

Bellingen Shire Council

Pollution Incident Response Management Plan

Bellingen Sewage Treatment Plant

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1. Introduction

This plan has been developed to document the processes required to prepare for and respond to pollution incidents for the Bellinghen Sewage Treatment Plant (STP) and associated reticulation (EPA Licence No. 1274) and ensure that hazards to the environment, human health and safety are minimised if not eliminated. It has been prepared in accordance with the requirements of the Protection of the Environment Operations Act 1997 and Protection of the Environment Operations (General) Regulation 2009.

1.1 Scope

This Pollution Incident Response Management Plan applies to Bellinghen STP (EPA Licence No. 1274). For site plan and sewerage schematic, refer to Section 7.1 Appendix 1 - Site Plan.

2. Pollution Incident Response Management Plan

The area of Bellinghen is serviced by sewer mains and 6 pump stations which transfers sewage to the Bellinghen STP. Bellinghen STP treats approximately 600kL of sewage daily in dry weather, potentially reaching 10 times this flow during heavy rain periods. During sewage treatment, chemicals and by-products are produced which, if they are spilt or incorrectly managed, may contaminate the environment or threaten human health. A register of the chemicals is contained in Section 7.2 Appendix 2 - Site Chemical Register)

2.1 Potential Incidents

The potential hazards to the environment include:

Sewage overflow (raw or partially treated) – potentially caused by:

- Storms (lightning/heavy rainfall/wind) causing power failure or infrastructure damage
- Reticulation blockages
- Damage to reticulation (contractors or other damage during excavations etc)
- Infrastructure failure due to age
- SCADA/Communications failure
- Excessive flows
- Mechanical break down
- Power outage
- Treatment plant blockage
- UV failure

Chemical spill – potentially caused by:

- Tank/storage failure
- Delivery incident
- Damage to chemical reticulation
- Vandalism
- Inappropriate chemical use
- Bund failure

A detailed assessment of risks is provided in Section 7.4 Appendix 4 - Risk assessments and actions. For detail on actions to reduce risks see Section 2.5 Pre-emptive Measures and Section 7.5 Appendix 5 - Action plans to minimise harm.

2.2 Incident Response

This section details the response requirements in the event of an incident. In all situations:

The business hours emergency number for BSC is (02) 6655 7300

The after hours emergency number for BSC is (02) 6655 7300

During working hours, these calls are taken by staff on the BSC Switch. If the call is after hours, the call is redirected to a call centre in Lismore, who informs appropriate personnel of issues and incidents. BSC operates a rostered on-call system, ensuring that an experienced operator is on-call at all times. The call centre will contact the on-call operator. The on-call the operator may also receive alarms from pump stations or the STP via the telemetry system. The telemetry system utilises the SMS mobile phone network to advise of critical alarms. The on-call operator also has access to other qualified staff to assist in an after hours repair or emergency. SOP's are in place to cover an after hours emergency.

2.2.1 Human health or Safety Incident

If there is immediate threat to Human health or Safety, call triple zero "000" ("112" if using a mobile) and implement the following process:

1. Undertake reporting in accordance with the procedures listed in the ***Sewerage Overflow Notification Protocol***
2. If required, evacuate the site
3. Contact Manager of Water and Sewerage (**0429 100 887**)
4. If there is an injury Contact Council's Human Resources Officer on 6655 7300. If there is no injury Contact Council's Manager of Water and Sewerage on 0429 100 887 or DGM Operations on 6655 7300.

2.2.2 Pollution incident

During a pollution incident which involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, Bellingen Shire Council must notify the following authorities immediately:

- | | |
|---|---------------------|
| 1. EPA Environment Line (written report to be provided within 7 days) | 131 555 |
| 2. NSW Health | 1300 555 555 |
| 3. Work Cover | 131050 |
| 4. Fire & Rescue | 000 |

Bellingen Shire Council should also consider contacting the following as soon as practical:

1. The staff member's Supervisor, Coordinator and Manager
2. Affected neighbours
3. Fisheries **1800 043 536**
4. Chemical supplier **Refer to the MSDS**
4. NSW Shellfish Program **0407 078 269 or (02) 97414749 or 9471 4777**

In all situations where there is damage and/or loss to private property or a member of the public due to an incident related to this plan contact:

Council's Manager Governance **(02) 6655 7300**

All communications with emergency response agencies due to incidents that apply to this plan must be made through the Manager of Water and Sewerage

2.3 Community notification

Impacts on the community due to sewage distribution and treatment incidents are variable and depend on location, volumes of spills or other factors. Communication methods will be used on a case by case basis and in all situations Bellingen Shire Council will attempt to provide early warning to directly affected premises (either upstream or downstream depending on tidal impacts where relevant) by phone call or site visit. Early warning is to include details of what the incident is, how those affected can prepare and respond, and provide important advice such as avoiding contact and use of affected waterways.

Where early warning is not possible Bellingen Shire Council will provide notification and communication during and after an incident to advise those affected with information, advice and updates. Notification and communication methods will be determined on a case by case basis and the following methods may be used:

- Phone calls
- Media releases (radio/television/newspaper/internet/social media as required)
- Site visits/door knocking
- Letter drops
- Warning signs
- Other methods as the situation requires

In the event of a chemical or sewage spill into stormwater or waterway, Bellingen Shire Council staff are to go to prominent and/or high use areas of the affected waterway and erect signage. The signs are to warn water users of the contamination and advise them to avoid activities such as swimming, fishing, shell fish collection and boating until contamination has cleared. Additionally, if the event occurred or was occurring during dry weather, Bellingen Shire Council staff are to attend popular sites and advise users directly.

Contaminated land is to be disinfected, ponded sewage pumped out and faecal coliforms are to be monitored until background levels are reached.

Regular communication and notification is to be provided until the incident and clean up of impacted site and affected areas has been complete (e.g. faecal coliforms have returned to background levels). Bellingen Shire Council is to take signs down and advise the public that regular activities can be resumed by (as required):

- Phone calls
- Media releases (radio/television/newspaper/internet/social media as required)
- Letter drops
- Other methods as the situation requires

2.3.1 Incidents at the Sewage Treatment Plant

The town of Bellingen is 250m away from the Bellingen STP. The nearest neighbour from the Bellingen STP is approximately 120 metres North West. There is nothing onsite that would create an emergency for any neighbours. However, if an incident did occur and any community members or neighbours were affected then the processes listed in Section 2.3 Community notification above would be implemented as required.

2.4 Incident Investigation

All emergencies must be investigated. For all other incidents, the manager (with guidance from review personnel) will decide whether an incident investigation will be conducted. When an incident investigation is required, the relevant manager is responsible for:

- Forming the investigation team

Co-ordinating the investigation

Note: Council's WHS Unit has incident procedures and documentation which should be used when conducting the investigation.

A de-brief is to be conducted for all emergency incidents. However, the responsible manager may also initiate de-briefs for other incidents where they feel it is appropriate.

2.5 Pre-emptive Measures

2.5.1 Physical and preventative measures

First priority for pre-emptive measures is to eliminate substances that can become potential pollutants. If this is not possible, physical barriers should be installed to prevent pollutants from entering the environment such as bunding and spill drainage containment. At the Bellingin STP, all chemical storages are bunded to ensure that if the storage fails the pollutant is contained and treatment process bypasses are installed to prevent partially treated sewage spills due to reticulation issues. Additionally, the reticulation, pump stations, and Bellingin STP have multiple alarm systems to alert operators of conditions that may result in incidents, which include:

- High level alarms
- Communication failure
- Power failure
- Pump issue alarm

In the event that these systems fail, Bellingin Shire Council has portable generators and other containment options available. The STP has a hard wired permanent generator that start automatically on power failure.

Power failures can occur at any time and can be planned or unplanned interruptions, when a SPS experiences a power failure the telemetry system will activate an alarm via the SMS network to alert the on-call/duty personnel. All of the SPSs in the Bellingin area have generator inlets installed. Council has a 150, 100 and 80KVA trailer mounted generator located at Urunga and Bellingin STP's. The 150 KVA generator is capable of running all of the Bellingin's SPS's. There is also a 160KVA generator hard wired with auto start and change over at the Bellingin STP capable of running the entire plant.

[Appendix 7 - Power Failures Generator Priorities](#) identifies the ranking order of generator supply required in the event of a total power failure. The ranking (Table 2) is based on retention times in the SPS and their upstream catchments. Rankings will stay the same for both ADWF and wet weather conditions, however response times will need to increase in wet weather events.

Any manhole can overflow/surcharge due to a sewer choke at any time, this may cause a minor or major overflow/surcharge into the stormwater system.

2.5.2 Preventative monitoring and maintenance

Bellingin Shire Council uses monitoring and preventative maintenance to reduce the potential for incidents at both the STP and for the reticulation and pump stations. Many specific actions occur in regular cycle, from daily checks (e.g. chemical quantities, check pump stations via telemetry, vandalism, bunds), monthly checks (e.g. valve exercising, inspection of controlled overflow/surcharge points), and annual checks (e.g. RPZ testing, service pumps, electrical inspections of pump controls). More detail on regular operational/maintenance activities is provided below;

Activity	Frequency
Sewage Treatment Plant	
Operate the STP as per operation and maintenance procedures	Daily
Pumping Stations	
Check pump station operations via telemetry system	Daily
Check pump stations not connected to telemetry	Daily
Visual check of pumping operations	Weekly
Clean pump stations	Weekly
Service pumps	Annually (minimum)
Electrical inspections of pump controls	Annually
Pump refurbishments	Determined by service reports
Pump replacements/upgrades	Determined by service reports
Reticulation	
CCTV inspections of mains	As per program
Mains rehabilitations	As per program
Location of manholes and boundary shafts	ongoing

2.5.3 Pre-emptive documentation

Reticulation blockages, breaks or distribution issues can result in spills if not acted upon. Therefore the following SWMS are to be used to address issues before overflows occur:

BSC– Choke Clearing (SWMS S01)

BSC – Water Jetter (SWMS S03)

BSC – Sewer Camera (SWMS S04)

2.6 Training

All staff required to implement this plan and associated documents must have training in its use and be inducted into it. This is to ensure they are aware of the content, processes and requirements of this plan and can competently implement it if necessary. In the event of a significant incident, an investigation and debrief will be conducted, documentation updated (if required) and staff will be re-inducted.

All incidents are to be registered into Council's Data Works, and training records will be sent to Human Resources for filing.

3. Responsibility

Manager Water and Sewerage is responsible for the implementation of this Plan.

4. References

EPA NSW Environmental Guidelines: Preparation of pollution incident response plans
Local Government Act 1993
Protection of the Environment Operations Act 1997
Protection of the Environment Operations (General) Regulation 2022
Public Health Act 2010

5. Dictionary

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 (see the POEO Act 1997).

Harm to the environment: 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

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.

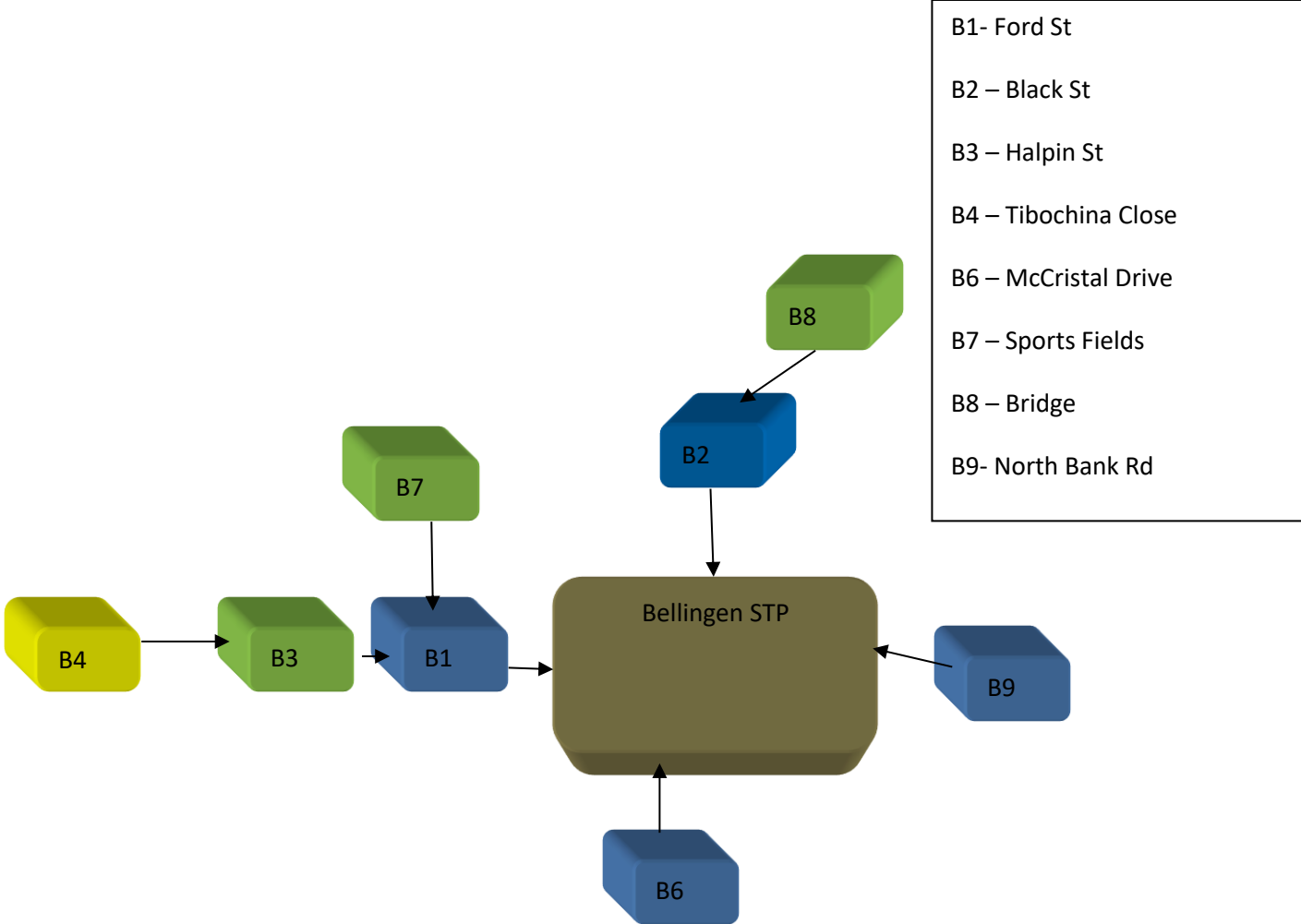
6. Appendices

- Appendix 1 - Site Plans
- Appendix 2 - Site Chemical Register
- Appendix 3 - Personal Protective Equipment
- Appendix 4 - Risk assessments and actions
- Appendix 5 - Action plans to minimise harm
- Appendix 6 – Power failure generator priorities.



**6.1 Appendix 1 - Site Plan
Bellingham STP**

Bellingen STP Schematic



6.2 Appendix 2 - Site Chemical Register

Date of register: June 2024

Chemical Name	Manufacturer	Maximum Volume of Chemicals Stored	Location Where Chemical is Stored
Aluminium Sulphate	Omega	20000 Lts	Alum Bund
Diesel	Various	200 Lts	Shed (in gerry cans)
Unleaded petrol	Various	20 Lts	Shed (in gerry cans)
Glyphosate	ROUNDUP	20 Lts	Shed

6.3 Appendix 3 - Personal Protective Equipment List

This section list the standard PPE items required.

Sewage Treatment Plant

The following items are to be kept at the Bellinghen STP:

- Ear/hearing protection
- Gas monitor
- Gas calibration equipment
- Life rings (around the treatment system)
- Sun screen
- Apron/disposal overalls
- Rubber Gloves
- Goggles
- Gumboots
- Steel capped Boots

Sewerage reticulation response truck

The following items are to be kept on the sewerage reticulation response truck:

- Goggles/eye protection
- Hearing protection
- Apron/disposable overalls
- Rubber gloves
- Gumboots

6.4 Appendix 4 - Risk assessments and actions

No	Risk	Impact	Risk LxC = Rating	Controls
Urunga Reticulation				
1	Sewage overflow due to inflow/infiltration	Land contamination, possibly enter a waterway	C2 = M	Reticulation maintenance and rehabilitation to reduce infiltration and inflows Spare capacity in pump wells Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures See also 7.5 Appendix 5 - Action plans to minimise harm
2	Sewage overflow due to power failure	Land contamination, possibly enter a waterway	B2 = L	Lightning protection Back up generators Pre-emptive measures see Section 2.5 Pre-emptive Measures
3	Sewage overflow due to storm damaging infrastructure	Land contamination, possibly enter a waterway	B2 = L	Lightning protection Site vegetation management to prevent damage to infrastructure Portable pumps Pre-emptive measures see Section 2.5 Pre-emptive Measures
4	Sewage overflow due to Reticulation blockages or damage	Land contamination, possibly enter a waterway	C2 = M	Reticulation maintenance Sewer Jetting program (high pressure cleaning of mains for repeat chokes) Spare capacity in pump wells Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures
5	Sewage overflow due to an external persons excavation hitting the sewers	Land contamination, possibly enter a waterway	C2 = M	Provide underground service locations to external persons Telemetry designed to pick up a change in inflows Vacuum trucks (for clean up) Portable pumps (for clean up)
6	Sewage overflow due to SCADA/Communications failure	Land contamination, possibly enter a waterway	A2 = L	SCADA testing and alarming Monitoring of SCADA signal issues Pre-emptive measures see Section 2.5 Pre-emptive Measures
7	Sewage overflow due to Infrastructure failure (e.g. due to age)	Land contamination, possibly enter a waterway	B2 = L	Reasonably Young network Maintenance and renewal programs Pre-emptive measures see Section 2.5 Pre-emptive Measures
8	Sewage overflow due to Mechanical break down/dual pump failure	Land contamination, possibly enter a waterway	B2 = L	Telemetry monitoring Maintenance and inspection programs Spare capacity in pump wells Portable pump to bypass site and vacuum truck to maintain flows Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures

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No	Risk	Impact	Risk LxC = Rating	Controls
Sewage Treatment Plant				
1	Sewage overflow (raw) due to heavy rainfall	Land contamination, possibly enter a waterway	A1 = L	Reticulation maintenance to reduce infiltration and inflows Spare capacity in pump wells Overflow storage at the old tertiary ponds Bypass systems to overflow storage pond Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures
2	Sewage overflow (raw) due to Reticulation blockages	Land contamination, possibly enter a waterway	A2 = L	Reticulation maintenance Spare capacity in pump wells Overflow storage at the STP Bypass systems to overflow storage pond Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures
3	Sewage overflow (raw) due to damage to onsite reticulation (e.g. during excavations etc)	Land contamination, possibly enter a waterway	B2 = L	Locate services prior to excavations Appropriate supervision of contractors Bypass systems
4	Sewage overflow (raw) due to SCADA/Communications failure	Land contamination, possibly enter a waterway	B2 = L	SCADA testing and alarming Pre-emptive measures see Section 2.5 Pre-emptive Measures
5	Sewage overflow (raw) due to Infrastructure failure (e.g. due to age)	Land contamination, possibly enter a waterway	B2 = L	Maintenance and renewal programs Pre-emptive measures see Section 2.5 Pre-emptive Measures
6	Sewage overflow (raw) due to excessive flows	Land contamination, possibly enter a waterway	A2 = L	Reticulation maintenance to reduce infiltration and inflows Spare capacity in pump wells Overflow storage at the WRP Bypass systems to overflow storage pond Monitoring and maintenance Pre-emptive measures see Section 2.5 Pre-emptive Measures
7	Sewage overflow (raw) due to Treatment plant blockage	Land contamination, possibly enter a waterway	A2 = L	Bypass systems Gross solid screening
8	Chemical spill due to Tank/storage failure	Land contamination, possibly enter a waterway	B2 = M	Bunding Alarms Inspection and maintenance of tanks
9	Chemical spill During delivery	Land contamination, possibly enter a waterway	B2 = M	SWMS PPE
10	Chemical spill due to Damage to chemical reticulation	Land contamination, possibly enter a waterway	A3 = M	Locate services prior to excavations Appropriate supervision of contractors Bypass systems Shut off valves for chemicals

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No	Risk	Impact	Risk LxC = Rating	Controls
11	Chemical spill due to Vandalism	Land contamination, possibly enter a waterway	A3 = M	Site security fences
12	Chemical spill due to Bund failure	Land contamination, possibly enter a waterway	B3 = M	Bund inspections Annual bunding tests Maintenance and renewal
13	Chemical truck incident outside of bunded area	Land contamination, possibly enter a waterway	B3 = M	Only use transport companies with evidence of driver licensing and training Operator onsite during deliveries (or at minimum direct contact with deliver in exceptional circumstances)
14	UV Unit failure	Land contamination, enter a waterway	C3 = H	Keep UV well maintained and inspect daily. Keep spare parts on site. Always Have on-call electricians and suppliers number on hand. Always have storage in balance tank.

Likelihood	Consequences	Rating	Likelihood					
			Consequence	A	B	C	D	E
A IMPROBABLE - May occur only in exceptional circumstances	1. INSIGNIFICANT - No injuries, minimal level of pollution, Employee grievances dealt with on site, Loss <5% of job cost, service, business failure resulting in delay < 1 week and costs, plant/equipment loss < \$1,000 2. MINOR - First aid treatment, limited/localised impact, Employee grievances dealt with by senior management, loss 5-10% of job cost, business failure resulting in delay < 1 month and costs, plant/equipment loss < \$10,000 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 < \$50,000 4. MAJOR - long term illness/serious injury, significant pollution requiring outside assistance & 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 and costs, plant/equipment loss < \$100,000 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 and costs, plant/equipment loss > \$100,000	L = Low						
B REMOTE - Could occur at some time		M = Medium						
C OCCASIONAL - Might occur at some time		H = High	1	L	L	L	M	H
D FREQUENT - Will probably occur in most circumstances		V = Very High	2	L	L	M	H	V
E CONTINUOUS - Is expected to occur in most circumstances Refer also to Councils Hazards, Risks and Controls Guidelines		X = Extreme	3	M	M	H	V	X
		4	H	H	V	X	X	
		5	V	V	X	X	X	

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Reviewer

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6.5 Appendix 5 - Action plans to minimise harm

To address the risk of sewage overflows, Bellingen Shire Council has a number of management actions comprising of one or more of the following:

- Further detailed Investigations of very high and extreme risks
- Augmentation of Sewerage Assets to Increase Capacity
- Planned Maintenance of Existing Assets
- Planned Renewal of Existing Assets
- Telemetry Monitoring of Sewage Pumping Stations
- Continuous Improvement of Sewerage System Operations
- Emergency Response Procedure to Power Failures
- Incident Notification Protocol
- UV failure response plan

6.6 Appendix 6 – Power Failures Generator Priorities

Priority Ranking Philosophy.

Ranking	Response Time (Dry Weather)	Response Time (Wet Weather)
1	<3hrs	<1hr
2	<4hrs	<2hrs
3	<6hrs	<3hrs
4	<10hrs	<4hrs
5	<12hrs	<5hrs

Generator Requirements and Ranking Priority of Pump Stations during power failure

Pump Station	Location	Priority ranking
B1	Ford St	3
B2	Black St	3
B3	Halpin St	2
B4	Tibochina Close	4
B6	McCristal Drive	2
B7	Sports Fileds	5
B8	Bridge	5
B9	North Bank Rd	4

6.7 Appendix 7 – UV failure and Decant Sock Failure response plan

- Ensure valve to outlet is turned off and isolated.
- Keep minimum 2 days storage in balance tank.
- Call Councils electrician or Laser Electrical for emergency response to fix issue.
- Call Xylem to get technical support.
- If a longer period is required dose Sodium Hypochlorate (chlorine) into the balance tank during a decant to allow mixing. Allow to sit for 120 min to allow for disinfection and uptake of chlorine.
- Test chlorine levels, if above 3 micrograms per litre, dose with sodium thiosulphate into outlet to remove chlorine levels.
- Then check residual chlorine levels are below 3 micro grams per litre.
- Repeat process as required until disinfection unit repaired.
- Notify the regulators as required in the above document.
- For extended interruption to UV disinfection set up chlorine dosing pump to dose chlorine into decant structure and set up tank to dose Sodium Thiosulphate into outlet structure.
- Monitor chlorine levels 3 times daily.

Decant Sock Failure response plan.

- Shut down all pump stations and turn off valve to UV
- Assess the situation, pump down EAT to a level repairs can be made.
- Invoke Sock repairs procedures and WMS.
- Repair sock
- If offline for extended period turn pump stations back on and bypass EAT to catch pond.
- If bypassed to catch pond, once repairs complete turn on backup UV, bypass catch pond to UV, pump all effluent from catch pond back to headworks to receive treatment.
- Once catch pond emptied, divert flows back to catch pond. Turn backup UV off and leave valve to UV disinfection closed until sufficient effluent is in the catch pond to allow a continuous flow to the UV.