

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

FORBES SEWAGE TREATMENT SYSTEM



MAY 2019

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1. INTRODUCTION

1.1 PURPOSE

This Pollution Incident Response Management Plan (PIRMP) has been prepared in accordance with the *Protection of the Environment Legislation Amendment Act 2011 (POELA Act)* and reflects requirements specified in the Environment Protection Authority (EPA's) *Guidelines: Preparation of Pollution Incident Response Management Plans, March 2012*.

The PIRMP details:

- Procedures for notifying a pollution incident to relevant persons,
- Actions to be taken to reduce and/or control pollution, and
- Procedures for co-ordinating those notified and any action taken in combating the pollution. (It supersedes Council's "Incident Notification Protocol for Sewer Overflows").

1.2 DEFINITION OF POLLUTION INCIDENT

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act 1997;

- (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.

1.3 IDENTIFIED POLLUTION INCIDENT RISKS

The primary potential hazards to human health or the environment associated with the activity undertaken at this site – i.e. 'Pollution Incidents' – include the following;

- Wet weather overflow/surcharge from reticulation due to stormwater inflow & infiltration;
- Wet or dry weather overflow or surcharge due to blockages and obstructions;
- Dry weather surcharge at a sewer pump station due to pump failure;
- Sewer discharge from rising main failure;
- Wet or dry weather bypasses at the Sewer Treatment Plant (STP);
- Inadequately treated effluent due to mechanical failure at the STP;
- Inadequately treated effluent due to acts of vandalism or sabotage at the STP;
- Exceed Environment Protection Licence (EPL) discharge limits to the Lachlan River;
- Odours generated from the treatment process

- Chemical Spill due to tank failure or delivery;

Chemical / Pollutant	Average Quantity	Location
Liquid Aluminium Sulphate (bulk)	30,000 L	Chemical bund area
Granulated Chlorine (40kg drum)	160 kg	Storage Shed adjacent to inlet works
Disinfectant	20L	Storage Shed adjacent to inlet works
Sanaform Vaporooter (5L containers)	400L	Storage Shed adjacent to inlet works

2. SITE OVERVIEW

2.1 SITE OVERVIEW

The Forbes Sewer Treatment Plant is an intermittently decanting extended aeration type plant. The original plant was built in the early 1930's and the current plant was commissioned in 2005, and has a capacity of 12000 Equivalent Population (EP) and a hydraulic capacity of 233 L/s.

The plant is located 2.6km west of the Forbes CBD off the Newell Highway. (*Refer Section 8 & 9 PIRMP Appendix A* for site and locality plans.) The plant receives sewer effluent from the town of Forbes via two sewer pump stations (SPS's), SPS 11 located adjacent to Lake Forbes along Show Street, and SPS4 which is located off Linda Street, adjacent to Hughie Wilson Oval.

The Environment Protection Authority (EPA) has issued *Environment Protection Licence 4809 for the Forbes Sewer Treatment Plant and reticulation system*. Under this license, reportable incidents are causing or threatening, material environmental harm to the environment which is set out in accordance with Section 5.7 of the POEO Act 1997. The license requires that the total discharge does not exceed 10ML/day and that discharge quality meets sensitive water standards.

2.2 SITE CHARACTERISTICS

The site is located in a rural area bounded to the north by an orchard with two residences, to the south by Gum Swamp, the east orchard and farm land with two residences, and the west by farmland with a farm house on the next property west of the farmland.

The plant is located within the floodplain and is impacted by floods exceeding a 1in25yr recurrence level. The plant has been designed to be above the probable maximum flood level.

The plant discharges effluent into the ephemeral Gum Swamp as well as to the Lachlan River when water levels in the swamp reach preset trigger levels.

2.3 SITE SAFETY EQUIPMENT

The plant is protected from bush fires by cleared areas around the facility. The plant itself is protected from fire using fire hose reels and fire extinguishers. Further, Personal Protective Equipment (PPE) is provided for onsite staff with consists of:

- Self contained breathing apparatus
- Ear/hearing protection
- Sun screen
- Rubber Gloves
- Safety Glasses
- Steel capped boots
- Clothing
- Broad Brimmed Hats.

3. RISK MANAGEMENT AND PRE-EMPTIVE ACTIONS

3.1 LIKELIHOOD, IMPACT AND CONTRIBUTING FACTORS TO POLLUTION INCIDENTS OCCURRING

Incidents can be classified as being of low, medium or high **risk of occurring (likelihood)** based on the past history of the facility, an assessment of management procedures, staff training and site layout. The **impact (Consequence)** of an incident can be classed as low medium, or high based on the potential extent of off-site harm to humans and/or the environment.

The following table summarises the assessment of the identified potential pollution incidents of the Forbes Sewer Treatment System.

Table 1 – Pollution Incidents for Forbes Sewerage System

Description of Pollution Incident	Contributing Factors	Consequence	Likelihood	Risk Rating (LxC =)	Remedial Actions to Prevent, Control or Minimise
Wet weather overflow/surcharge from reticulation due to stormwater inflow & infiltration	No. of Illegal connections, low and leaky manhole covers	Minor	Occasional	M	Council is undertaking a smoke testing & sewer inspection program to locate faulty sewer plumbing and sewer manholes covers, and have them repaired. Upgrade assets in line with asset management plan.
Wet or Dry weather overflow or surcharge due to blockages & obstructions.	Response time, maintenance regime, Effectiveness of cleanup	Minor	Occasional	M	Have staff on call to attend blockages at all hours, undertake routine foaming of services and mains, where possible collect surcharged effluent, Effective clean up and disinfection. Upgrade assets in line with asset management plan.
Dry Weather Surcharge at Pump Stations, due to pump failure	Amount of detention time, Backup pumping capacity, Location of Pump Station, Amount of advance notice	Minor	Remote	L	Ensure telemetry is working to provide early warning of a problem. Maintain standby pumps for Stations with only one pump, have septic contractor pump out sewer pump station or manhole. Upgrade assets in line with asset management plan to minimise major failures.
Sewer overflow from rising main failure	Age of pipe, material type, Location	Minor	Occasional	M	Upgrade assets in line with asset management plan, replace with corrosion resistant material. Installation of bypass arrangement on critical section over river.
Wet or Dry Weather bypasses at the Sewer Treatment Plant (STP).	Frequency, Plant breakdown,	Minor	Occasional	M	Discharge bypassed flow to Gum Swamp for dilution and a controlled & contained environment. Undertake routine maintenance of sewage treatment plant, Maintain storage buffer in Gum Swamp.
Mechanical Failure at the STP	Time for Repair,	Minor	Occasional	M	Discharge bypassed flow to Gum Swamp for dilution and a controlled & contained environment. Undertake routine maintenance of sewage treatment plant, Maintain storage buffer in Gum Swamp.
Exceed Environment Protection Licence (EPL) discharge limits to the Lachlan River.	Dilution due to flow in river (river flowrate), level of exceedance generally minor.	Minor	Occasional	M	Divert flow to Gum Swamp in the event of a plant problem. Daily monitoring to ensure process is working well.
Acts of Vandalism or Sabotage at STP	Type or degree of damage	Moderate	Remote	M	Discharge bypassed flow to Gum Swamp for dilution and a controlled & contained environment. Maintain storage buffer in Gum Swamp. Daily monitoring of plant for early detection of problems.

Description of Pollution Incident	Contributing Factors	Consequence	Likelihood	Risk Rating (LxC =)	Remedial Actions to Prevent, Control or Minimise
Chemical Spill due to tank failure	Type & Volume of Chemicals stored	Minor	Remote	L	Bunding of large chemical storage, Small containers of other chemicals, eg fuel foam, testing reagents.
Chemical Spill during delivery, or outside bunding	Response time, Type & volume of chemicals stored,	Minor	Remote	L	Staff present during loading, Generally small volumes of most chemicals except Alum, Buffer area around plant from Alum storage area. Chemicals in secured area.

Table 2 – Risk Assessment Guidelines

Likelihood	Consequences	Rating	Consequence	Likelihood				
				A	B	C	D	E
A – IMPROBABLE - May occur only in exceptional circumstances	1. INSIGNIFIGANT – No injuries, minimal level of pollution, Employee grievances dealt with on site, Loss <5% of job cost. Services, business failure resulting in delay < 1 week and costs plant/equipment loss <\$1,000	L - Low	1	L	L	L	M	H
B – REMOTE – Could occur at some time	2. MINOR – First aid treatment, limited / localised impact, Employee grievances dealt with senior management, Loss 5 – 10% of job cost. Business failure resulting in delay <1 month and costs plant / equipment loss < \$10,000	M - Medium	2	L	L	M	H	V
C – OCCASIONAL – Might occur at some time	3. MODERATE – Medical treatment & several days off work, significant pollution requiring outside assistance, Employee grievances taken to the union, Loss 10-20% of job cost. Non compliance with legislation /Licence conditions, business failure resulting in delay < 3 months and costs plant / equipment loss < \$100,000	H – High	3	M	M	H	V	X
D – FREQUENT – Will probably occur in most circumstances	4. MAJOR – Long term illness/serious injury, significant pollution requiring outside assistance and long term environmental damage, Threatened industrial action, Loss 20 – 70% of job cost. Loss of production capability, Order placed on Council by Authorities, business failure resulting in delay < 6 months & costs plant/equipment loss < \$100,000	V – Very High	4	H	H	V	X	X
E – CONTINUOUS – Is expected to occur in most circumstances	5. CATASTROPHIC – Death or permanent disability illness, serious permanent environmental damage, Actual industrial action, Loss > 70% of job cost. Potential prosecution by Authorities, business failure resulting in delay >6 months & costs plant / equipment loss> \$100,000	X - Extreme	5	V	V	X	X	X

4. NOTIFICATION OF POLLUTION INCIDENTS

4.1 NOTIFICATION SPEED OF RESPONSE

The requirement for notification of a pollution incident has changed from 'as soon as practicable' to 'immediately' (section 148 of the POEO Act 1997). In short, 'immediately' means 'promptly without delay', but it does not mean undertaking notification ahead of doing what is necessary to make safe.

4.2 RESPONSIBLE KEY PERSON(S) FOR NOTIFICATION

	Name(s)	Position(s)	Contact Detail(s)
Person who is responsible for and authorised to activate plan	Phillip Nicholson	Sewer Supervisor	0418 972 446
	TBA	Water & Sewer Engr	0422 361 635
	David Tinlin	Mngr Water & Sewer	0419 486 933
Person who is authorised to liaise with the relevant authority	Phillip Nicholson	Sewer Supervisor	0418 972 446
	TBA	Water & Sewer Engr	0422 361 635
	David Tinlin	Mngr Water & Sewer	0419 486 933
Person who is responsible for managing the response to a pollution incident	TBA	Water & Sewer Engr	0422 361 635
	David Tinlin	Mngr Water & Sewer	0419 486 933
	John Zannes	Dir. Engineering & Technical Services	0408 162 261

4.3 NOTIFICATION OF RELEVANT AUTHORITIES

Where the pollution incident causes or threatens material harm to the environment or human health, all the following authorities must be notified by the Sewer Supervisor/ Water, Sewer & Stormwater Engineer / Manager Technical Services;

	Relevant Authority	Contact Number
1	<p>Emergency Call Services</p> <ul style="list-style-type: none"> Emergency Hotline Number (24 Hours) <p><i>(*The site supervisor should call 000 if the incident presents an immediate threat to human health and/or property and a combat agency is required (i.e. NSW Fire and Rescue, NSW Ambulance Service, NSW Police Force) and then notify all other parties below including NSW Fire Rescue via a local telephone number)</i></p>	000* ('112' if using a mobile)
2	<p>Forbes Shire Council</p> <ul style="list-style-type: none"> Engineering Department – Forbes Shire Council Director Engineering and Technical Services – FSC Council Emergency contact number (After Hours) 	02 6850 2874 0408 162 261 1300 978 633
3	<p>The Environmental Authority (EPA)</p> <ul style="list-style-type: none"> Bathurst Regional Office Emergency Hotline Number (24 Hours) <p>Note : The Emergency Hotline Number must be called if there is a possible threat of material harm to people or the environment.</p>	02 6333 3800 131 555
4	<p>NSW Ministry of Health (via Public Health Units)</p> <ul style="list-style-type: none"> Bathurst Regional Office Public Health Office on Call (24 Hours) 	02 6330 5880 0428 400 526
5	<p>WorkCover NSW</p> <ul style="list-style-type: none"> Hotline Number 	13 10 50
6	<p>Fire & Rescue NSW</p> <ul style="list-style-type: none"> Forbes Fire Station 	02 6851 1843**
<p>(**If there is no immediate threat to human health and/or property i.e. a combat agency is not required, then the Sewer Supervisor is still required to follow that outlined above except for dialling 000)</p>		

4.4 INFORMATION TO BE NOTIFIED

Under Section 150 of the POEO Act 1997, the information about a pollution incident that must be notified is;

- The time, date, nature, duration and location of the incident;
- The location of the place where the pollution is occurring or is likely to occur;
- The nature, the estimated quantity or volume and the concentration of any pollutant involved (if known);
- The circumstances in which the incident occurred, including the cause of the incident (if known);
- The actions taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution (if known); and
- Other information prescribed by the regulations.

Notification is required by the Sewer Supervisor 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.

A pollution Incident Reporting Form is attached in the **Appendix A (PIRMP)**.

4.5 ACTIONS TO BE TAKEN DURING OR IMMEDIATELY AFTER A POLLUTION INCIDENT

All site personnel with relevant training must make every effort to contain the pollution incident on site without putting themselves at risk of harm. In the event of a pollution incident occurring, all members of the public and other contractor's staff will be mustered to the Emergency Assembly point, after which they will be safely evacuated from site where appropriate. It is a condition of entry that in the event of an emergency, both the public and staff must adhere to directions given by the Sewer Supervisor.

Where the pollution incident causes or threatens material harm to the environment or human health, the EPA is notified in accordance with **Section 4.3**. Once the EPA is notified, it is then for the EPA to determine whether commercial, industrial and residential neighbours of the site need to be contacted by Council and informed of the circumstances of the incident and what action is being taken to respond to it. If deemed necessary, the EPA then has powers to formally direct Council to notify the neighbours of the site. Irrespective of whether the EPA directs Council to notify the neighbours and depending on the circumstances of the particular pollution incident, the Council may at their own discretion voluntarily choose to notify neighbours. Notification and communication methods will be determined on a case by case basis and the following methods can be used;

- Phone calls
- Media Releases (Radio/Newspaper/Internet, etc)

- Site visits/Door knocking
- Letter drops
- Warning signs
- Other methods as the situation requires.

4.6 INCIDENT INVESTIGATION

All emergencies must be investigated. For all other incidents, the Director Engineering and Technical Services (with guidance of the Sewer Team) will decide whether an incident investigation will be conducted. When an incident investigation is required, the Director is responsible for, forming the investigation team and Co-ordinating the investigation.

5. IMPLEMENTATION

5.1 RESPONSIBILITY

The Director Engineering and Technical Services is responsible for the implementation of this plan.

5.2 STAFF TRAINING

All the staff members at the facility should be inducted and the induction must cover the purpose, requirements and responsibilities detailed in the PIRMP.

All staff should receive sufficient training to enable them to carry out their assigned duties in a competent and safe manner;

- Staff must be capable of identifying potential pollution incidents
- Staff must be familiar with the requirements and procedures contained within this PIRMP.

At least once every year staff should undertake a simulated pollution incident response exercise, to familiarise site personnel with the requirements of this management plan. A register of staff training is included in **Appendix A (PIRMP)** and must be kept on site and updated regularly.

5.3 REVIEW AND UPDATE PIRMP

The PIRMP is a living document required to be reviewed and updated at least once every 12 months to ensure accuracy and effectiveness. A review must also be undertaken within one month of any pollution incident occurring.

For these reasons, document control is an important part of the environmental management system. It is critical that PIRMP storage locations are made known to all relevant staff members and that only the latest version is in use. Revised and updated versions of the PIRMP will always be issued with a summary of the changes. A register for updating and testing the PIRMP is included in **Appendix A (PIRMP)** and must be kept on site and updated regularly.