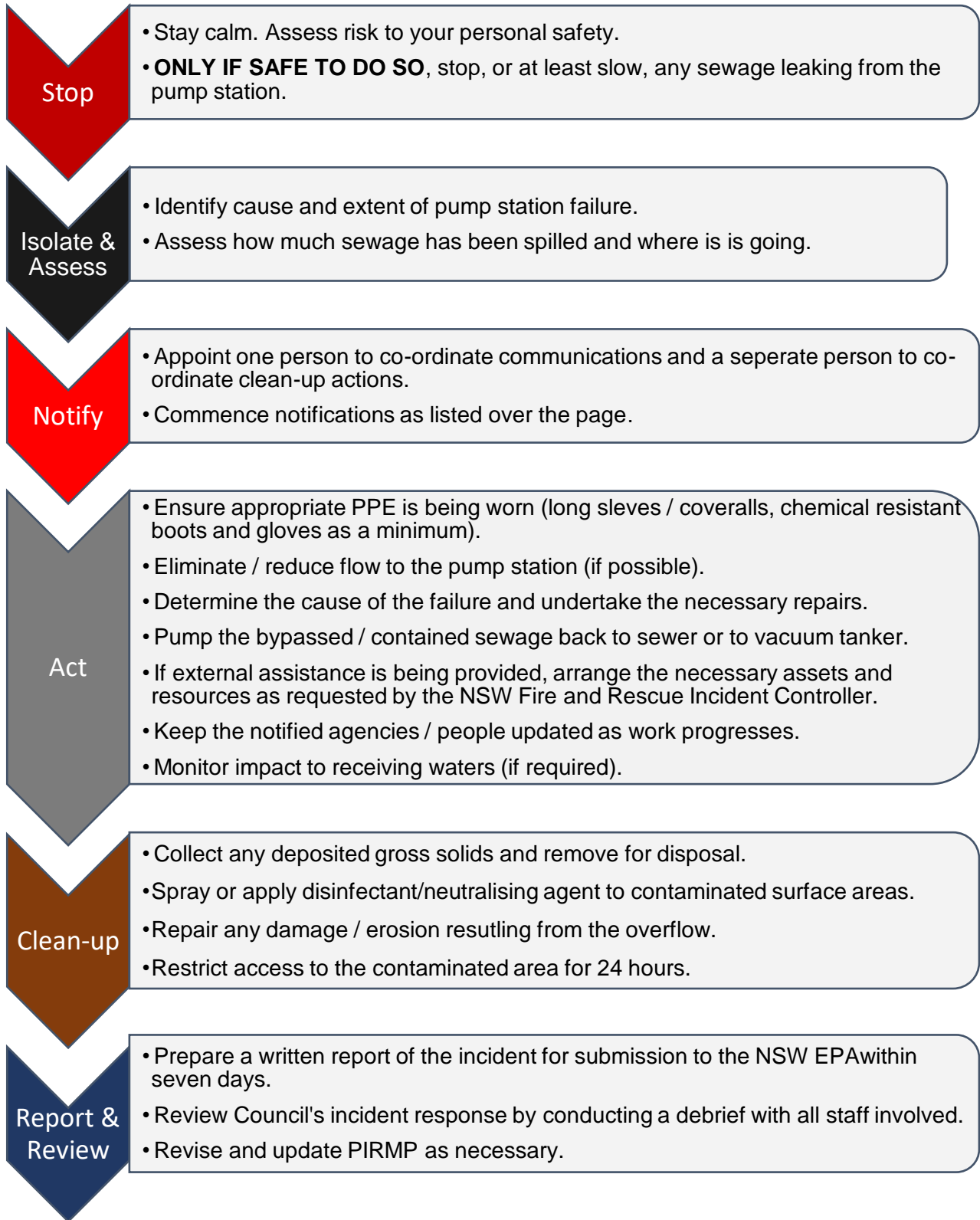
The Pollution Incident Reporting Form in Appendix A has been designed to assist person co-ordinating communications to recording the notifications made

Lithgow City Council Contacts	Phone Number
Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
Oakey Park WTP	0419 623 597
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Director Water and Wastewater	0409 256 432
Lithgow City Council 24-hour call centre	0407 928 742

Statutory Notifications	Phone Number
Environment Protection Authority	131 555
NSW Health (Nepean Blue Mountains)	(02) 4734 2022
SafeWork NSW	13 10 50
Fire & Rescue NSW (unless already notified as part of the procedure)	1300 729 579

Stakeholder notifications	Phone Number
WaterNSW (if waters are impacted)	1800 061 069
Immediate neighbours	Contacted by door knock.
Broader neighbours (if required)	Notification on Council website and Facebook page.
Broader community (if areas regularly accessed by the public and/or waters impacted)	Media release and local radio announcement.

Sewer Pump Station Failure Response



Sewer Pump Station Failure Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any causalities,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
- h) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

Notification is required by the person appointed to co-ordinate communications for the incident. This must occur immediately after a pollution incident becomes known.

Any information required that is not known at the time the incident is notified must be provided when it becomes known.

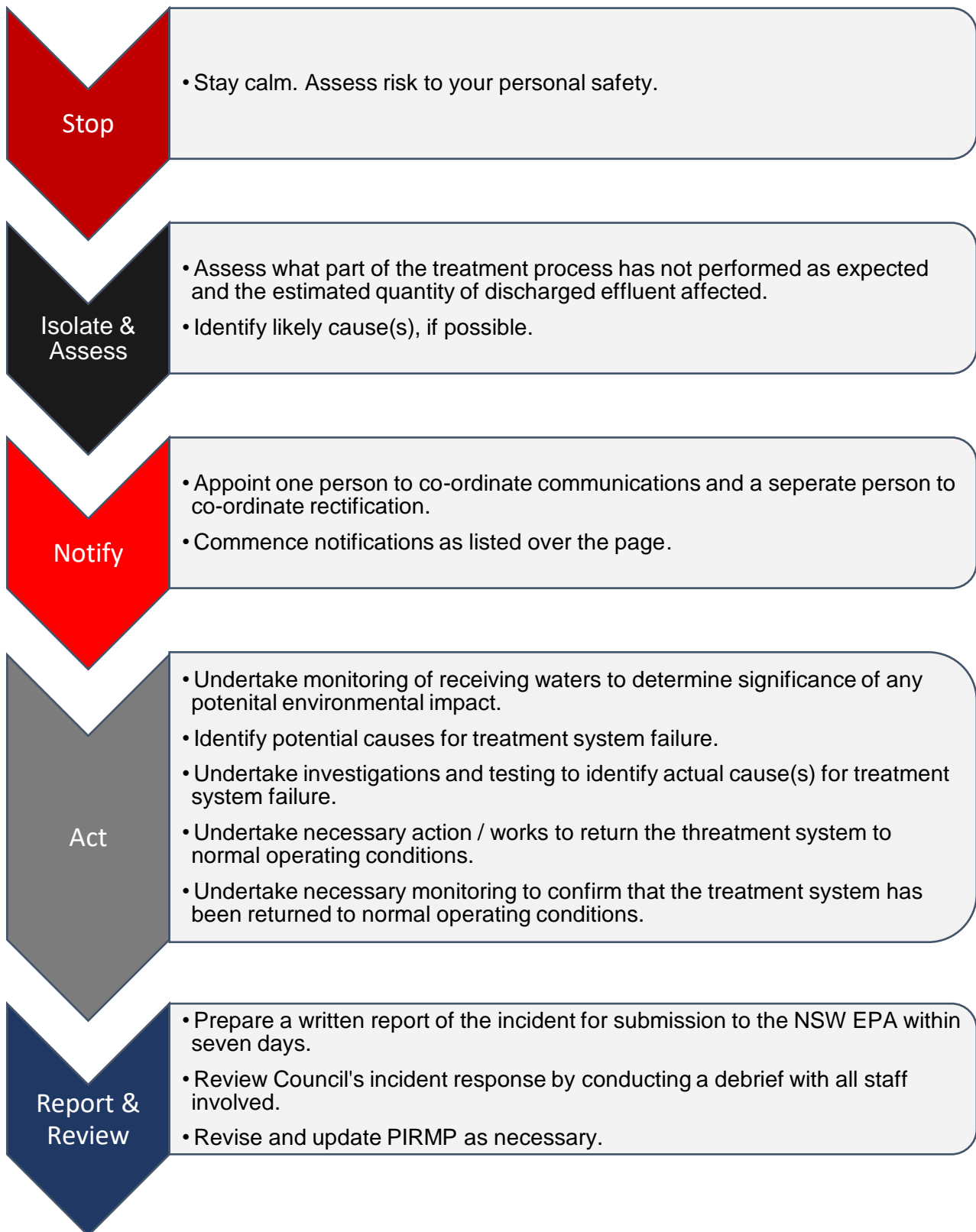
The Pollution Incident Reporting Form in Appendix A has been designed to assist person co-ordinating communications to recording the notifications made

Lithgow City Council Contacts	Phone Number
Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
Oakey Park WTP	0419 623 597
Lithgow Sewer Plumbers	0409 455 385
Supervisor Reticulation	0417 424 692
Supervisor Plants and Pump Stations	0400 981 667
Senior Engineer (Operations)	0439 395 658
Director Water and Wastewater	0409 256 432
Lithgow City Council 24-hour call centre	0407 928 742

Statutory Notifications	Phone Number
Environment Protection Authority	131 555
NSW Health (Nepean Blue Mountains)	(02) 4734 2022
SafeWork NSW	13 10 50
Fire & Rescue NSW (unless already notified as part of the procedure)	1300 729 579

Stakeholder notifications	Phone Number
WaterNSW (if waters are impacted)	1800 061 069
Immediate neighbours	Contacted by door knock.
Broader neighbours (if required)	Notification on Council website and Facebook page.
Broader community (if areas regularly accessed by the public and/or waters impacted)	Media release and local radio announcement.

Treatment System Failure / Bypass Response



Treatment System Failure / Bypass Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any causalities,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
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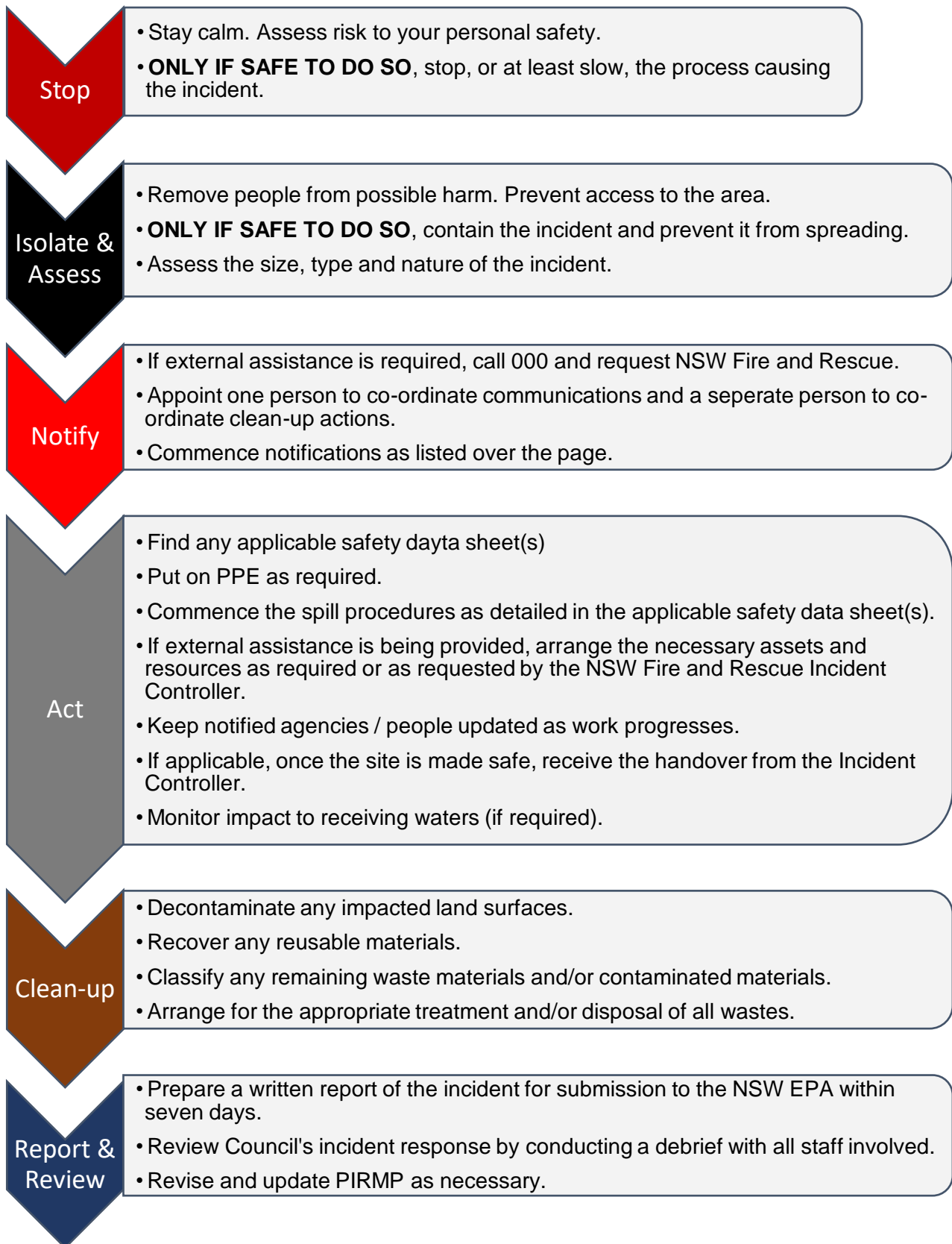
The relevant incident recording and notification forms are contained in Appendix A and B.

Lithgow City Council Contacts	Phone Number
Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
Oakey Park WTP	0419 623 597
Lithgow Sewer Plumbers	0409 455 385
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Director Water and Wastewater	0409 256 432
Lithgow City Council 24-hour call centre	0407 928 742

Statutory Notifications	Phone Number
Environment Protection Authority	131 555
NSW Health (Nepean Blue Mountains)	(02) 4734 2022
SafeWork NSW	13 10 50
Fire & Rescue NSW (unless already notified as part of the procedure)	1300 729 579

Stakeholder notifications	Phone Number
WaterNSW	1800 061 069
Broader community (if areas regularly accessed by the public and/or waters impacted)	Media release and local radio announcement.

Miscellaneous Notifiable Incident Response



Miscellaneous Notifiable Incident Notifications

An effective response to any incident depends on providing early, clear, and accurate information of the situation to the relevant people and authorities. Pause, collect your thoughts, and provide the following information clearly:

- a) your name,
- b) your contact mobile number,
- c) the time, date, and location of the incident,
- d) the type of incident,
- e) details of any causalities,
- f) the estimated quantity or volume and the concentration of any pollutants involved, if known,
- g) the cause of the incident, if known, and
- h) the action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known.

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Any information required that is not known at the time the incident is notified must be provided when it becomes known.

The Pollution Incident Reporting Form in Appendix A has been designed to assist person co-ordinating communications to recording the notifications made

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Lithgow STP	0407 928 742
Wallerawang STP	0407 455 476
Portland STP	0417 424 723
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Stakeholder notifications	Phone Number
WaterNSW (if waters are impacted)	1800 061 069
Immediate neighbours	Contacted by door knock.
Broader neighbours (if required)	Notification on Council website and Facebook page.
Broader community (if required)	Media release and local radio announcement.

4. Maps of premises

Figure 1 - Recent satellite imagery of the Portland Sewage Treatment Plant



Figure 2 – Stormwater drainage of Portland Sewage Treatment Plant

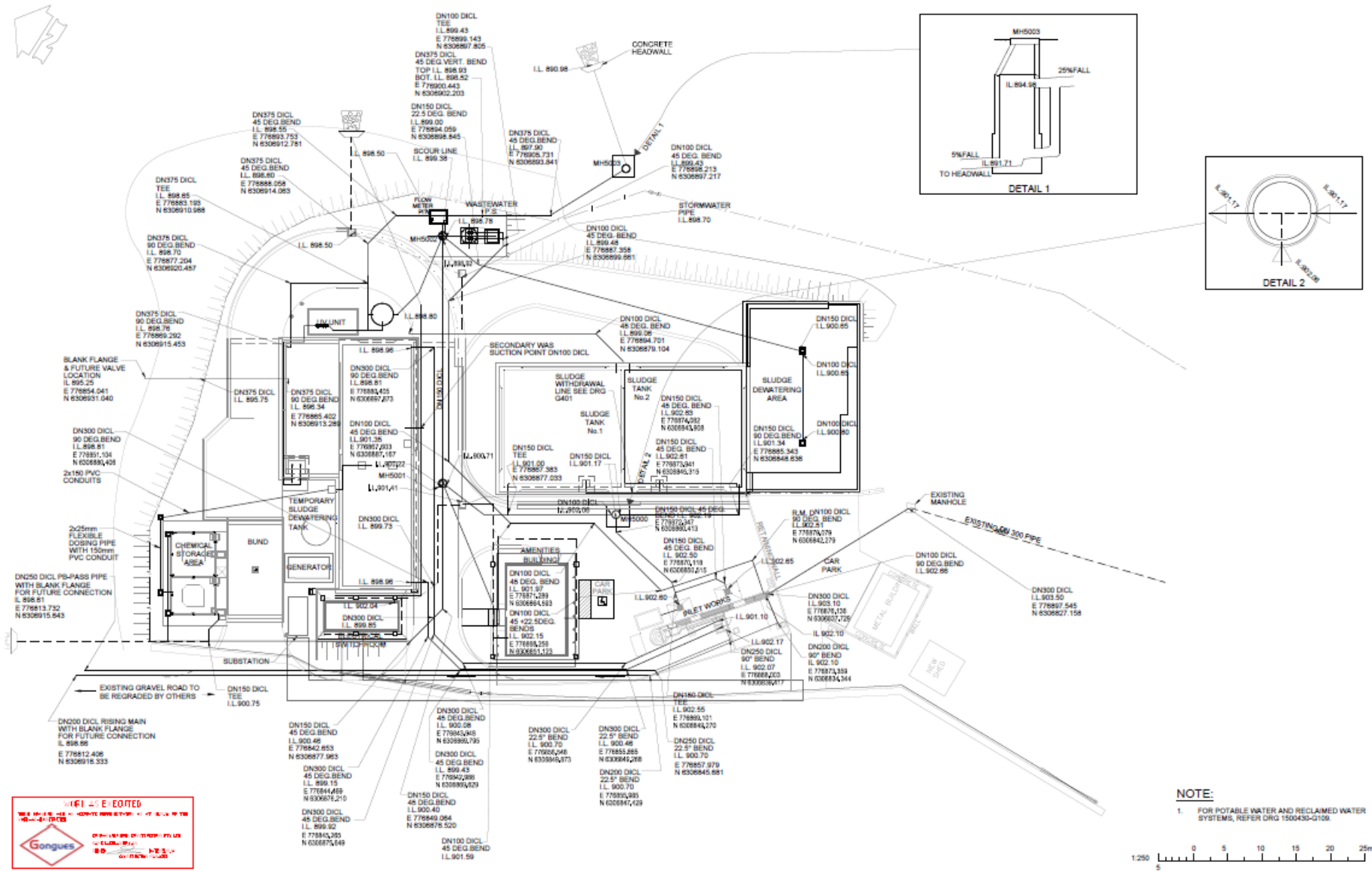
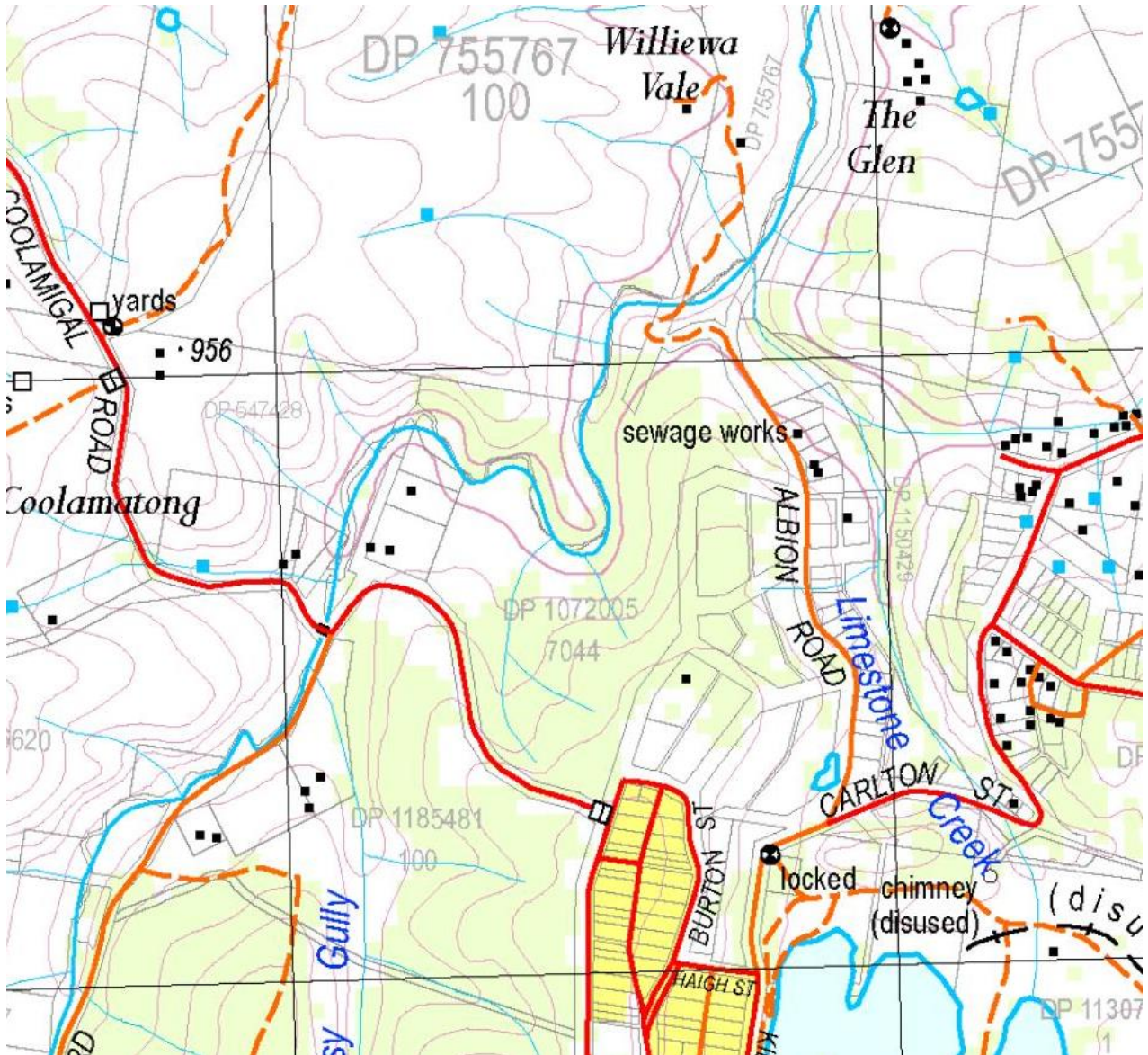


Figure 3 - Topographic map showing Limestone Creek



Note: Each grid = 1 kilometre

Figure 4 – Portland pump stations (west)



Figure 5 – Portland pump stations (east)



Figure 6 - Portland reticulation



5. Risk assessment and mitigation

5.1. Assessment methodology

A process of assessing potential pollution incident risks, consistent with the principles of ISO 31000 for risk assessment methodology and HB 203-2012 for managing environmental risk, has been used to identify and assess potential risks for the premises.

Information was collected from the management and staff of the premises regarding the likelihood of potential incidents occurring based on previous experience. These responses were then averaged across the group to create an overall likelihood for the particular incident. Descriptions of the likelihood terms used are presented in Table 1.

Table 1 – Likelihood descriptors

Highly likely	More than once a month.
Likely	Around once a quarter.
Possible	Around once a year
Unlikely	Once every few years
Highly unlikely	Less than once every 5 years.

An assessment of the estimated impacts from a potential pollution incident was then undertaken based on the concentration, nature and volume of potential pollutants released, and the nature, use and sensitivity of the receiving environment (including potential human health impacts). Descriptions of the impact terms used are presented in Table 2.

Table 2 – Impact descriptors

Insignificant	Nuisance only. Negligible clean-up costs.
Minor	Short term detrimental effect. Clean-up able to be undertaken within existing budgets.
Moderate	Medium term detrimental effects. Clean-up requires specific budget approval.
Major	Long term impacts. Clean-up causes significant impact to allocated budgets.
Critical	Extensive, long term impacts. Clean up unable to be funded without external assistance.

The combination of the likelihood and the impact of the potential pollution incident was then assessed, using the matrix presented in Figure 10 below, and a risk rating applied.

Figure 7– Risk assessment matrix

	<i>Impact</i>				
<i>Likelihood</i>	Insignificant	Minor	Moderate	Major	Critical
Highly likely	High	High	Extreme	Extreme	Extreme
Likely	Medium	High	High	Extreme	Extreme
Possible	Low	Medium	High	Extreme	Extreme
Unlikely	Low	Low	Medium	High	Extreme
Very unlikely	Low	Low	Medium	High	High

5.2. General risk control measures

Council employs a range of risk control measures that operate across the entire premises (including the reticulation system):

- Security of premises – The Sewage Treatment Plant and Pump stations are secured and locked when not attended. The control room at the Sewage Treatment Plant is also locked.
- Community reporting – Council has a single 24-hour phone service where members of the community can report pollution incidents, including sewer overflows.
- SCADA system – Council uses a Citect SCADA (Supervisory Control and Data Acquisition) system at the premises. The SCADA system monitors and controls the Sewage Treatment Plant and pump stations and provides early warnings of potential issues. Warnings and alarms can be received by Council staff at all hours and certain functions can be controlled remotely. This system also has multiple backups and redundancies
- Staff training – All staff working at the premises are required to:
 - Complete Council’s general induction
 - Complete a site-specific induction for the premises.
 - Maintain relevant competencies and licences.
 - Informed and trained in the use of this PIRMP
- Council staff and contractors working on the premises being aware of evacuation procedures, use of fire extinguishers and the location of the Emergency Assembly Point.
- Regular inspections, audits, testing and reviews - Equipment, controls, documents, and systems are regularly audited by Council, NSW government agencies and Council’s insurers. All required corrective actions are recorded and appropriate corrective actions undertaken.
- Regular management and staff toolbox meetings – to update management and staff on issues requiring correction and prioritising this work according to risk.

- Reporting systems – Council has a system where hazards (including environmental hazards) and near misses are reported, investigated and, where required, action taken to rectify hazards.
- Emergency equipment – Including, but not limited to spill kits, fire extinguishers, appropriate Personal Protective Equipment (PPE), and emergency signage.
- Monitoring – Regular monitoring is undertaken of various points within the Sewage Treatment Plant to monitor and adjust the treatment process. Monitoring is also undertaken of the final discharge from the Sewage Treatment Plant and the surrounding environment.

5.3. Identified pollution risks

In the following sections, the rationale for the allocation of the occurrence and impact levels for each potential pollution incident, along with specific risk control measures (in addition to the general control measures described above). Risks have been ordered from highest risk to lowest risk.

5.3.1. Chemical spill / leak

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Unlikely	Major	High

Rationale

Significant quantities of hazardous chemicals are stored on the premises. An escape of these chemicals to the environment would be likely to cause severe and long-lasting harm that would require significant expenditure to remedy. This situation is estimated to occur only once every few years unlikely and the general and specific control measures are designed to identify and contain any leaks or spills as soon as possible and as close to the source as possible.

Specific control measures

- All bulk chemical storage tanks are clearly labelled.
- Chemical supply contractors have contractual obligations to ensure the correct chemicals are delivered to the right location.
- Council has additional checks and balances in place to ensure the right chemicals are delivered to the right storage tanks.
- The bulk chemical storage area is surrounded by an impermeable bund in accordance with applicable Australian Standards.
- The SCADA system will notify operators if bund fills.
- The chemical unloading area is bunded with any stormwater from this area diverted to holding pond to prevent escape to the environment.

5.3.2. Sewer line blockage / surcharge / overflow

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Likely	Minor	High

Rationale

Blockages and overflows from the sewerage system are not uncommon. However, the effects are usually highly localised due to quick reporting by the community and rapid response by Council to rectify the issue. There may be on occasion a minor impact to waters, but the most significant risk is exposure of people to potentially harmful pathogens.

Specific control measures

- Programmed cleaning and maintenance of the reticulation system.
- Reducing sewer infiltration by stormwater by repairing and/or relining of leaking or broken sewer lines.
- Maintaining a supply of spare pipes and parts enabling rapid repair of any failures.
- The ability to use pump station well storage capacity to temporarily stop flow to damaged sections of pressurised sewer lines.
- Quick access to mobile pumps and standing contractual arrangements with vacuum tanker truck operators.
- Incorporating infrastructure analysis into planning for new extensions to the reticulation system to ensure that it is not overloaded.

5.3.3. Pump station failure

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Likely	Medium	High

Rationale

This is related to a blockage, electronic or mechanical failure at a pump station in the reticulation network. This does not include a power failure (which is considered separately). Routine maintenance is undertaken on Council’s sewage pump station to prevent predictable failures of pumps and associated equipment. Several alerts would be raised via the SCADA system in the event of a pump station failure.

Specific control measures

- The storage capacity of pump station wells are generally 8 hours at average dry weather flow. This provides sufficient time to employ temporary measures while the source of the failure is identified and corrected.

5.3.4. Treatment failure

Due to their similar nature and risk levels, three potential pollution incidents below have been aggregated into the one description of “treatment failure”.

Dry weather bypass

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Unlikely	Moderate	Moderate

Releasing higher pollutants than permitted

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Moderate	High

Disinfection failure

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Moderate	High

Rationale

The discharge from the Sewage Treatment Plant occurs in the Macquarie-Bogan. The operating and treatment systems at the Sewage Treatment Plant has been modernised (including UV treatment to eliminate potentially harmful pathogens). The treatment process is tightly controlled and any deviations from ideal operating conditions are identified and rectified quickly.

However, the plant has no capacity to capture and store any dry weather bypass or effluent failing to meet discharge quality limits. In these situations, the effluent is released to receiving waters.

Specific control measures

- The treatment of sewage is undertaken by a modern Intermittent Decantation Extended Aeration (IDEA) plant.
- Treatment also includes alum dosing to remove suspended solids and chlorination / UV light exposure to eliminate pathogens.
- The efficiency and effectiveness of the treatment process is monitored daily by the staff at the site.

5.3.5. Loss of power

Due to their similar nature and risk levels, two potential pollution incidents below have been aggregated into the one description of “loss of power”.

Power Outage – Sewage Treatment Plant

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Minor	Medium

Power outage pump station

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Minor	Medium

Rationale

This hazard is generally outside Council’s control as it relates to a failure of the electricity supply system due to lack of supply or damage to electricity transmission infrastructure. Typically, electricity supply interruptions are short duration, however, supply interruptions due to natural disasters (bushfires, severe storms, floods, etc) can last significantly longer. Council does have contingency plans in place to deal with electricity supply interruptions.

Essential Council infrastructure, including sewage treatment, is given priority status for reconnection in the event of a power failure.

Specific control measures

- All pump stations in the reticulation network have the capability to connect to an external power supply
- A backup generator is present at Lithgow Sewage Treatment Plant and Council also has two portable generators.
- Several alerts would be raised via the SCADA system in the event of an interruption to the power supply.
- The storage capacity of pump station wells are generally 8 hours at average dry weather flow which greatly exceeds the length of time of the typical power interruption.
- Any overflow of untreated / partially treated sewage at the Sewage Treatment Plant are captured on the premises and can be returned to the inlet of the plant once the power supply is reconnected.

5.3.6. Wet weather bypass

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Minor	Medium

Rationale

This has been considered separate from treatment failure as it generally relates to situation where Council has little control, specifically, heavy rainfall events. It does not relate to a failure of the treatment process, but a situation where influent volumes exceed the capacity of the plant to process.

Specific control measures

All incoming sewage receives screening and primary separation. The treatment cycle of the IDEA system is adjusted in high flows to balance the required treatment volumes against best possible effluent quality. In extreme circumstances, screened sewage can be diverted to the former tertiary treatment ponds on the premises for short term storage and returned to the treatment process after the wet weather peak has passed.

Council also has an ongoing program of identifying and repairing sources of infiltration into the sewage reticulation system with the goal of reducing the increase in sewage volumes during wet weather events.

5.3.7. Fire / explosion at Sewage Treatment Plant

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Highly unlikely	Moderate	Medium

Rationale

As the treatment process at the Sewage Treatment Plant is an aerobic one, there is a negligible chance of methane accumulating in explosive concentrations. The most likely sources of a fire are the above ground electronics and the chemicals stored on the premises. If involved in a fire, the on-site staff and/or the SCADA system would identify this quickly. The main source of risk for a fire / explosion at the Sewage Treatment Plant is to the staff and any contractors working at that location.

Specific control measures

- Fire extinguishers and fire hoses are located on the site of the sewage treatment plant.
- Storage vessels for bulk chemicals meet the relevant Australian Standards.
- The quantity of chemicals kept at the Sewage Treatment Plant are minimised to meet operational requirements.
- Various bushfire preparation precautions are taken prior to the commencement of the bushfire season.

5.3.8. Fire / explosion at pump station

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Highly unlikely	Moderate	Medium

Rationale

There is a low chance of methane accumulating in explosive concentrations in a pump station as the organic material in the sewage is not in an anaerobic environment long enough to generate significant quantities of methane. The above ground electronics is the most likely source of a fire which, due to routine maintenance, has a low likelihood. Any fire that does start would most likely

be contained in a limited area. If involved in a fire, several alerts would be raised via the SCADA system. If the pump station was inoperable, the storage capacity of pump station wells are generally 8 hours at average dry weather flow.

Specific control measures

- Fire hoses are located at the sewage pump stations
- Various bushfire preparation precautions are taken prior to the commencement of the bushfire season.

5.3.9. Sludge leak / spill / overflow

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Minor	Medium

Rationale

While produced in significantly lower volumes when compared to effluent, sludge contains significantly higher concentrations of solids, nutrients, and pathogens. There is more than sufficient capacity to store generated sludge on the premises, which is regularly dewatered and removed from the premises.

Specific control measures

- The sludge lagoons are included in the routine inspections undertaken by the staff at the Sewage Treatment Plant.
- The on-site drainage system at the Sewage Treatment Plant would capture any leak / overflow of sludge to the holding lagoons.

5.3.10. Flooding of pump station

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Possible	Minor	Medium

Rationale

Some of the pump stations in the reticulation network are located below the 1:100 year flood level. Due to the historical configuration of the city and the geography, this was unavoidable. Any flood that inundates a pump station would result in significant inundation to parts of Portland itself, which would be the primary focus of any emergency response. The dilution of any sewage from a localised inundated pump station would be significant.

Specific control measures

No further measures employed.

5.3.11. Flooding of STP

<i>Occurrence</i>	<i>Impact</i>	<i>Risk</i>
Unlikely	Minor	Low

Rationale

The Sewage Treatment Plant is built above the 1:100 year flood level. Any flood that inundates the STP would result in significant inundation to Portland itself, which would be the primary focus of any emergency response. The dilution of any untreated or partially treated sewage in such an event would be significant.

Specific control measures

No further measures employed.

6. Pollutant inventory

Table 3 - Bulk potential pollutants on the premises (>500 kg/L)

Potential Pollutant	Quantity (max)	DG Group	Packing group
Untreated sewage	2 ML of sewage treated per day (in dry weather)	None	None
Sewage sludge	2,648,000 Litres	None	None
Separated sewage solids	5 tonnes	None	None
Aluminium sulfate liquid	20,000 Litres	8	III
Caustic soda liquid	12,000 Litres	8	II
Sodium hypochlorite 8% FAC	20,000 Litres	8	III

Table 4 – Other chemicals that may be on the premises in quantities of less than 50 kg/L

Chemical	DG Group	Packaging group
Domestos Thick Bleach Original Blue	None	None
Acetone	3	II
Ajax Spray and Wipe	None	None
Biohazard spill kit	None	None
Chemsearch Swoop	None	None
Coles Cloudy Ammonia - Reliance	None	None
Corporate Express Exp Kleen Bleach	None	None
Diesel	9	III
Diggers Mineral Turpentine	3	III
Ecolab Glad Hands	None	None
Fisher Buffer Colour Coded Solution pH7 (Phosphate) Yellow	None	None
Fisher Scientific Buffer Solution pH 4	None	None
Glen 20 Dual Action Disinfectant	2.1	None
Kong's Quickdrop Ammonia Test	8	II

Table 4 - Other chemicals that may be on the premises in quantities of less than 50 kg/L (cont)

Chemical	DG Group	Packaging group
Lemon Disinfectant Hospital Grade	None	None
Momar Escort Herbal	None	None
Momar Hanisize	3	III
Momar Mo-Flo	8	II
ommar Sewercide	8	II
Momar Super Pine	None	None
Nalco Ultimer 1452	None	None
Nitrate – Nitrogen Test N Tube reagent set	None	None
Nufarm Glyphosate CT	9	III
Petrol, Unleaded	3	II
Phosphate Test Kit	None	None
Reckitt Benckiser Dettol Healthy Touch Moisturizing Hand	3	II
Reckitt Benckiser Mortein Outdoor Surface Spray Ex.	2.1	None
Rough Touch Scrubs In-A- Bucket	None	None
SC Johnson Windex Blue Original Spray	None	None
Septone Lemon – X5	None	None
Shell Premix 2 Stroke Fuel O/B	3	II
WD-40 Multi-use Product (aerosol)	2.1	None

7. Testing of PIRMP and staff training

7.1. Testing of PIRMP

It is a legislative requirement that this PIRMP be tested:

- At least once every 12 months and
- Within one month of any pollution incident occurring

The annual test will be undertaken by a simulated desktop pollution incident response exercise. An “incident” will be selected, and the relevant staff will be required to respond to this incident as per the PIRMP. Any issues or deficiencies identified during this simulated incident will be considered in the review and update of the PIRMP.

The test required within one month of the pollution incident occurring will be undertaken by a debrief with all staff involved in the incident and revisiting the actions required by the PIRMP and the actions taken. The adequacy of the response and any issues identified with the response and/or the PIRMP will be considered in the review and update of the PIRMP.

A PIRMP testing record is contained in Appendix C. Every test of the PIRMP will be recorded in this Appendix, along with the name of the person undertaking the test and accompanying notes (issues identified, and amendments made, etc.)

7.2. Staff training

Training in relation to the PIRMP will have three forms:

- for new members of staff at the premises, the specific induction for the premises will include details of the PIRMP,
- refresher training undertaken as part of the annual testing of PIRMP, and
- as deemed necessary, particularly after an incident that required implementation of the PIRMP.

Records of any training undertaken by staff will be kept with Council’s records.

The objectives of any training undertaken in relation to the PIRMP will be to enable the participants to:

- Explain the purpose of the PIRMP,
- Demonstrate an understanding of when the PIRMP must be implemented,
- Outline the responsibilities of various personnel in relation to the implementation of the PIRMP,
- Apply the incident response procedures contained in the PIRMP, and
- Take part in the assessment of a response to pollution incidents.

Appendix A – Environmental incident report

PART B

Report to Environmental Incident Hotline INVESTIGATION

PLACE YOUR
COUNCIL LOGO
HERE

The appropriate Section Supervisor/Manager is responsible for completion of Part B of the incident report.

IMMEDIATE ACTION BY SUPERVISOR/MANAGER

Will the incident:

1. Require assistance from other agencies to contain, isolate or cleanup?
If "Yes" call 000 immediately.

YES NO NOT SURE

2. Pose any actual or potential harm to human health that is not trivial?
• Is it located within 100m of a school, childcare centre, aged care home?
• Could it impact on users of public areas such as ovals, reserves, waterways?
• Could the impact spread and potentially harm occupants of nearby properties?

YES NO NOT SURE

3. Pose any actual or potential harm to ecosystems that is not trivial?
• Could the incident flow / impact on a water body or drainage system?
• Could the incident flow / impact on environmentally sensitive land?

YES NO NOT SURE

4. Result in actual or potential loss or property damage of an amount over \$10,000?

YES NO NOT SURE

If you answered "YES" to any of the above then the incident should be considered as a notifiable "pollution event". There is a **duty to notify** the EPA, Ministry of Health, WorkCover and Fire and Rescue NSW immediately after becoming aware of a pollution incidents where material harm is caused or threatened. Failure to do so is an offence (*Protection of the Environment Operations Act 1997*)

AGENCY NOTIFICATIONS

If the incident does not require an initial combat agency, or once the 000 call has been made, notify the relevant authorities in the following order.

NSW EPA (EPA Environment Line: 131 555)

Contacted: YES NO Reason not contacted:

NAME OF EPA REPRESENTATIVE	TIME AND DATE	EPA REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY EPA

NSW Health – Local Public Health Unit (See www.health.nsw.gov.au/publichealth/infectious/plus.asp)

Contacted: YES NO Reason not contacted:

NAME OF PHU REPRESENTATIVE	TIME AND DATE	PHU REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY LOCAL PHU

WorkCover Authority (WorkCover: 13 10 50)

Contacted: YES NO Reason not contacted:

NAME OF WORKCOVER REPRESENTATIVE	TIME AND DATE	WORKCOVER REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY WORKCOVER

Fire & Rescue NSW (Emergency Hotline: 000)

Contacted: YES NO Reason not contacted:

NAME OF FIRE & RESCUE REPRESENTATIVE	TIME AND DATE	FIRE & RESCUE REFERENCE NUMBER
<input type="text"/>	<input type="text"/>	<input type="text"/>

ACTIONS REQUIRED BY FIRE & RESCUE

CONTINUES ON REVERSE 

OTHER NOTIFICATIONS TO CONSIDER INCLUDE:

- Internal contacts eg Environmental Health Officer
- Media
- NSW Food Authority
- Shellfish programs
- River users eg boat hiring companies
- Marine education centres
- Other

PRELIMINARY INVESTIGATION

Notes from discussions with relevant operational staff

Any further observations or comments by Supervisor / Manager

CATEGORISATION BY AUTHORISED OFFICER

- Minor**
No notification required
 - Incident affects small area only (eg single property) AND
 - Incident is easy to clean up without additional assistance, AND
 - There is no risk of material harm to humans or the environment.

- Moderate**
Notify EPA and Local PHU only
 - Incident affects more than one property OR
 - There is a risk of pollution or material harm to the environment BUT
 - Cleanup can be completed without assistance AND
 - There is no danger to humans.

- Major**
Notification required - Notify EPA, Local PHU, Workcover and Fire & Rescue
 - Potential or actual harm to humans and the environment AND/OR
 - Assistance is required with cleanup from other agencies.

- Council Responsible** Incident occurred as a direct result of Council activity or function.

- Response by Council** Incident occurred on Council land, or land under Council care and control BUT Council did not cause the incident.

- Technical Licence Breach** Relating to technical compliance such as exceedence of permissible discharge volume or environmental monitoring limits.

DETAILS OF APPROPRIATE SECTION SUPERVISOR/MANAGER REPORTING THE INCIDENT

NAME	DATE
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PHONE	MOBILE
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DEPARTMENT SECTION	
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Appendix B - Sewerage spill or overflow notification

Incident Notification for sewerage spill or overflow

PLACE YOUR
COUNCIL LOGO HERE

Dear DATE
Overflow at EPA Ref #
EPA Licence # of Sewerage Scheme.

Following our initial telephone call, we are advising you in writing (Refer to R4 of Licence) of more details of a sewage spill or overflow that Council experienced at am/pm on

The overflow was caused by

Once Council staff became aware of the overflow, the EPA and were notified immediately and corrective measures were put in place.

(Refer to Condition M9) of Licence: requires that Council record the following details in relation to each observed or reported overflow from the reticulation system and from the sewage treatment plant:

- a) The location of the overflow:
- b) The date, the estimated start time and estimated duration of the overflow:
- c) The estimated volume of the overflow (litres):
- d) A description of the receiving environment of the overflow:
- e) Classification as a dry or wet weather overflow:
- f) The probable cause of the overflow:
- g) Any actions taken to stop the overflow happening:
- h) Any action taken to clean up the overflow:
- i) Any actions taken to prevent the overflow happening again:

Additionally, sampling was undertaken at and the results of these samples are attached.

Yours faithfully,

NAME SIGNATURE DATE

APPROVED BY	GROUP	DOCUMENT ID	VERSION
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ISSUED	REVISED	STATUS	PAGE
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