

Sydney Water Wastewater Treatment Systems Pollution Incident Response Management Plan (PIRMP)

1.	Purpose.....	2
2.	Operating Context	2
2.1	Water.....	2
2.2	Wastewater.....	2
2.3	Stormwater	2
3.	Wastewater Networks.....	4
3.1	Location of Premise	4
3.2	Hazards and Potential Pollutants	4
4.	Pollution Incident Response Procedure	5
4.1	Process overview	6
4.1.1	Assess and Declare.....	6
4.1.2	Manage Incident.....	6
4.1.3	Recovery	8
4.2	Training	9
5.	Context.....	10
5.1	Availability.....	10
5.2	References	10
6.	Ownership.....	10
6.1	Change history	10

1. Purpose

It is a requirement of the *Protection of the Environment Operations Act 1997* (POEO Act) that the holder of an environment protection licence must prepare a pollution incident response management plan (PIRMP) that complies with Part 5.7A of the POEO Act in relation to the activity to which the licence relates.

This PIRMP covers the Wastewater Networks only for 24 wastewater treatment systems that have environment protection licences issued by the NSW Environment Protection Authority (EPA).

Appendix 1 lists wastewater treatment system Licences held by Sydney Water.

2. Operating Context

2.1 Water

Sydney Water supplies over 1.5 billion litres of drinking water to homes and businesses throughout Sydney, the Blue Mountains and the Illawarra every day. Water is treated at one of nine water filtration plants and at the Sydney Desalination Plant. It is then supplied through a network of pipes, reservoirs and pumping stations:

- 22,804 km of water pipes
- 251 reservoirs
- 153 water pumping stations

2.2 Wastewater

Sydney Water has [24 separate systems](#) that are licenced by the NSW Environment Protection Authority.

Wastewater is treated at any of 30 water resource recovery facilities.

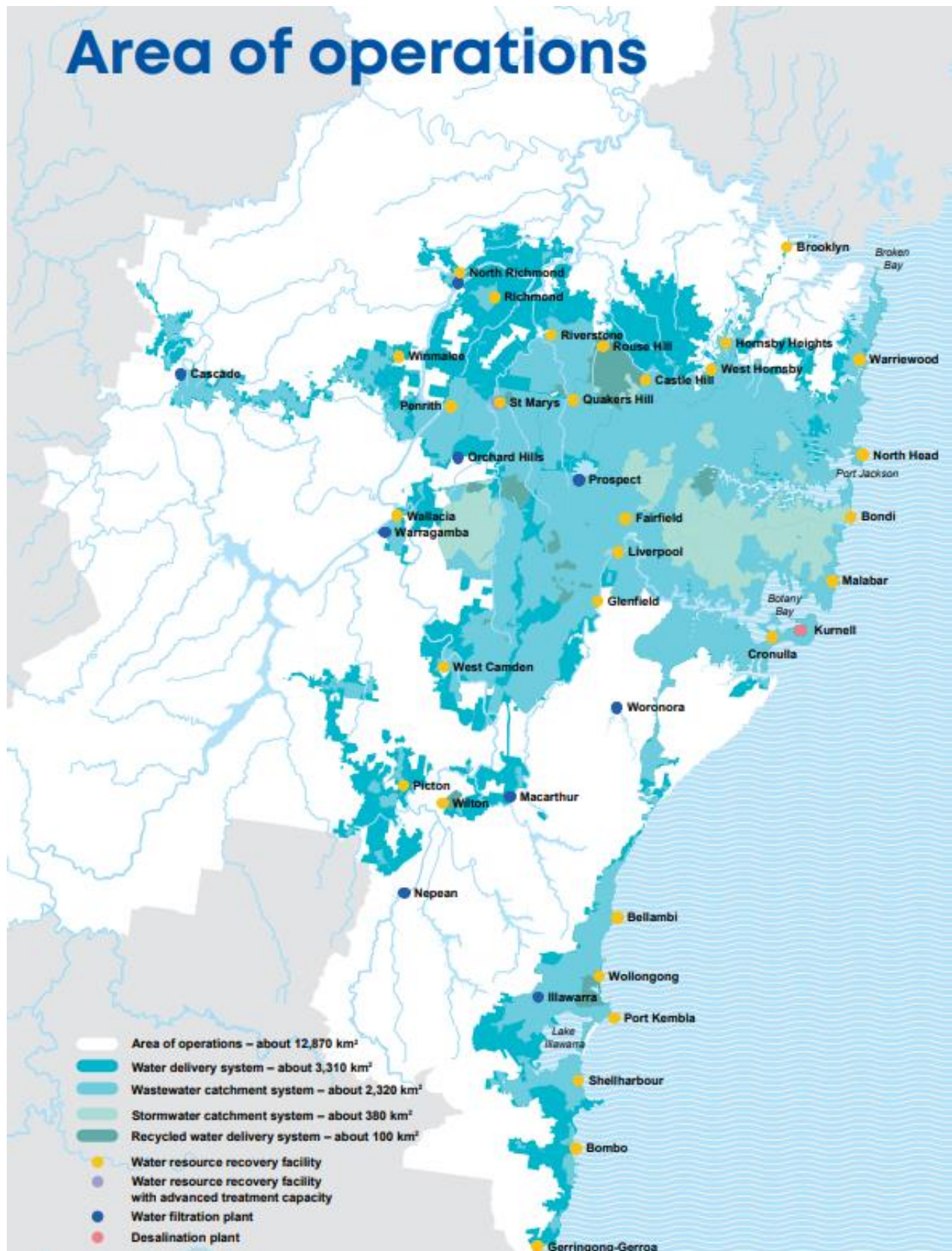
The wastewater network draining to those plants consists of:

- About 27,000 km of pipes
- 695 wastewater pumping stations
- Chemical dosing units
- Odour control units
- the Northside storage tunnel (NST)
- Brookvale storage tank

2.3 Stormwater

Sydney Water's stormwater network provides services to around 645,000 properties through 73 catchments and consists of:

- 458 km of channels and pipes
- over 80 stormwater quality improvement devices
- flood-prone land and trunk drainage in the Rouse Hill area.



3. Wastewater Networks

3.1 Location of Premise

For this PIRMP, the combined wastewater networks, including all assets listed above, are the premise. There are separate PIRMP documents for each wastewater treatment/water resource recovery plant.

The location of wastewater and drainage assets can be determined using these sources:

- Spatial Hub
- Hydra GIS
- Large PDF maps
- Work-as-constructed drawings
- NSW Emergency Information Coordination Unit spatial data

3.2 Hazards and Potential Pollutants

The potential hazards to human health and the environment related to the operation of Sydney Water's wastewater networks are outlined in Table 1

Table 1: Potential pollutants

Potential Pollutant	Quantities and Locations
Raw sewage	Is present in differing qualities and quantities through-out each network, including trade waste and chemicals added to control odour and corrosion
Chemicals used for control of corrosion and odours <ul style="list-style-type: none"> • Calcium nitrate • Magnesium hydroxide • Ferrous chloride 	Stored in bulk for dosing into sewers for control of odour and corrosion
Hazardous gases <ul style="list-style-type: none"> • Ammonia (NH₃) • Benzene (C₆H₆) • Carbon Monoxide (CO) • Chlorine (Cl-) • Chlorobenzene (C₆H₅Cl) • Chloroform (CHCl₃) • Cyanide (CN) • Flammable Gases (LEL) • Formaldehyde (CH₂O) • Hydrogen Sulphide (H₂S) • Volatile Organic Compounds 	Potentially hazardous gases can be present in wastewater networks due to authorised trade waste, biogenic processes, broken gas mains, leaking underground tanks or unauthorised spills and dumps.
Debris <ul style="list-style-type: none"> • Debris Balls • Rubbish 	This includes simple rubbish and the emerging pollutant of Debris Balls. May be released from the various parts of the system. The nature of which is presently being studied by Sydney Water. This should be treated with caution and promptly cleaned up

4. Pollution Incident Response Procedure

This Pollution Incident Response Procedure is implemented whenever a pollution incident occurs and material harm to the environment is caused or threatened as defined in Section 147 of the Protection of the Environment Operations Act:

147 Meaning of material harm to the environment

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

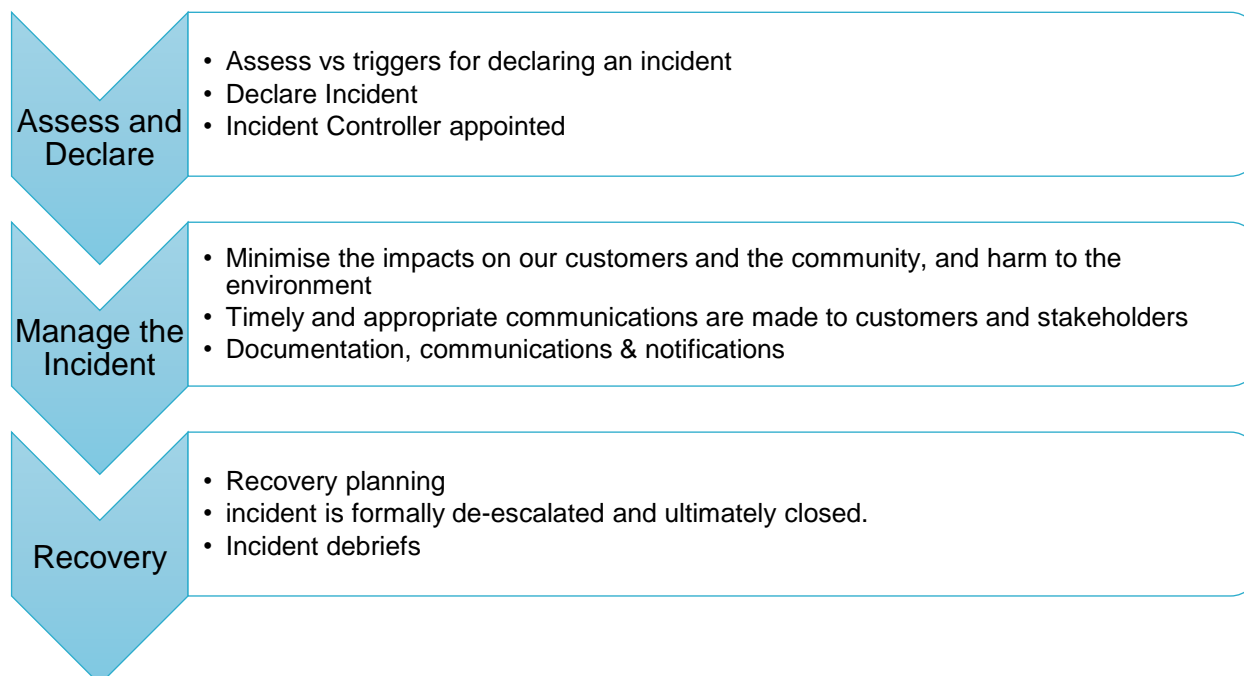
(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes 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.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Sydney Water takes an 'All Hazards' approach to managing incidents. The generic response procedure is documented in the Incident & Emergency Management Response Procedure (3084788) and Responding to incidents with an environmental impact (SWEMS0009).

The PIRMP response procedure is arranged to match relevant tasks in the standard procedure.



4.1 Process overview

4.1.1 Assess and Declare

Customers can call the 24-hour emergency line on **13 20 90** to report incidents or receive updates.

Customer calls received by the Customer Experience Team, and IICATS alarms monitored by the System Operations Centre (SOC) are the primary mechanisms for identification of pipe failures, including leaks, breaks, odours, or sewage overflows that could cause material harm.

Table 2: Assess and Declare roles and responsibilities

Role	Responsibilities
Customer Experience Team or System Operations Centre (SOC)	<ul style="list-style-type: none"> • Triage Service Fault • Create workorder
Response Team (Dispatcher)	<ul style="list-style-type: none"> • Dispatch first responder &/or crew
Network Technician &/or Network Maintenance Crew (first responder)	<ul style="list-style-type: none"> • Assess impact • Test for ammonia • Contact Dispatch to declare incident
Response Team (Dispatcher)	<ul style="list-style-type: none"> • Complete material harm checklist • Internal notifications • Create and dispatch follow-on workorders for other teams

4.1.2 Manage Incident

This activity refers to the real time management tasks associated with response, control, and handling of an incident at the operational level and includes notifying persons required by Sec 148 of the POEO Act:

- Environmental Protection Authority 131-555
- The Local Council <https://www.olg.nsw.gov.au/public/find-my-council>
- NSW Health 9391-9049
- SafeWork NSW 131-050
- Fire and Rescue NSW 1300-729-579

Internal notifications are made to assist business units and teams to make decisions and plan and prioritise during an incident. Internal notifications and communications are sent via:

- Email to Duty Manager or All User groups
- SMS alert groups

Pollution incidents that require community notification (including owners or occupiers of premises within the vicinity of the wastewater network) will trigger activating relevant Business or Corporate procedures (Incident and Emergency Management Procedure).

Sydney Water will contact impacted communities through:

- Door knocking individual households
- Letter box drops
- Media releases

- Sydney Water public website
- Social media such as Twitter
- Signage to notify persons at polluted sites or Customer Advocates positioned in high pedestrian areas

Any major pollution incident or emergency that requires emergency services assistance will trigger activation of Sydney Water's Emergency Coordination Centre (ECC) for coordinated monitoring and management of the incident by the emergency management team. For incidents that threaten health & safety of the community, Sydney Water is subjected to the legislative combat agency communication strategy for dissemination of key information related to urgent actions to be taken by the public.

In the unlikely event of an incident impacting on the surrounding community, Sydney Water, with other emergency authorities, will ensure that relevant warnings including what action to take is issued to the potentially affected community.

HAZMAT response may be required for some **hazardous gases**.

Table 3: Manage Incident roles and responsibilities

Role	Responsibilities
Network Technician &/or Network Maintenance Crew	<ul style="list-style-type: none"> • Install containment • Erect signs and barricades • Communicate with community
Environmental Operations - Liaison	<ul style="list-style-type: none"> • Notify authorities as required by Sec 148 of the POEO Act. • Provide regular updates • Formal reporting to EPA
Network Maintenance Crew	<ul style="list-style-type: none"> • Rectify problem and provide updates • Complete minor clean-up
Response Team (Dispatcher)	<ul style="list-style-type: none"> • Update Sydney Water incident management system
Field Sampling & Testing Group (FST)	<ul style="list-style-type: none"> • Carry out sampling & testing, provide field results and toxicity assessment
Environmental Operations Environmental Specialists (previously called SERT)	<ul style="list-style-type: none"> • Assess site & identify impacts / risks • Engage experts as required • Advise on clean-up plan, and remediation
Network Operator (NO) site coordinator	<ul style="list-style-type: none"> • Develop detailed clean-up plan • Brief clean-up crew/s • Monitor progress of clean-up
Clean-up crew	<ul style="list-style-type: none"> • Complete clean-up activities
Network Operator (NO) (Site Coordinator)	<ul style="list-style-type: none"> • Validate site clean-up • Direct clean-up crew if rework is required
Field Sampling & Testing Group (FST)	<ul style="list-style-type: none"> • Carry out additional / follow-up sampling & testing to confirm site clean
Network Maintenance Crew	<ul style="list-style-type: none"> • Remove containment, signs and barricades

4.1.3 Recovery

Recording

Sydney Water's system for recording incident related data is the Sydney Water Governance, Risk, Compliance, Safety, Health, Environment, Quality (GRCSHEQ) application (Camms).

Each activation of this PIRMP will result in an incident record being created and recording of incident related data.

Testing

Regulatory requirements are that the PIRMP must be tested within one month of any pollution incident occurring which caused or threatened material harm to the environment. Testing may take the form of a practical exercise; desktop scenario or post-incident debrief.

Debriefs

Debriefing focuses on the management of the response and recovery activities. The objective of debriefing is to identify lessons, associated actions, and opportunities for improvement.

For this PIRMP, there are three debrief processes:

1. Hot Debrief – Cease Overflow
2. Hot Debrief – Clean-up
3. Significant Incident Debrief

Desktop Scenarios

Desktop scenarios are conducted every four weeks with the involvement of all teams that play a role in incident response and focus on the management of the response and recovery activities. The objective is to identify lessons, associated actions and opportunities for improvement.

4.2 Training

Staff who are likely to respond to an incident must be trained. These roles are:

- Customer Hub Duty Managers
- Dispatchers / Schedulers
- Planners
- Network Coordinators
- Environmental Operations Team
- Environmental Regulation Team
- Network Operators
- Network Technicians
- Network Maintenance crews
- Contractor Crews
- Field Sampling Team

Response staff must be trained in activating this PIRMP, any on site specific and other relevant procedures. Training on specific incident procedures will be carried out using desktop scenarios and incident management exercises that involve more complex scenarios.

5. Context

5.1 Availability

This plan shall be made available to all personnel responsible for implementing the plan, and to an authorised officer (as defines in the POEO Act) on request. The most current and controlled version of the plan is in Sydney Water’s document control system BMIS (Business Management Information System) as D0000825.

5.2 References

Document type	Title
Compliance obligations	Protection of the Environment Operations Act 1997 No 156, Part 5.7A Protection of the Environment Operations (General) Regulation 2009, Part 3A Guideline: Pollution Incident Response Management Plans (2020)
Policies and procedures	Detailed PIRMP, procedures and work instructions

6. Ownership

Role	Title
Group	Customer Operations
Owner	Nicole McCarthy
Author	Mark McGowan

6.1 Change history

Version	Issue Date	Approved by	Brief description of change and consultation
5	12/06/2025	Nicole McCarthy	Minor changes. Footer changed.

Appendix 1 List of Sydney Water's Environment Protection Licences

Term	Definition
Bombo	Licence 2269
Bondi	Licence 1688
Brooklyn	Licence 12438
Castle Hill	Licence 1725
Cronulla	Licence 1728
Hornsby Heights	Licence 750
Malabar	Licence 372
Liverpool	Refer to Malabar
Fairfield	Refer to Malabar
Gerringong / Gerroa	Issued to Veolia
Glenfield	Refer to Malabar
North Head	Licence 378
North Richmond	Licence 190
Penrith	Licence 1409
Picton	Licence 10555
Quakers Hill	Licence 1724
Richmond	Licence 1726
Riverstone	Licence 1796
Rouse Hill	Licence 4965
Shellharbour	Licence 211
St Marys	Licence 1729
St Mary AWTP	Licence 13210
Wallacia	Licence 12235
Warriewood	Licence 1784
West Camden	Licence 1675
West Hornsby	Licence 1695
Winmalee	Licence 1963
Wollongong	Licence 218
Bellambi	Refer to Wollongong
Port Kembla	Refer to Wollongong