

Pollution Incident Response Management Plan – Hill End

© 2016 State of NSW and Office of Environment and Heritage

The Office of Environment and Heritage (OEH) has compiled this plan in good faith, exercising all due care and attention. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. OEH shall not be liable for any damage which may occur to any person or organisation taking action or not on the basis of this publication. Readers should seek appropriate advice when applying the information to their specific needs. This document may be subject to revision without notice and readers should ensure they are using the latest version.]

All content in this publication is owned by OEH and is protected by Crown Copyright. It is licensed under the [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](#), subject to the exemptions contained in the licence. The legal code for the licence is available at [Creative Commons](#).

OEH asserts the right to be attributed as author of the original material in the following manner:

© State of New South Wales and Office of Environment and Heritage 2016.

Published by:

Office of Environment and Heritage

59 Goulburn Street, Sydney NSW 2000

PO Box A290, Sydney South NSW 1232

Phone: +61 2 9995 5000 (switchboard)

Phone: 131 555 (environment information and publications requests)

Phone: 1300 361 967 (national parks, general environmental enquiries, and publications requests)

Fax: +61 2 9995 5999

TTY users: phone 133 677, then ask for 131 555

Speak and listen users: phone 1300 555 727, then ask for 131 555

Email: info@environment.nsw.gov.au

Website: www.environment.nsw.gov.au

Report pollution and environmental incidents

Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au

See also www.environment.nsw.gov.au

ISBN 978-1-76039-333-5

OEH 2016/0230

March 2016

Contents

Document control information	1
Contact information	1
Introduction	2
Background	2
Legislative requirement.....	2
Amendments to regulation	3
Definitions.....	3
Immediate notification	3
Protocol for notification of pollution incidents	4
Pollution incident response.....	4
Communicating with neighbours and the local community.....	4
Minimising harm to persons on the premises.....	4
Pre-emptive actions to be taken for the sewerage system.....	5
Potential pollutants	5
Safety equipment	5
General requirements for preparing Pollution Incident Response Management Plans.....	6
Form of plans [section 153D and clause 98B (1)].....	6
Relationship with other emergency plans [clause 98B (2)]	6
Hazard identification and risk control.....	6
Description of hazards relating to the sewage collection, transfer and treatment system at Hill End	6
Risk register.....	6
Appendix A – Location of premises	7
Appendix B – Risk register.....	3
Appendix C – NPWS Response to hazardous chemicals	1
Appendix D –Incident specific response flowcharts	4
Appendix E – Letter of Incident Notification.....	11

Document control information

Rev.	Date	Revision Description	Created By	Checked	Approved for Issue	Approved for Publishing
A		Initial Version	PB/W&W			
B	1.2.16	Update following Scenario Training and flow chart amendments	SM/CWT	GP/CWT	MB/CWT	MB/CWT

Contact information

Contact	Number
Site manager	(02) 63378206
EPA	131 555
The Public Health Unit:	(02) 6330 5941
Bathurst Regional Council:	(02) 6333 6111, after Hours (02) 6334 2795
Western Branch Duty Manager:	(02)68410960
Western Rivers Duty Officer:	(02) 63326350
Electrician: Tim Bohane	0412120217
Plumber: Turon Plumbing Shane Lyons	0413598979
Pumps & fittings: Watermart	(02) 63324262
Pump out tanker: Polpure	(02) 6365 4433/ 0418634433
Sanitiser supply: Westco	(02) 63323166
Earthmoving and truck hire: A1 Earthworks	(02) 63729238
Sewage and waste management issues: City Water Technology Pty Ltd:	(02) 94981444
Water supply issues: City Water Technology Pty Ltd	(02) 94981444

Introduction

The NSW National Parks and Wildlife Service (NPWS) has existing incident and emergency procedures used for such events as bushfires and other emergencies. All frontline staff are trained in the NPWS incident management system which allows access to state-wide staff and resources during a declared incident. The Hill End Pollution Incident Management Plan utilises this experience and is designed to work within existing structures. The Plan also draws on the Hill End Historic Site's own experience and expertise in managing incidents.

Key references are:

- Risk-Based Drinking Water Management System (City Water Technologies, 2014).
- Western Rivers/Western Branch and NSW NPWS Incident Procedures
- Environmental Protection Licence 10074
- Environmental guidelines: Preparation of pollution incident response management plans (EPA, 2012) and the Water Directorate's Template "Incident Notification for sewerage spill or overflow ©2012.

The Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012 sets out the requirements of an Incident Management Plan. The details are discussed below.

Background

NPWS supplies water and wastewater services to approximately 60 sites within the Hill End Village.

Drinking water is currently supplied from two bores, located at Clarke St and the Visitor Centre. Water from the Clarke St Bore is chlorinated and pumped up to the Germantown Reservoirs. These reservoirs supply the town via two gravity mains. Water from the Visitor Centre bore is chlorinated and pumped into a small tank located behind the Visitor Centre. This tank exclusively supplies the Visitor Centre.

The wastewater collected is the overflow from onsite septic tanks at each of the residences, and small businesses, and delivered via a single 50 millimetres rising main to the natural pond treatment system. The wastewater treatment system is operated under the Environmental Protection Licence detailed above.

Legislative requirement

According to EPA (2012), the specific requirements for pollution incident response management plans are set out in Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) and the Protection of the Environment Operations (General) Regulation 2009 (POEO(G) Regulation).¹ In summary, this provision requires the following:

- All holders of environment protection licences must prepare a pollution incident response management plan (section 153A, POEO Act).
- The plan must include the information detailed in the POEO Act (section 153C) and be in the form required by the POEO (G) Regulation (clause 98B).
- Licensees must keep the plan at the premises to which the environment protection licence relates (section 153D, POEO Act).
- Licensees must test the plan in accordance with the POEO (G) Regulation (clause 98E).

¹ As amended by the Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012: see www.legislation.nsw.gov.au/sessionalview/sessional/sr/2012-54.pdf

If a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened, licensees must immediately implement the plan (section 153F, POEO Act).

Amendments to regulation

An amendment to the POEO (G) Regulation has been made (by the Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012) with the object of specifying additional matters that need to be included in plans.

Definitions

The following definitions are used:

Term	Definition
Incident	Unplanned event that causes or threatens harm to human health, the environment, plant and equipment, vehicles, property, security or infrastructure
Pollution Incident	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.
Event	An abnormal occurrence that does not result in an incident or 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 as:

- 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.

Immediate notification

Industry is now required to report pollution incidents **immediately** to the EPA, NSW Health, Fire and Rescue NSW, WorkCover NSW and the local council.

'Immediately' has its ordinary dictionary meaning of promptly and without delay. These strengthened provisions will ensure that pollution incidents are reported directly to the relevant response agencies so they will have direct access to the information they need to manage and deal with the incident in a faster time.

The requirement to notify applies to:

- all holders of Environment Protection Licences (EPL)
- persons that undertake activities resulting in a pollution incident.

There are new associated offences, for individuals and corporations, for not preparing a plan, not keeping the plan at the premises to which it relates, not testing the plan in accordance with the Regulations and not implementing the plan in the case of an incident.

Protocol for notification of pollution incidents

An incident involving actual or potential harm to human or environmental health must be reported **immediately** to the EPA.

Firstly, call 000 if the incident presents an immediate threat to human health or property. Fire and Rescue NSW, the NSW Police and the NSW Ambulance Service are the first responders, as they are responsible for controlling and containing incidents.

If the incident does not require an initial combat agency, or once the 000 call has been made, notify the NPWS Site Manager or Central West Area Manager who will notify the relevant authorities in the following order. The 24-hour hotline for each authority is given when available:

- EPA, phone Environment Line on **131 555**
- NSW Health via the local Public Health Unit – **02 6330 5941**
- WorkCover Authority – phone **13 10 50 (Where appropriate)**
- Bathurst Regional Council Telephone **(02) 6333 6111**, After Hours **(02) 6334 2795**
- Fire and Rescue NSW – phone **1300 729 579 (Where appropriate)**
Note: If the situation warranted calling 000 as a first point of notification, you do not need to ring Fire and Rescue NSW again.
- Western Rivers Duty officer **(02) 63326350**
- Emergency plumber **0413598979**

Pollution incident response

NPWS general response protocol to hazardous chemicals including sewage is detailed in Appendix C – NPWS Response to hazardous chemicals. It is copied from NPWS Western Rivers Region's Regional Incident Procedures.²

Incident specific pollution response protocols are detailed in Appendix D – Incident specific response flowcharts.

Communicating with neighbours and the local community

Communicating with neighbours and the local community is an important element in incident response. Due to the small scale and low risk nature of the Hill End Sewer System most communication is likely to be by way of signage, in person or telephone calls.

Apart from the initial communication with effected stakeholders in the immediate vicinity, the Hill End Site Manger or delegated Incident Controller will utilise the Hill End stakeholder contact list to contact any relevant parties. The pre-emptive action list includes identification of residents and businesses within each sewer line catchment. Contact details are retained within the Hill End NPWS office. Bulk SMS texts similar to fire warnings may be utilised. If necessary door knocking will be conducted.

Minimising harm to persons on the premises

The main premises relevant to the Hill end sewerage system are the Clarke St Pump Station and the pump tanks, as well as the Haeflinger's and Reef Street transfer stations. There is risk of toxic

² See www.environment.nsw.gov.au/pollution/notificationprotocol.htm

gas accumulation in the pump out tanks. Only people with Confined Space Certificates, appropriate Personal Protective Equipment (PPE) and Safe Work Methods will approach/enter the tank. Entry will only occur once the possible presence of toxic gas is assessed. The person entering the tank will follow WH&S protocols to enable recovery.

All staff will also be vaccinated against Hepatitis, supplied effective and relevant PPE and trained in hygiene and safety procedures. Staff will undergo annual training specifically focused on the risks associated with the sewer system.

Pre-emptive actions to be taken for the sewerage system

Pre-emptive actions include:

- clear incident response sequence that involves all relevant staff
- staff are trained in management and maintenance of sewerage systems
- staff likely to be involved with the waste system are vaccinated for tetanus and hepatitis B
- continued regular inspection of all sewerage systems in the village to ensure they are functional
- install shut off valves within the sewage collection and conveyance system that enable sewer leaks or ruptures to be isolated
- maintain the shut off valves
- provide maps identifying in detail the locations of the sewerage infrastructure in NPWS offices. Keep hard copy in maintenance vehicles. Update as necessary
- workshops have all necessary fittings and equipment to enable isolation repair and clean up
- maintain stakeholder register
- absorption material for minor spills of sewage
- emergency generators to enable continued pumping of sewage during blackouts
- stock of replacement pumps for the sewage pump stations
- external wash showers are available and operational.

Potential pollutants

All wastewater treatment plants collect and treat wastewater. Therefore sewage and its by-products are general pollutants at all wastewater systems and facilities operating under the licence. Sodium hypochlorite is used for treatment of water. No chemicals are used for treatment of wastewater.

The potential pollutants present at the sites, the location of the pollutants and the onsite quantity and/or storage capacity of the pollutants have been identified and are maintained onsite.

Safety equipment

Safety equipment includes:

- effective disinfectant, including small bottles with pumps for hand washing
- petrol/diesel powered pumps to enable collection of spilled sewage
- slip on emergency storage tank that can be quickly loaded on a land cruiser utility (or similar)
- PPE, including long and short arm gloves, disposable overalls, face protection, gum boots.

General requirements for preparing Pollution Incident Response Management Plans

Note: In the following discussion, use of the term 'section' refers to provisions in the POEO Act and 'clause' to provisions of the POEO (G) Regulation.

Form of plans [section 153D and clause 98B (1)]

As the purpose of plans is to improve the management of pollution incidents and facilitate better coordination with the relevant response agencies, they must be able to be provided in written form, and be available at the premises and able to be provided to an authorised EPA officer on request. While plans can be prepared and stored in other forms, a written copy must be available to an authorised EPA officer and to any person who is responsible for implementing the plan.

Relationship with other emergency plans [clause 98B (2)]

Many licensed premises already have a plan (or equivalent plan, which may be known as an emergency response plan, emergency plan or incident response plan). These plans may have been prepared to comply with legislation such as the Work Health and Safety Regulation 2011, conditions of consent issued under the *Environmental Planning and Assessment Act 1979*, an environment protection licence issued under the POEO Act or other regulatory instruments.

A licensee who already has a plan or equivalent plan in place is not necessarily required to prepare a new or separate plan under these legislative changes. A plan may form part of another existing emergency or incident management plan as long as the information required to be included in the plan is readily identified in another document as meeting the requirements of section 153C of the POEO Act and the POEO (G) Regulation.

Hazard identification and risk control

Description of hazards relating to the sewage collection, transfer and treatment system at Hill End

A risk analysis was undertaken as part of the long term management plan for the sewerage system at Hill End. The results are reported in the Risk Register.

The main hazards identified in the risk assessment are:

1. leakage or overflow if individual septic tanks
2. blockage of sewer pipe leading to leakage of sewage
3. rupture of sewer pipe leading to leakage of sewage
4. pump failure or lengthy power outage leading to surcharging sewage to local stream line
5. blockage or rupture of sewer rising main leading to leakage of sewage
6. maturation pond embankment failure

Risk register

A list of potential pollution incidents from treatment processes, their likelihood, potential impacts and existing controls have been identified in the Water and Sewer Risk Register which is detailed in Appendix B – Risk register.

The risks associated with an identified hazard are determined using a worst case scenario approach. The controls are then identified, applied and evaluated.

Appendix A – Location of premises

The following two figures are locality maps generated in Google Earth Pro™. The figures show the key water and wastewater localities referenced in this PRIMP at 500 metres and 200 metres scales.

The localities that could be affected by a significant pollution incident are as follows:

- Germantown Reservoirs – drinking water storage for Hill End Historic Site.
- Clarke St Pump Station – two interconnected wet wells transferring all sewage to the Treatment Ponds.
- Reef St Transfer Station – single wet well transferring sewage to Clarke St Pump Station.
- Haeflingers Transfer Station – single well transferring sewage to Clarke St Pump Station.

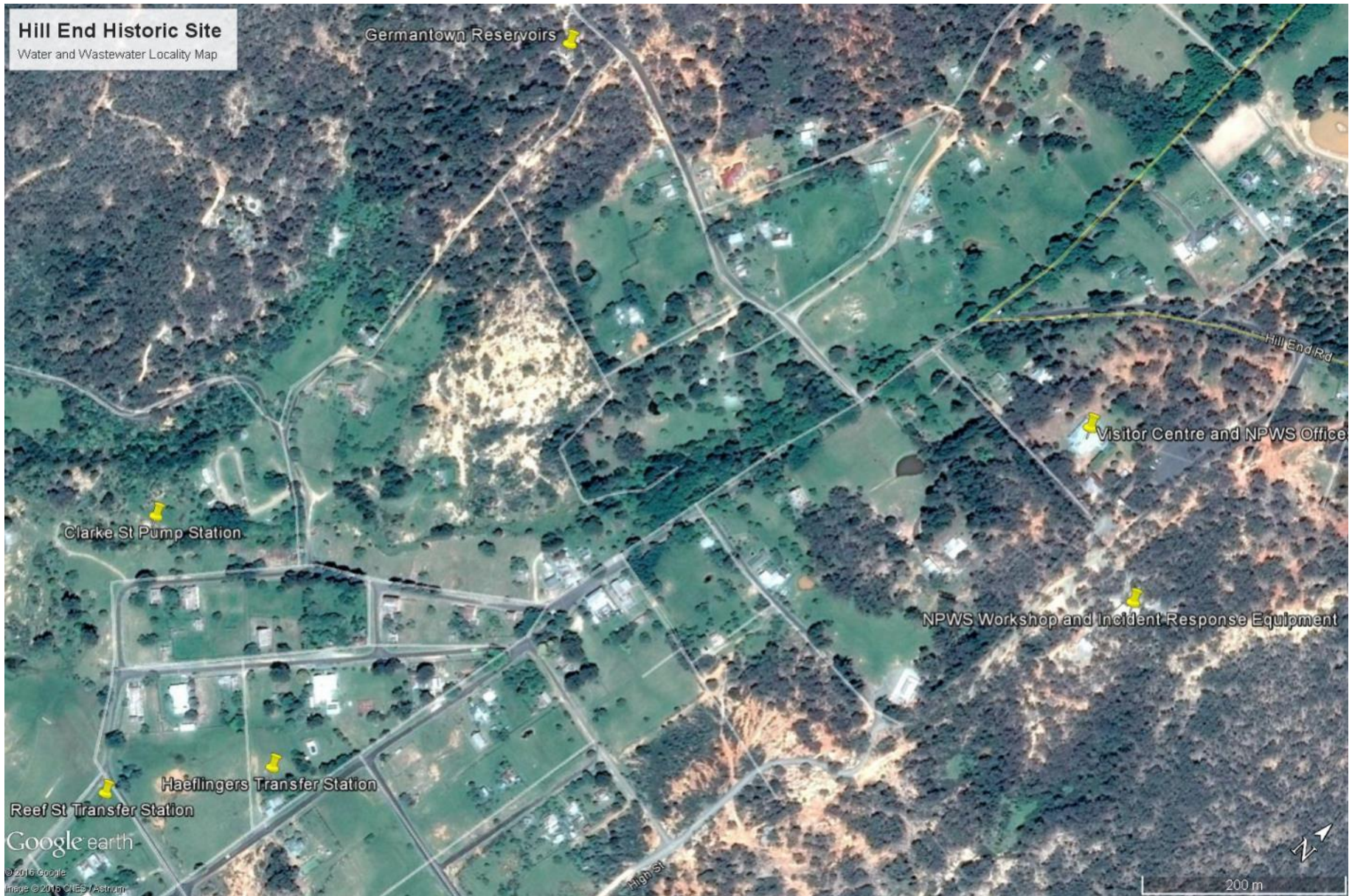
The localities relevant to an incident response are as follows:

- Visitor Centre and NPWS Offices – principal location of NPWS Management and Field Officers.
- NPWS Workshop – location of incident response equipment.

Pollution Incident Response Management Plan



Pollution Incident Response Management Plan



Appendix B – Risk register

An environmental risk register for Hill End Historic Site is provided in Table 4. The risk assessment is based on the qualitative measures of likelihood, consequence, and risk provided in Australian Recycled Water Guidelines 2006 (ARWG); see Table 1, Table 2, and Table 3. The ARWG methodology was selected as it adequately assesses risk to both health and environment.

Table 1: Qualitative measures of likelihood (AGWR 2006, Table 2.5)

Level	Descriptor	Example Description
A	Rare	May occur only in exceptional circumstances. May occur once in 100 years
B	Unlikely	Could occur within 20 years or in unusual circumstances
C	Possible	Might occur or should be expected to occur within a 5- to 10-year period
D	Likely	Will probably occur within a 1- to 5-year period
E	Almost Certain	Is expected to occur with a probability of multiple occurrences within a year

Table 2: Qualitative measures of consequence of impact (AGWR 2006, Table 2.6)

Level	Descriptor	Example description
1	Insignificant	Insignificant impact or not detectable
2	Minor	Health — Minor impact for small population Environment — Potentially harmful to local ecosystem with local impacts contained to site
3	Moderate	Health — Minor impact for large population Environment — Potentially harmful to regional ecosystem with local impacts primarily contained to on-site
4	Major	Health — Major impact for small population Environment — Potentially lethal to local ecosystem; predominantly local, but potential for off-site impacts
5	Catastrophic	Health — Major impact for large population Environment — Potentially lethal to regional ecosystem or threatened species; widespread on-site and off-site impacts

Pollution Incident Response Management Plan

Table 3: Qualative risk estimation (AGWR 2006, Table 2.7)

Likelihood	Consequence				
	1. Insignificant	2. Minor	3. Moderate	4. Major	5. Catastrophic
A. Rare	Low	Low	Low	High	High
B. Unlikely	Low	Low	Moderate	High	Very High
C. Possible	Low	Moderate	High	Very High	Very High
D. Likely	Low	Moderate	High	Very High	Very High
E. Almost Certain	Low	Moderate	High	Very High	Very High

Table 4: Hill End Historic Site risk register.

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
1	Water supply	Reservoir rupture or leak due to structural failure	Erosion. Property Damage. Environmental release of chlorinated water.	C. Possible	3. Moderate	High	Incident reporting. Routine inspection of reservoirs. Suitable reservoir materials, design, and installation. Reactive and preventative maintenance. Incident response plan.	A. Rare	3. Moderate	Low	
2	Water supply	Reservoir rupture or leak due to vandalism or unintentional damage	Erosion. Property Damage. Environmental release of chlorinated water.	C. Possible	3. Moderate	High	Incident reporting. Routine inspection of reservoirs. Security fence and locked gates to prevent public access. Reactive maintenance. Incident response plan.	A. Rare	3. Moderate	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
3	Water supply	Mains burst or leak	Erosion. Property Damage. Environmental release of chlorinated water.	D. Likely	2. Minor	Moderate	Incident reporting. Use of piping compliant with relevant codes and standards. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	2. Minor	Low	
4	Water supply	Unintentional damage to mains resulting in burst or leak, e.g. during excavation.	Erosion. Property Damage. Environmental release of chlorinated water.	D. Likely	2. Minor	Moderate	Incident reporting. Location of all mains GIS mapped avoid damage during excavation and building works. All mains buried to prevent mechanical damage. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	2. Minor	Low	
5	Septic Tanks at NPWS facilities	Leakage due to mechanical failure or degradation.	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	C. Possible	2. Minor	Moderate	Incident reporting. Periodic inspection. Reactive and preventative maintenance. Septic tanks compliant with relevant codes and standards. Incident response plan.	B. Unlikely	2. Minor	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
6	Septic Tanks at NPWS facilities	Overflow due to blockage.	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Incident reporting. Public awareness Periodic inspection. Reactive and preventative maintenance. Periodic pump outs. Incident response plan.	B. Unlikely	2. Minor	Low	
7	Sewage Transfer Stations	Wet well leakage due to mechanical failure or degradation.	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	C. Possible	2. Minor	Moderate	Incident reporting. Periodic inspection. Preventative and reactive maintenance Wet wells (tanks) compliant with relevant codes and standards. Incident response plan.	B. Unlikely	2. Minor	Low	
8	Sewage Transfer Stations	Power outage resulting in overflow to environment.	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	E. Almost Certain	2. Minor	Moderate	Incident reporting. Storage volume in wet wells. Bunding surrounding transfer stations. Telemetry system with alarms. Incident response plan.	C. Possible	2. Minor	Moderate	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
9	Sewage Transfer Stations	Pump failure or blockage resulting overflow to environment	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Incident reporting. Storage volume in wet wells. Bunding surrounding transfer stations. Periodic inspection. Telemetry system with alarms. Duty/standby grinder pumps. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	2. Minor	Low	
10	Sewage Transfer Stations	Failure due to vandalism or unintentional damage	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	C. Possible	2. Minor	Moderate	Incident reporting. Storage volume in wet wells. Bunding surrounding transfer stations. Pump stationed are fenced. Periodic inspection. Telemetry system with alarms. Duty/standby grinder pumps. Incident response plan.	B. Unlikely	2. Minor	Low	
11	Clarke St Sewage Pump Station	Wet well leakage due to mechanical failure or degradation.	Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	C. Possible	2. Minor	Moderate	Incident reporting. Preventative and reactive maintenance . Periodic inspection. Wet wells (tanks) compliant with relevant codes and standards. Incident response plan.	B. Unlikely	2. Minor	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
12	Clarke St Sewage Pump Station	Power outage resulting in overflow to environment	Erosion. Property damage. Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	E. Almost Certain	3. Moderate	High	Incident reporting. Storage volume in wet wells. Bunding surrounding pump station. Telemetry system with alarms. Standby generator. Incident response plan.	B. Unlikely	2. Minor	Low	
13	Clarke St Sewage Pump Station	Pump failure or blockage resulting in overflow to environment.	Erosion. Property damage. Pathogens. Nutrients. Solids. Contamination of local environment and groundwater.	D. Likely	3. Moderate	High	Incident reporting. Storage volume in wet wells. Reactive and preventative maintenance. Bunding surrounding pump station. Telemetry system with alarms. Duty standby/grinder pumps. Duty/standby wet wells. Incident response plan.	B. Unlikely	2. Minor	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
14	Clarke St Sewage Pump Station	High load during rainfall resulting in overflow to environment.	Erosion. Property damage. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	C. Possible	3. Moderate	High	Incident reporting. Storage volume in wet wells. Bunding surrounding pump station. Telemetry system with alarms. Duty/standby wet wells. Sewage network has been audited for illegal connections. Reactive and preventative maintenance of sewerage network. Incident response plan.	B. Unlikely	2. Minor	Low	
15	Clarke St Sewage Pump Station	Failure due to vandalism or unintentional damage	Erosion. Property damage. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	C. Possible	2. Minor	Moderate	Incident reporting. Storage volume in wet wells. Bunding surrounding pump station. Telemetry system with alarms. Duty/standby grinder pumps. Duty/standby wet wells. Security fencing and locked gates. Incident response plan.	B. Unlikely	2. Minor	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
16	Sewerage Gravity Mains	Blockage of pipe result in sewage backing up and overflowing.	Property damage. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Incident reporting. Public awareness. All connections have septic tanks for remove solids. Reactive maintenance. Overflow likely to occur at septic tanks rather than in premises. Incident response plan.	C. Possible	2. Minor	Moderate	
17	Sewerage Gravity Mains	Mains break or leak.	Property damage. Erosion. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Incident reporting. Use of piping compliant with relevant codes and standards. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	2. Minor	Low	
18	Sewerage Gravity Mains	Unintentional damage to mains resulting break or leak, e.g. during excavation.	Property damage. Erosion. Pathogens. Nutrients. Solids. Local contamination of local	D. Likely	2. Minor	Moderate	Incident reporting. Location of all mains GIS mapped avoid damage during excavation and building works. All mains buried to prevent mechanical damage. Reactive maintenance. Incident response plan.	B. Unlikely	2. Minor	Low	

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
			environment and groundwater.								
19	Sewerage Pressure Main	Pipe rupture or leakage resulting in discharge to environment.	Erosion. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	D. Likely	3. Moderate	High	Incident reporting. Use of piping compliant with relevant codes and standards. Transfer line is frequently inspected. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	3. Moderate	Moderate	Single 50 mm transfer line to Treatment Ponds.
20	Sewerage Pressure Main	Unintentional damage to pipe resulting in burst or leak, e.g. during excavation.	Erosion. Pathogens. Nutrients. Solids. Local contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Incident reporting. Location is GIS mapped avoid damage during excavation and building works. Isolated location. Frequent inspection. Reactive and preventative maintenance. Incident response plan.	B. Unlikely	3. Moderate	Moderate	Single 50 mm transfer line to Treatment Ponds.

Pollution Incident Response Management Plan

No.	Area/ Process	Hazardous event	Potential hazards	Uncontrolled risk			Control measures currently in place	Controlled risk			Comment
				Likelihood	Consequence	Risk score		Likelihood	Consequence	Risk score	
21	Treatment Ponds	Maturation pond embankment failure	Erosion. Pathogens. Nutrients. Solids. Contamination of regional environment and groundwater.	C. Possible	3. Moderate	High	Incident reporting. Reactive and preventative maintenance of embankments. Periodic inspection. Appropriate embankment design and construction. Ponds are concentric to capture discharge. Incident response plan.	A. Rare	3. Moderate	Low	
22	Treatment Ponds	Uncontrolled overflow to environment due to excessive inflow or heavy rainfall.	Erosion. Pathogens. Nutrients. Solids. Contamination of regional environment and groundwater.	C. Possible	3. Moderate	High	Incident reporting. Extremely large storage capacity. Periodic inspection. Rainwater runoff directed away from ponds. Incident response plan.	A. Rare	3. Moderate	Low	
23	NPWS fuel and chemical storage	Leak or spill of small amounts of chemicals or fuel to environment.	Hydrocarbons. Pesticides. Herbicides. Miscellaneous chemicals. Local contamination of local environment and groundwater.	D. Likely	2. Minor	Moderate	Employee training and awareness. Appropriate storage of chemicals. Bunding of fuel storages.	C. Possible	2. Minor	Moderate	

Appendix C – NPWS Response to hazardous chemicals

HAZMAT/POLLUTION 7

7 HAZMAT / POLLUTION RESPONSE

7.1 Procedures

HAZMAT

The **NSW Fire Brigade** is the primary combat agency, and the **NSW EPA** is the primary legislative authority for environmentally hazardous chemicals.

POLLUTION

The **NSW EPA** is the primary combat agency for general pollution incidents including a small fuel/chemical spill, a non-trivial sewage discharge, a modest pile of dumped rubbish if it includes asbestos, or significant sediment runoff into a watercourse from ground disturbed by fire, maintenance or construction works.

The NPWS role in spillage incidents is:

- ▶ early reporting of incidents,
- ▶ initial action to secure the incident ground, where appropriate; and
- ▶ providing liaison to help minimise impact on NPWS estate.

On receipt of a Hazmat / Pollution report:

①

RECORD INFORMATION

- ▶ name and contact details of person making report
- ▶ time of report
- ▶ exact location of incident, drift rate and weather conditions
- ▶ type of incident (fire, spillage etc.) and quantity involved
- ▶ information on dangerous goods label or emergency information panel
- ▶ potential impacts (houses, wildlife, waterways etc.)
- ▶ current controls in place (if any)

Response if NPWS staff are first on site:

②

INVESTIGATE REPORT

- ▶ Deploy staff to confirm report & monitor situation and if safe evacuate persons in the vicinity.

Safety considerations for Hazmat:

- ▶ Remain upwind and uphill of the incident, gas cloud or spillage.
- ▶ Avoid inhalation of fumes if possible (hence stay upwind).
- ▶ If safe, evacuate any persons in the vicinity.
- ▶ Avoid skin contact.
- ▶ Eliminate all sources of ignition.



- ▶ Rescue of a driver should only occur if:
 - the HazChem Code indicates breathing apparatus is only required for fire;
 - the officer is aware of the health hazards posed by the substance, & is appropriately equipped and;
 - all potential ignition sources have been eliminated.
- ▶ Where there is no emergency information panel on the vehicle, it will be assumed that the HAZMAT Code for the substance is 4WE (Dry Agent, Explosive, and Evacuation).

7 HAZMAT/POLLUTION



Safety considerations for Pollution:

- ▶ Sewerage spills contain harmful bacteria and any contact with sewerage should be avoided.
- ▶ Dumped rubbish may contain asbestos which is harmful if inhaled. Do not disturb the site unless wearing appropriate PPE including an Australian Standard dust mask. Dust can be minimised by wetting the debris with water. Asbestos must be removed appropriately.

- ▶ Assess the situation from a safe distance, obtaining information if possible from the:
 - emergency information panel or dangerous goods label
 - labels on packages or cartage notes
 - driver, occupier or user
 - local knowledge of substance
 - smells, vapours, fire or explosions at the scene.

For HAZMAT:

- ▶ Call the Police and the NSW Fire Brigade (000)
- ▶ EPA Duty Hazmat Advice Coordinator (0418 445 035)

For POLLUTION:

- ▶ Call OEH Environment Line on 131 555 (24hrs)

- ▶ Advise relevant AM, Regional Manager & RDO.

- ▶ Communicate the following information:
 - UN number and substance name
 - Hazchem Code
 - name of manufacturer and carrier, and phone number
 - type of incident (fire, spillage, etc.)
 - quantity involved
 - form of the material (solid, liquid, gas, etc.)
 - location of incident
 - any exposures (houses, highway, dams, etc.).

3

INITIATE RESPONSE

For HAZMAT:

- ▶ AM or RDO to dispatch a liaison officer to report to the IC and relay information including:
 - Substance
 - Threats posed to OEH Estate & wildlife
 - Strategies for containment & cleanup
- ▶ Provide support & assistance to IC:
 - Personnel & equipment
 - Communication
 - Local knowledge
 - Command centre
- ▶ Where **spillages are on or immediately upstream of OEH Estate** the Liaison Officer should advise the IC of:
 - the location of natural and cultural resources requiring protection
 - appropriate access route
 - constraints to operations to ensure protection of OEH Estate, wildlife and significant conservation sites,

HAZMAT/POLLUTION 7

- rehabilitation works as a consequence of clean-up operations
- ▶ Preferred strategies for spillages, depending on substance are:
 - containment or containment and dilution within impoundments
 - substance removal
 - **dilution and no containment is NOT acceptable**

For POLLUTION:


- ▶ **OEH staff on the Environment Line will provide advice on the best method of containment and clean up depending upon the nature of the pollution.**
- ▶ General dumped rubbish should be removed by field staff unless it contains asbestos.
- ▶ Small sewerage, fuel or chemical spills can be contained using hay bales or bunding and diluted with water (if appropriate – check HAZCHEM code or emergency information panel)
- ▶ Sedimentation of watercourses may be contained using sediment mesh. Hay bales may also be used however they may need to be staked to the ground to prevent them washing away and they have a tendency to sprout if left too long.

4

NOTIFICATION

- ▶ Advise RDO (ph. 02 **6332 6350**) and State DO (ph. 02 **9895 6444**).
- ▶ Under the POEO Act, any incident potentially / causing “material harm to the environment” must be notified “as soon as practicable” (ph: **131 555**). Material harm to the environment means:
 - actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
 - actual or potential loss or property damage exceeding the amount of \$10,000.

The State DO will advise Manager FIMS, Public Affairs DO and Head of Parks if appropriate

Hazchem Scale		UN No. Hazchem	
FOR FIRE OR SPILLAGE			
1	COARSE SPRAY		
2	FINE SPRAY		
3	FOAM		
4	DRY AGENT		
*	ALCHOL RESISTANT SPRAY		
P	V	LTS	DILUTE
R	V	BA & FIRE KIT	
S	V	LTS	CONTAIN
T	V	BA & FIRE KIT	
W	V	LTS	
X	V	BA & FIRE KIT	
Y	V	LTS	
Z	V	BA & FIRE KIT	
E		PUBLIC SAFETY HAZARD	

Additional information

DRY AGENT
Water must not be allowed to come into contact with the substance at risk

ALCHOL RESISTANT FOAM *2 OR *3
Alcohol resistant foam is the preferred medium.
If not available:
* 2 - use fine spray or fog
* 3 - use normal protein foam

V
Can be violently or even explosively reactive.

LTS
Liquid Tight Chemical Protective Suit with BA.
Full FIRE KIT should be also worn for thermal protection if the substance is:
Liquid Oxygen
Liquefied toxic gas (Division 2.3)
Toxic gas with sub-risk 2.1 or 5.1
Class or sub-risk 3
Division 5.1 PG1 with sub-risk 6.1 or 8
carted at temperature >100C

DILUTE
May be washed to drain with large quantities of water

CONTAIN
Prevent, by any means available, spillage from entering drains or watercourses

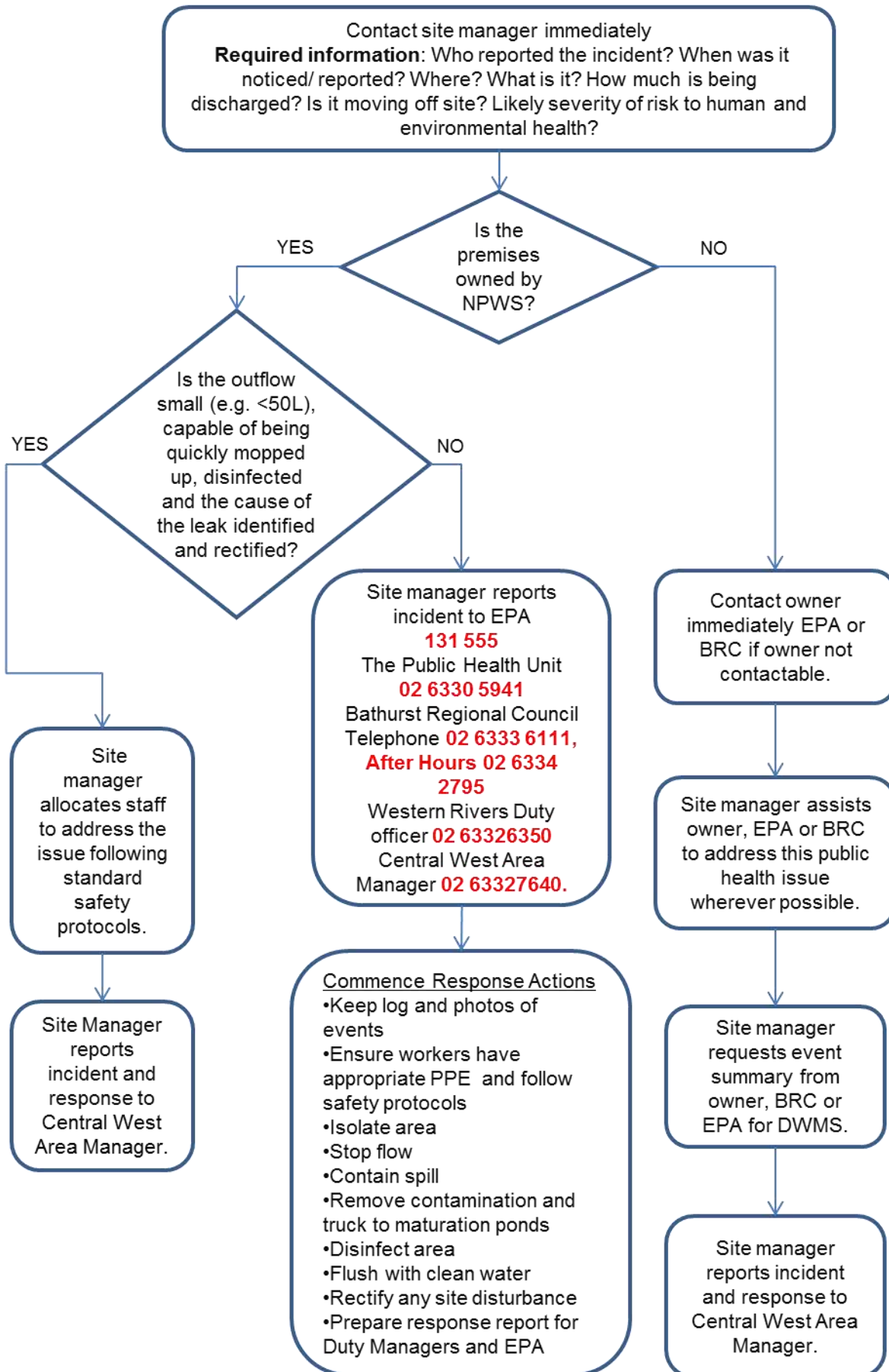
E
People should be warned to stay indoors with doors and windows closed - but evacuation may be considered. Control Control, Police and product expert

Appendix D – Incident specific response flowcharts

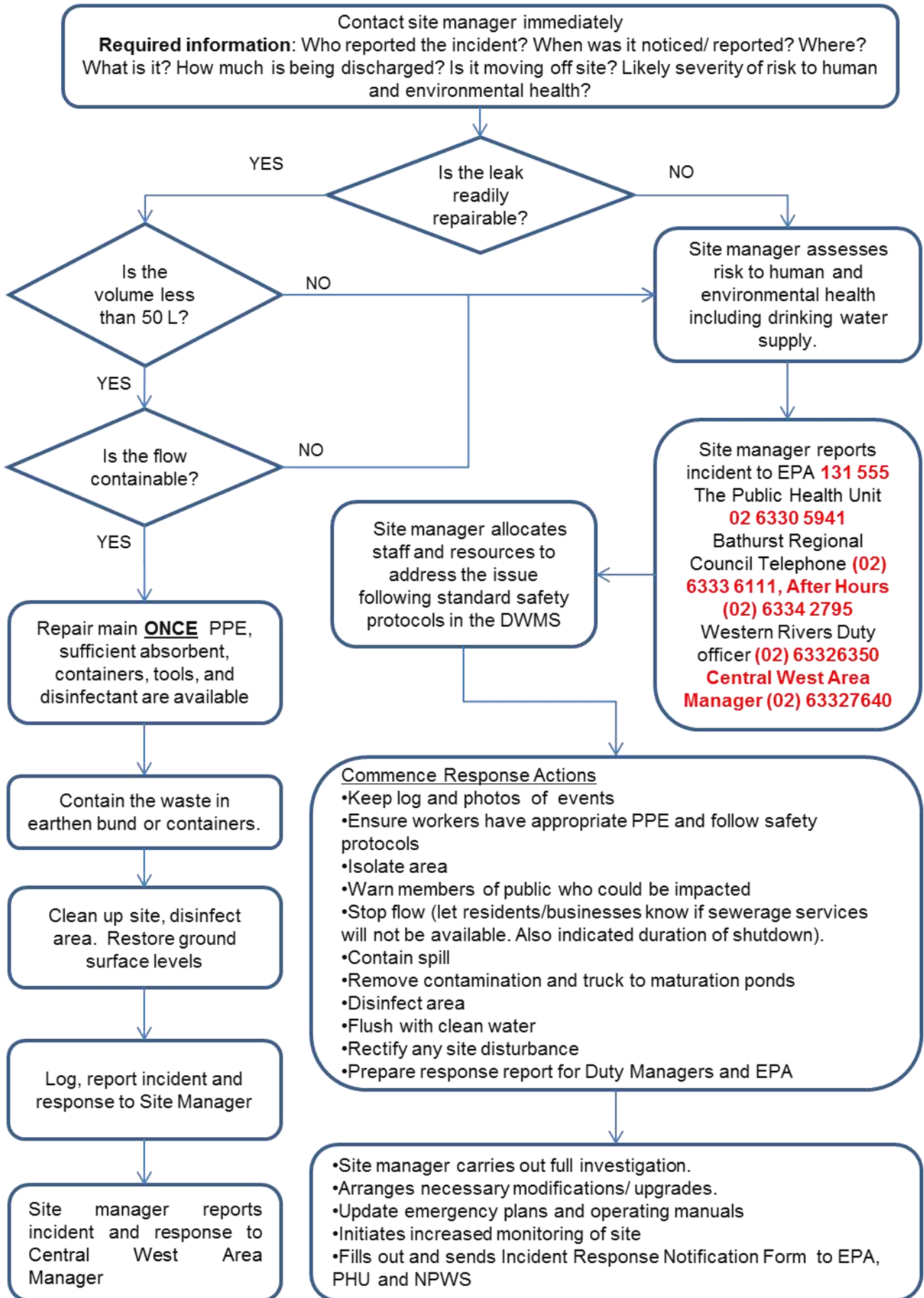
The following figures are response flowcharts for the following specific pollution incidents:

1. sewage outflow on individual premises
2. broken pressurised sewer main
3. blocked sewer main
4. sewer pump station failure
5. overtopping of ponds to the environment
6. pond embankment failure

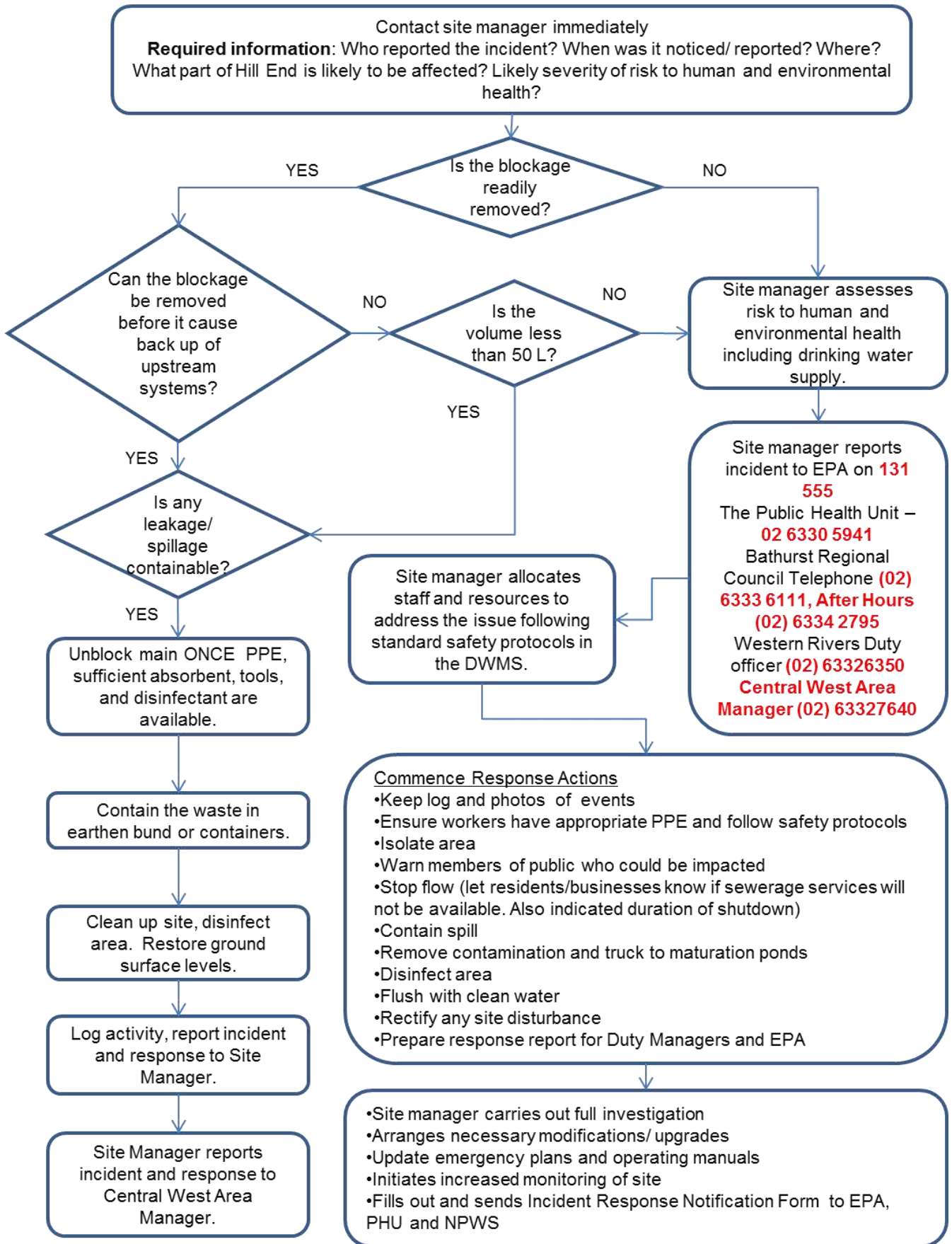
Sewage Outflow on Individual Premises



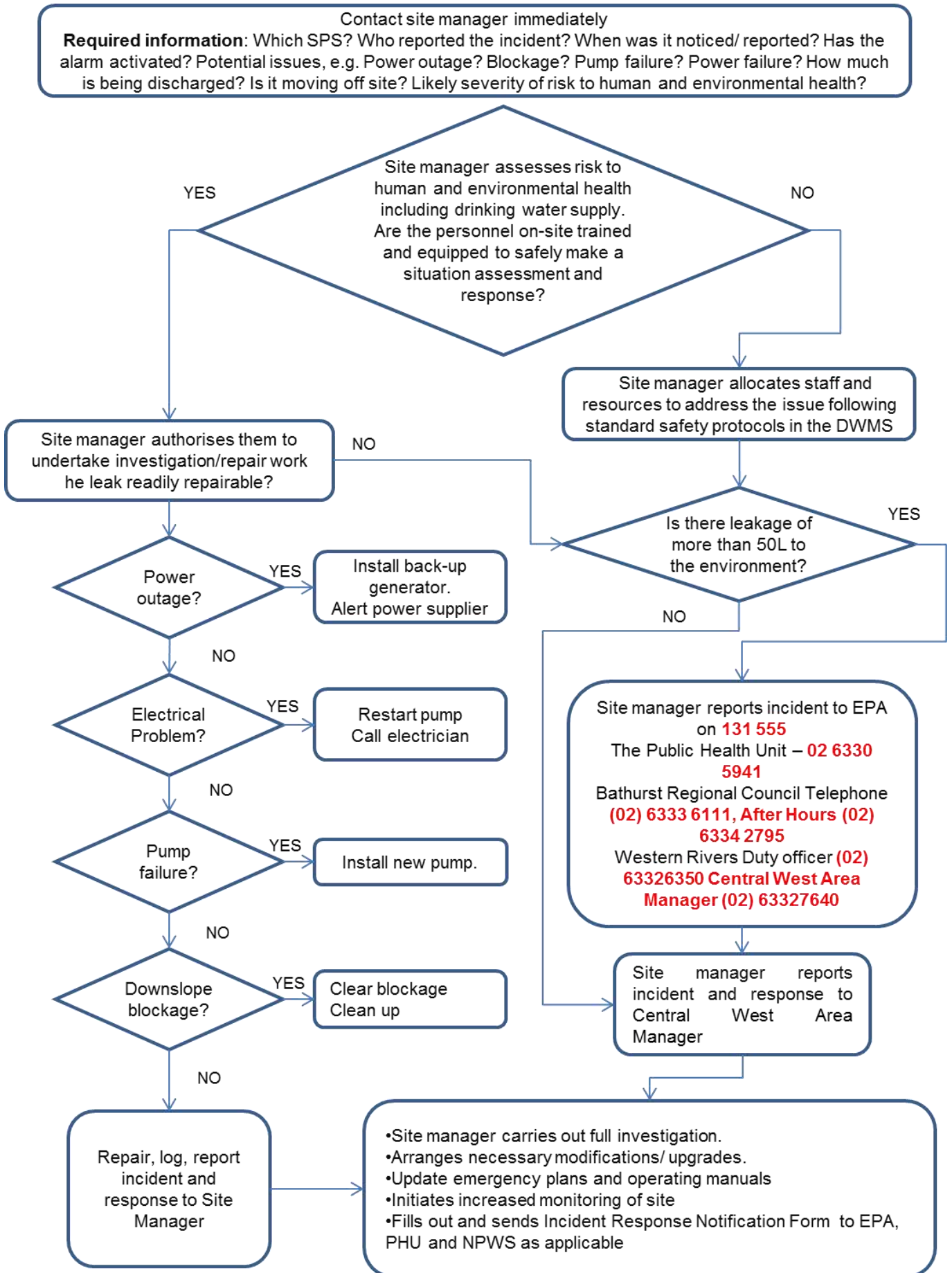
Broken Pressurised Sewer Main



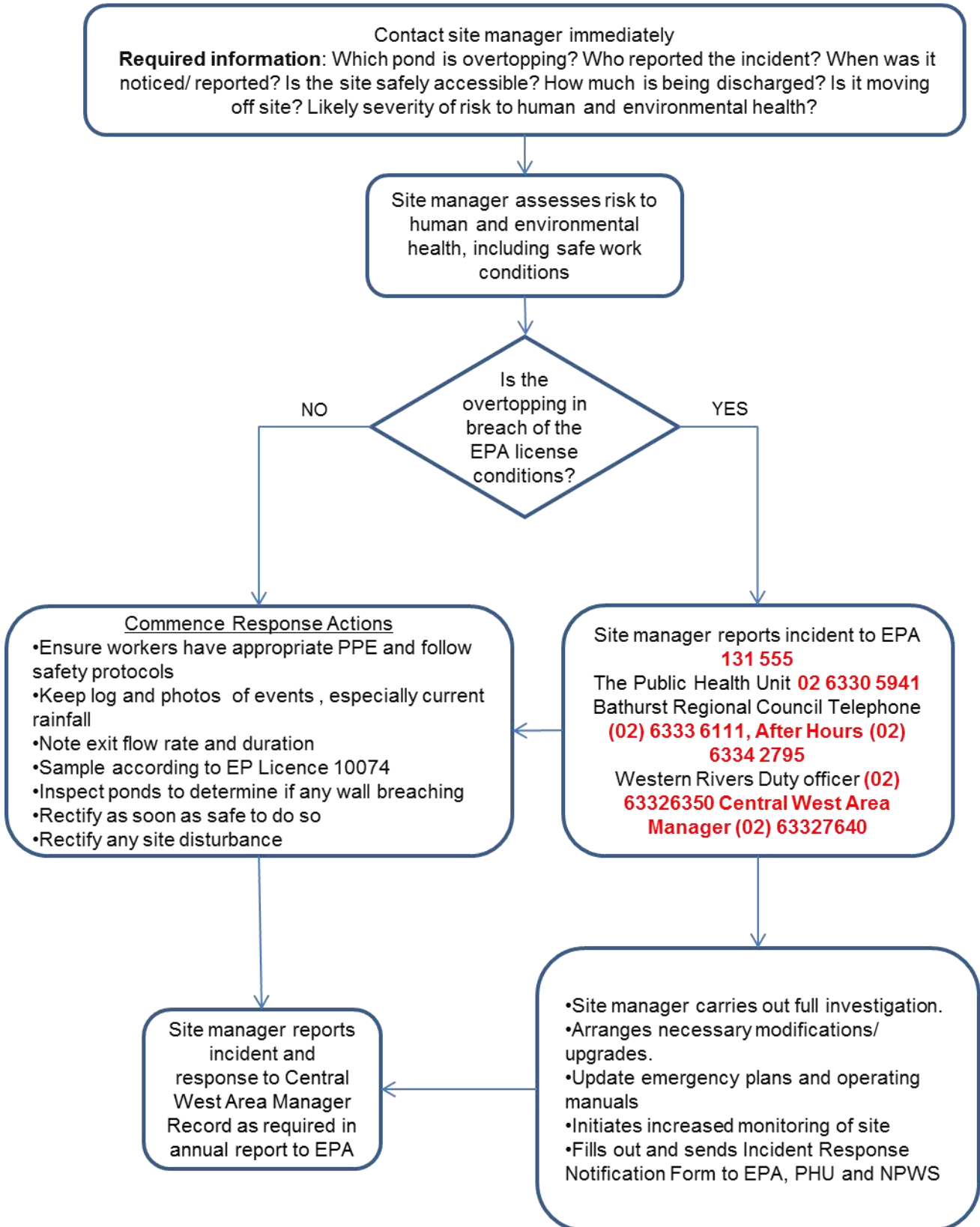
Blocked Sewer Main



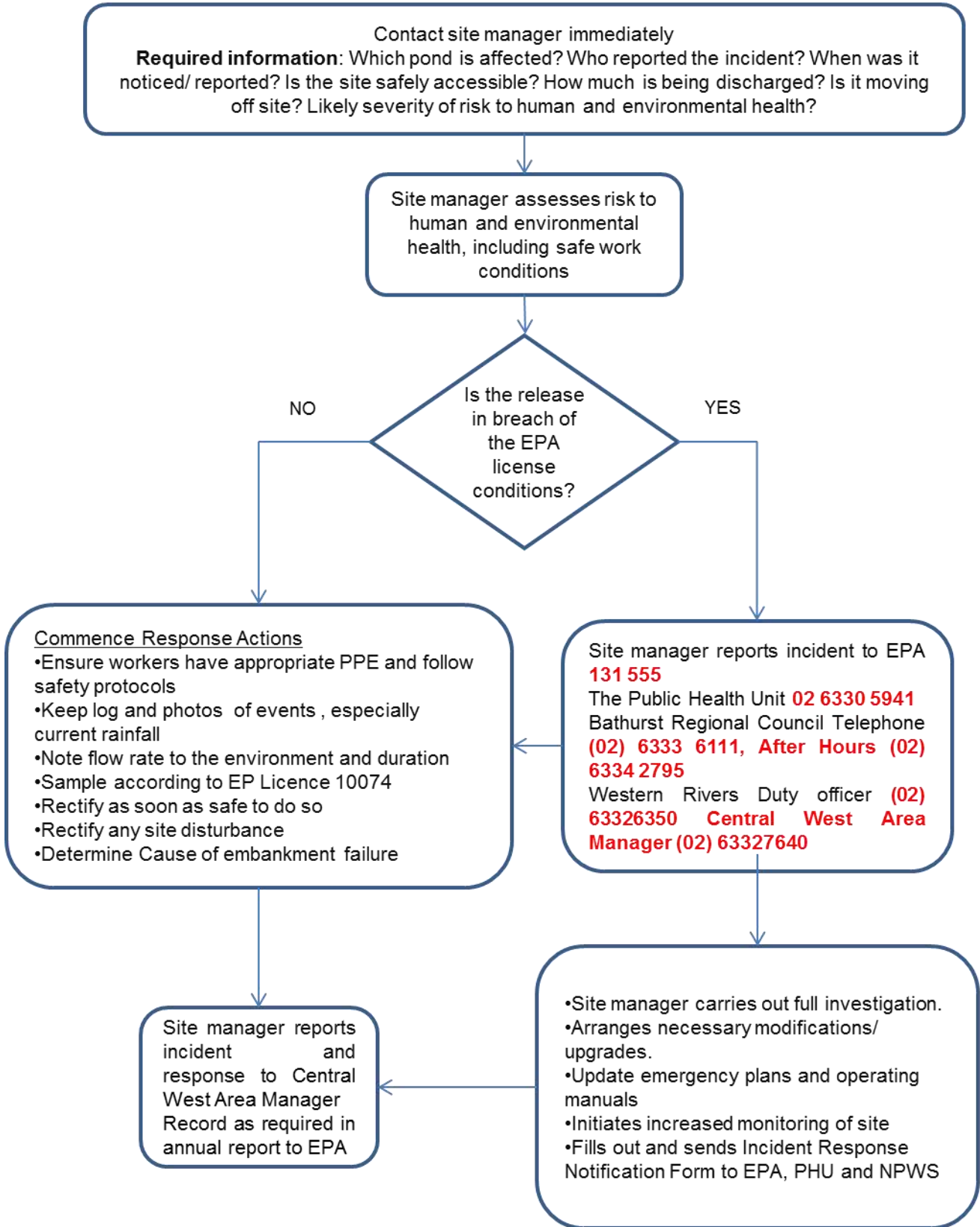
Sewer Pump Station (SPS) failure



Overtopping of Ponds to the Environment



Pond Embankment Failure



Appendix E – Letter of Incident Notification

Incident Notification for sewage spill or overflow

Component		Details
1	Location of incident (including geo-position if available)	
2	Time/date NPWS became aware of incident	
3	Method of notification	
4	Estimated volume of sewage involved	
5	Description of the receiving environment	
6	Apparent harm/ risk of harm to the receiving site	
7	Possible cause(s) of incident	
8	Incident reportage (as per section 8 above)	
9	Current situation report	
10	Proposed actions to clean up site.	
11	Site sampling proposed	
12	Result date(s)	

Name of authorised representative:
Position of authorised representative:
Signature of authorised representative:
Position of authorised representative:
Date:
Approved by NPWS manager:
Name:
Signature:
Date: