TWEED SHIRE COUNCIL

Environmental Emergency Management Plan Mooball Wastewater Treatment Plant and Sewerage Network

Approved by: Manager Water

Version 1.1

Division: Community and Natural Resources
Section: Water
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Historical Reference:

Version History		
Version #	**Summary of changes made**	**Date changes made**
1.0	Created by MWH	27/12/2012
1.1	Modified to be consistent with other EEMP's	11/10/2013
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	EEMP tested on 03/12/2020	

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1 Introduction

This Environmental Emergency Management Plan (EEMP) for Mooball Wastewater Treatment Plant (WWTP) applies to the Mooball facility and the sewerage network. The entire scheme is operated by Tweed Shire Council under a NSW Environment Protection Authority (EPA) Environment Protection Licence No. 20172 (downloadable from EPA website). As a licence holder, and in accordance with requirements set by NSW Government agencies, Council is required to prepare and implement a number of management plans to minimise the risk of harm to human health or the environment arising from the licensed activities. They are:

1. Operation Environmental Management Plan
2. Pollution Incident Response Management Plan
3. Emergency Management Plan

Council has produced a single consolidated document called an Environmental Emergency Management Plan (EEMP), which satisfies the requirements of each of the three required plans and assists with the operation of the Sewerage Network and Wastewater Treatment Plant.

1.1 EEMP Requirements

The relevant legislative requirements and guidelines administered by NSW authorities for the preparation of the EEMP are summarised in Table 1.

Table 1: Legislative Context for the Preparation of an EEMP

NSW Government Agency	Applicable Legislation	Management Plan Required	Guideline
NSW Department of Infrastructure, Planning and Natural Resources (DIPNR)	▪ *Environmental Planning and Assessment Act 1979* (EPAA Act) (Parts 4 and 5)	Operation Environmental Management Plan	Guideline for the Preparation of Environmental Management Plans (NSW DIPNR, 2004)
NSW Environment Protection Authority (EPA)	▪ *Protection of the Environment Legislation Amendment Act 2011* ▪ *Protection of the Environment Operations Act 1997* (POEO Act) (Part 5.7A) ▪ *Protection of the Environment Operations (General) Regulation 2009*	Pollution Incident Response Management Plan	Preparation of Pollution Incident Response Management Plans (NSW EPA, 2012)

NSW Government Agency	Applicable Legislation	Management Plan Required	Guideline
WorkCover NSW	▪ *Work Health and Safety (WHS) Act 2011* ▪ *Work Health and Safety Regulation 2011* ▪ *Explosives Regulation 2005*	Emergency Management Plan (See Note)	Emergency Management Plan Checklist (WorkCover NSW) Guidelines for Emergency Plans at Sites having Dangerous Goods, Explosives and Major Hazard Facilities (NSW Fire Brigades, 2010)

Note: The facilities referred to in this EEMP do not store or handle quantities of dangerous goods in exceedance of the threshold or 'placard' quantities.

1.2 Organisational Policy

Council has adopted the Health Safety Environment Management System (HSES) to establish an effective systematic process and framework for the overall management of Council's operational activities in relation to work health, safety and the environment.

The requirements of this system apply to all Council workers (fulltime, temporary, casual, contractors, volunteers and relevant stakeholders).

This management plan is a core element of the HSES, providing a site-specific framework for the management of health, safety and the environment at each of Council's Wastewater Treatment Plants.

Council also has a Workplace Environmental Management Policy and Chemical Management System called ChemAlert. ChemAlert is a proprietary web-based package that is used to manage chemicals on site. The system provides online access to safety data sheets, dangerous goods and hazardous substances registers, chemical storage volumes and product information.

Council's commitment to work health and safety is detailed further in the WHS Responsibility, Authority and Accountability Protocol.

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1.3 EEMP Objectives

The objectives of the EEMP are to:

- Provide site specific information relating to environmental management and emergency / incident response, which satisfies requirements under the relevant legislation.
- Ensure integration with Council's existing policies and procedures.
- Promote best practice environmental management across site operations, and compliance with Environment Protection Licence conditions.
- Ensure comprehensive and timely communication about a pollution incident to employees, the EPA, other relevant authorities, and community members who may be affected by the impacts of the pollution incident.
- Minimise and control the risk of a pollution incident or emergency situation by requiring identification of risks and development of planned actions to minimise and manage those risks.
- Ensure the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and is regularly tested and reviewed for accuracy, currency and suitability.

2 Site Description

The Mooball Sewerage Scheme is a combined gravity sewage collection and transport system with a dedicated wastewater treatment plant (Figure 1). It consists of the following components:

- Reticulated Sewage Pumping Stations (SPS)
- Reticulated Sewage Gravity Mains (SGM)
- Reticulated Sewage Rising Mains (SRM)
- Transport SRM
- Household pressure pumping systems
- Mooball WWTP

The sections below describe the site and its activities in more detail, with particular focus on operations at Mooball WWTP.

2.1 Location

The Mooball WWTP is located at Pottsville Road, Mooball 2484 (Figure 2 & 3). This is approximately 400 m from the intersection with Tweed Valley Way. It is situated on a 1.71 hectare property (Lot 1 DP 1054857) owned by Council.

Sewerage network services the villages of Burringbar and Mooball which are located on Tweed Valley Way, 15 km south east of Murwillumbah, with estimated permanent populations of approximately 695 and 106 respectively. The villages are mainly residential and rural residential with a small commercial component.

2.2 Environs

The site is prone to flooding with Council records indicating that the highest flood level recorded at Mooball is 12.7 m AHD.

The surrounding areas which may potentially be impacted by a pollution incident occurring at Mooball WWTP or the sewerage network include the following (Figure 2 & 3).

- **Rural Landholders adjacent to the treatment plant**

Three houses are located within 500 m of the treatment plant. A cattle dip site is also located approximately 150 m to the southwest of the WWTP site on Lot 2 DP 1054857. Pottsville Road borders the site to the west and Burringbar Creek and sugar cane crops border to the east.

- **Burringbar Creek and downstream water users:**

  Mooball WWTP is located approximately 30-40 m from the bank of Burringbar Creek. The site is level and comprises alluvial creek bank flats with a relatively steep embankment at Burringbar Creek. The creek is also identified as a Platypus habitat, no Platypus burrows were observed in the immediate vicinity of the WWTP site (HLA Envirosciences, 2005).

Immediately downstream from the site is the confluence of Burringbar Creek and two unnamed creeks/drainage lines. Burringbar Creek is a freshwater stream, discharging to the ocean at Pottsville. Domestic and rural land users currently draw from Burringbar Creek downstream of the confluence, primarily for irrigation, with the potential for further rural activities in the near future.

Under the Tweed Local Environmental Plan 2000, the Mooball WWTP is zoned Rural 1(a). Most surrounding land is either Rural 1(a) or Agricultural protection (1(b2). The village of Pottsville to the south is zoned Village 2(d). There is a small area 400m to the northeast of the plant zoned 7 (l) Environmental Protection. This area is remnant rainforest and has a Tree Preservation order over it.

Figure 1: Mooball WWTP Sewerage Network

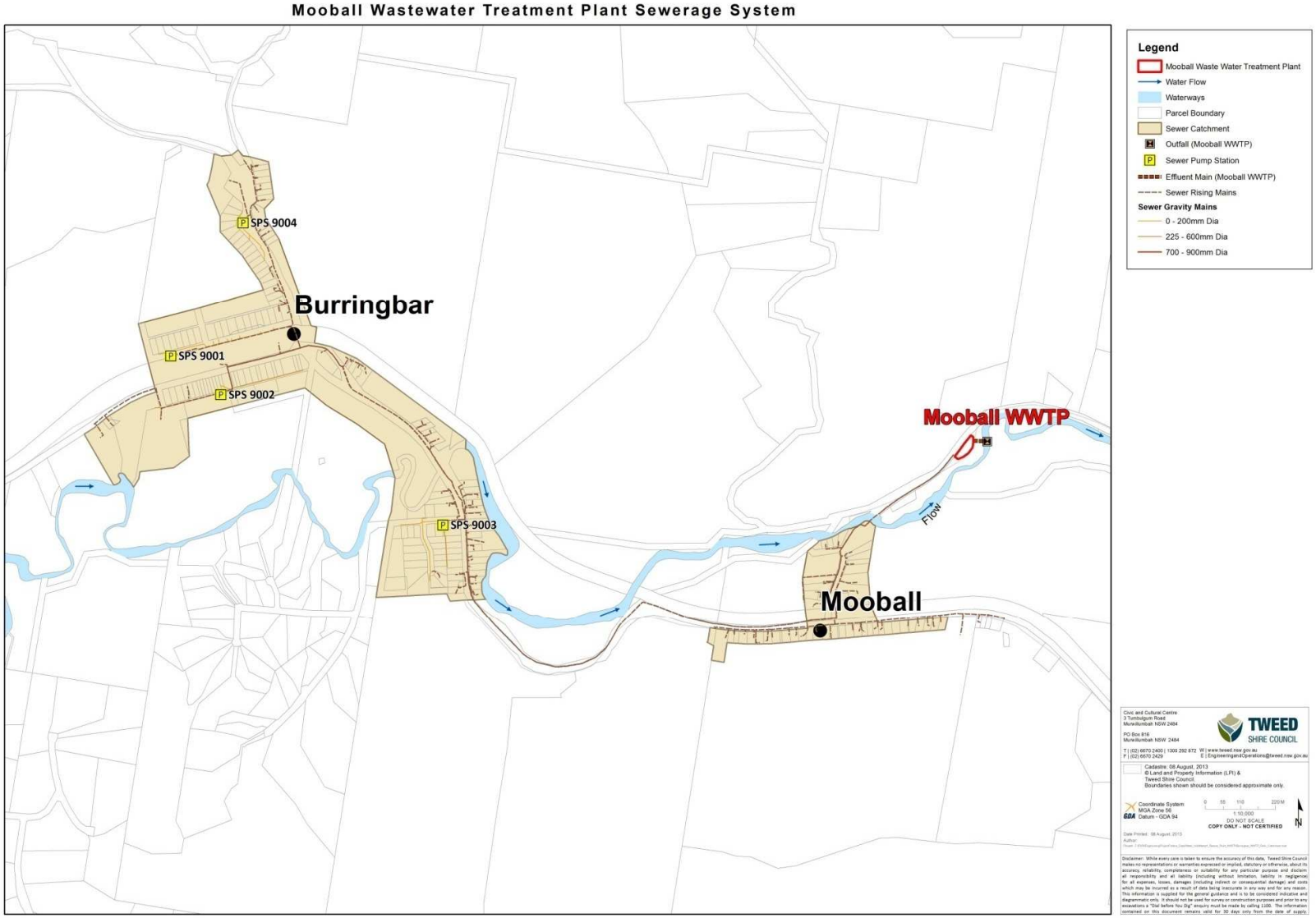


Figure 2: Mooball WWTP Locality Map – Wetland Surrounds

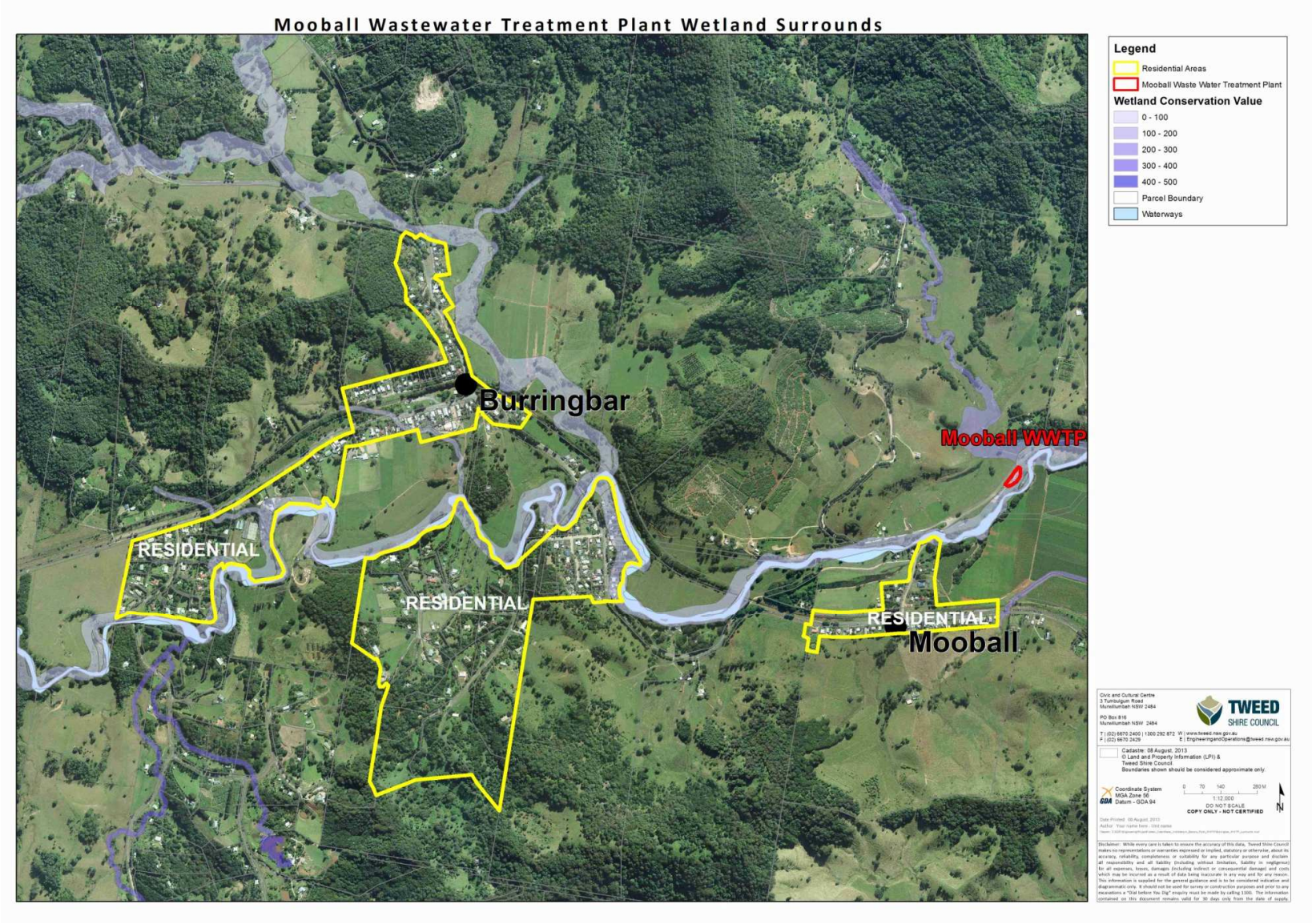
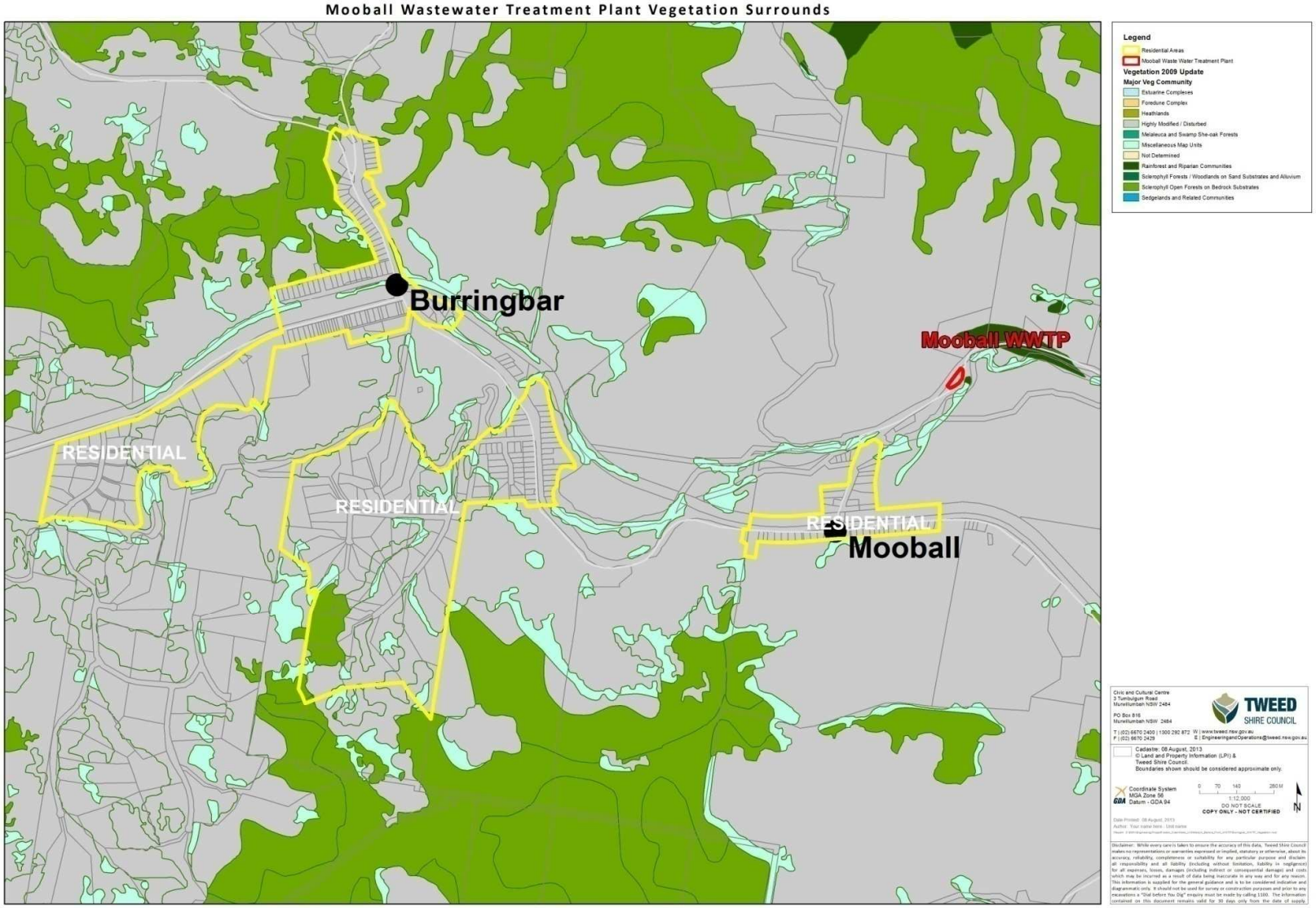


Figure 3: Mooball WWTP Locality Map – Vegetation Surrounds



2.3 Processes

The Mooball WWTP is a 750 EP treatment plant using an Intermittently Decanted Extended Aeration (IDEA) biological process.

All flows up to Peak Wet Weather Flow (PWWF) are fully treated without discharge to the environment. To achieve this, the treatment plant has balancing/overflow storage (3xAverage Dry Weather Flow (ADWF) going through the treatment units and 2xADWF going to overflow storage) with provision to return stored flows for full treatment through the process in low flow periods. As a minimum, 1 day storage capacity for 2xADWF 270 kL is provided.

A summary of the wastewater treatment process, plant and equipment is provided below. A complete description of equipment and operation and maintenance is provided in the Operation and Maintenance Manual:

Table 2: Wastewater Treatment Processes, plant and equipment

WWTP Process Unit	Description
Site Pump Station / Balancing Tank	A 4.5 m dia x 3.0 m deep site pump station / balancing tank pumps raw sewage through the treatment plant and attenuates dry weather pumped flows in excess of 3xADWF.
Preliminary Treatment: Screening and Grit Classifier	Screenings and grit are removed from the raw sewage by a Spiral Sieve and grit classifier. Screenings material is washed, dewatered and discharged into a bin. A screen bypass channel with manually raked bar screen is also provided. Screened sewage flows under gravity to the biological Reactor-1. Foul gases from this unit are directed to and treated in an odour control filter.
Overflow Storage Tank	All flows up to PWWF are fully treated without discharge to the creek of untreated flow. Flows >3xADWF during PWWF gravitate from the flow splitter box to the 9.0 m dia x 4.5 m deep overflow storage tank with provision to return stored flows for full treatment through the process in low flow periods.
Site Drain Sump	A site drain sump collects all wastewater from the amenities building, floor washings from inlet works and overflow from sludge storage tanks by gravity with a provision to return stored flows to inlet works for further treatment.
Odour Control Filter	To reduce the potential for odour emissions, the inlet works (site pump station, overflow tank and inlet screen) is covered. An extraction system directs extracted air into an activated carbon odour control system, with a 3 m high discharge stack.

WWTP Process Unit	Description
Secondary Treatment	Biological treatment of the sewage utilises a hybrid version of the Intermittently Decanted Extended Aeration (IDEA) process. This consists of a 7.5 m dia x 2.2 m deep Reactor-1 (Aerobic-Anoxic) and a 7.5 m dia x 2.2 m deep Reactor-2 (intermittent aeration, settling and decanting). Mixed Liquor Suspended Solids is returned from Reactor-2 to Reactor-1.
Balance Tank (effluent)	A 4.5 m dia x 4.5 m deep balance tank attenuates the decantation and feeds the pressure filters.
Pressure Sand Filters	Two 1.2 m dia Media pressure filters with fibreglass body and auto valve controls (hydraulic valves) filter the decanted effluent. A 5000 L backwash tank and two backwash pumps are provided to backwash the filters, with backwashed water returning to the site pump station.
UV Disinfection Unit	The UV disinfection system disinfects effluent prior to discharge to Burringbar Creek. Filtered treated effluent is disinfected in a UV Reactor, installed under cover, and flows by gravity to the creek.
Sludge Storage and Management	Waste Activated Sludge (WAS) from Reactor-2 is pumped to 2 x 60 kL sludge storage tanks with 30 days storage capacity. The tanks are emptied by suction tanker for transportation to other Council WWTPs for processing, and are designed to allow return of supernatant overflow to the plant through the site drain sump.
Treated Effluent Storage Tank and Effluent Discharge	Treated effluent from Reactor-2 is decanted, filtered, and disinfected in a UV unit and is stored in a 15 kL pre-cast concrete tank. Then it is discharged to the creek by gravity. The effluent discharge pipeline has a concrete headwall and 1 m x 2 m rock mattress at the discharge outlet.
Chemical Dosing System	Alum is dosed for phosphorus removal and Caustic Soda is dosed for alkalinity addition. Storage of chemicals is provided by 1600 L for Alum and 1000 L for Caustic, Polyethylene elevated storage tanks held within bunds and located next to the plant access road.

2.4 History

Mooball WWTP and sewerage network was commissioned in July 2013. Prior to this there was no sewerage network and the villages of Burringbar and Mooball were serviced by onsite wastewater systems.

2.5 Chemical Storage

A detailed listing of chemicals is contained in the Chemalert database.

A summary of bulk chemicals stored at Mooball WWTP is provided in Table 3. Their location is shown on the site plan (Appendix A)

Table 3: Summary of bulk chemicals at Mooball WWTP

Substance	Classification under the ADG Code	Quantity / Storage Details (Maximum Capacity)	WorkCover Requirement
Alum (Aluminium Sulphate)*	None allocated UN No: Nil	1,600 L capacity bulk tank (sg 1.31 kg/L)	Not listed in Schedule 11 of NSW *Work Health and Safety Regulation 2011*. No notification to NSW Work Cover required.
Caustic Soda (Sodium Hydroxide Solution)	8 Corrosive (Packing Group II) S6 Poison UN No: 1824	1,000 L capacity bulk tank (sg 1.50 kg/L)	Below manifest quantity of 2,500 L (Skin Corrosive Category 1B) (Item 39) of Schedule 11 in NSW *Work Health and Safety Regulation 2011*. No notification to NSW Work Cover required.

2.6 Pollutants Inventory

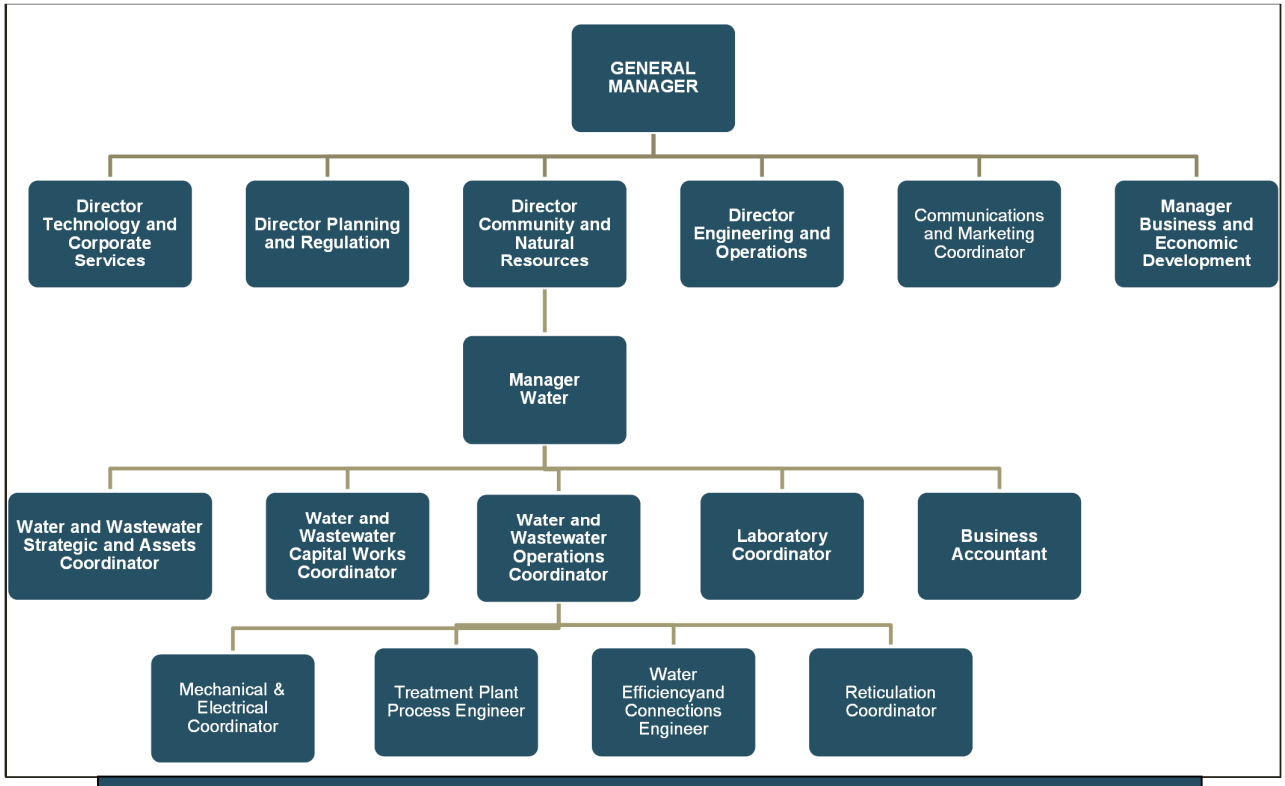
Table 4: Summary of Pollutants at Mooball WWTP

Substance	Location	Maximum quantity
Screenings and grit	Screenings Bin	Est. 1m^3
Raw sewage	Site pump station/Balancing tank	50 kL
Raw sewage	Overflow storage tank	270 kL
Raw sewage	Inlet works (screen, classifier)	Est. 3 kL
Mixed liquor	Biological reactor 1 & 2	97 kL each
Effluent	Balance tank	50 kL
Effluent	Pressure filters 1&2	1 kL each
Effluent	Backwash water tank	5 kL
Effluent	Effluent storage tank	15 kL
Sludge*	Sludge storage tanks 1&2	60 kL
Oil,grease,degreaser	Storage room	N/A
Sodium hypochlorite	Storage room	20 L
Detergent	Storage room	20 L
Roundup herbicide	Storage room	20 L
*sludge transferred to Kingscliff WWTP regularly		

3 Operation Structure and Responsibilities

The Council organisational structure is provided in Figure 4.

Figure 4: Council Organisational Structure – Community and Natural Resource



Roles, responsibilities and communication pathways are illustrated in Figure 5.

Council defines, documents and communicates the areas of accountability and responsibility of all personnel involved in the implementation, maintenance and review of the HSES through the following:

- WHS Risk Management Protocol
- WHS Responsibility, Authority and Accountability Protocol
- Position descriptions
- Risk registers
- Safe Work Method Statements
- Standard Operating Procedures

Requirements for management of contractors are detailed in the Contractor and Services Health and Safety Management Protocol.

Figure 5: Roles, Responsibilities and Communication Pathway

3.1 Working Hours and Employment Structure

Council provides a 24 hour service for every scheme. Standard working hours for WWTP's operators are Monday - Friday, 7:00AM to 4:00PM. Routine inspections take place on weekends and public holidays between 6:00AM and 10:00AM.

Three full time operators are based at Kingscliff WWTP and visit Mooball WWTP each day. Mechanical and electrical services are provided by the Water Unit as required.

3.2 Maintenance

Routine maintenance is scheduled through Council's asset management system (MEX). All assets are recorded in this system and maintenance schedules are generated. Scheduled maintenance is then undertaken by the Water Unit, Mechanical & Electrical section. Critical assets are monitored remotely and staff are assigned to react to alarms.

4 Approvals, Licensing and Reporting

The following approvals and licences are in place for Mooball WWTP:

- Approval under Part V of the *Environmental Planning and Assessment Act 1979* for the Mooball Sewerage Scheme
- Environment Protection Licence under Section 55 of the *Protection of the Environment Operations Act 1997* (Licence No. – 20172)

Licence conditions include requirement to monitor effluent quality and volume at the discharge point. Effluent quality concentration limits are provided in Table 4:

Table 4: Mooball WWTP Effluent Concentration Limits

Parameter	90 Percentile	100 Percentile
Biochemical Oxygen Demand	10 mg/L	20 mg/L
Total Suspended Solids (TSS)	15 mg/L	30 mg/L
Total Nitrogen	10 mg/L	20 mg/L
Ammonia	2 mg/L	4 mg/L
Total Phosphorus	0.5 mg/L	1 mg/L
pH	n/a	6.5 – 8.5
Oil & Grease	5 mg/L	10 mg/L
Faecal Coliforms	200 cfu/100mL	600 cfu/100mL

Council reports to the NSW EPA. Reporting requirements include the following:

4.1 Annual Return

As an Environment Protection Licence holder, Council must complete and supply to the EPA an Annual Return comprising:

- statement of compliance with Licence
- monitoring and complaints summary

- details of any environmental incidents and the incident response implemented
- system performance report

An Annual Return must be prepared and submitted annually to the EPA within 60 days of the reporting period. The reporting period commences on the anniversary date of the licence.

4.2 Performance Monitoring Data

Council must within 14 days of obtaining monitoring data (for the last sample for that period), make any of the monitoring data that relates to pollution, and the licensee's name, publicly and prominently available on their website. This is to allow the public to access results of all pollution monitoring in a meaningful format.

Data required to be published includes:

- a summary of the monitoring data collected on at least a monthly basis.
- information regarding when and to what extent the pollutant discharge limits specified in the licence were not met and why.

The published monitoring data is available on Council's website.

4.3 Pollution Complaints

The EPA requires Council as an Environment Protection Licence holder to keep a record of all complaints made in relation to pollution arising from any activity to which the licence applies.

Council operates a 24-hour telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises e.g. odour, noise. The Council Complaints Line is (02) 6670 2400 or 1300 292872 and 1800 818 326 for after hours emergency calls.

All pollution complaints and resulting actions are registered in Council's document registration system and/or customer request system.

4.4 Notification of Environmental Harm

The POEO Act requires the occupier of premises, the employer or any person carrying on the activity which causes a pollution incident to immediately notify each relevant authority if there is a risk of '*material harm to the environment'*.

Council must notify the EPA of incidents causing or threatening material harm to the environment immediately after Council becomes aware of the incident to ensure that the appropriate agencies have the information they need to respond within an appropriate time.

Notifications must be made immediately by telephoning the NSW EPA service on 131 555. Council must subsequently provide written reports as directed by EPA.

5 Training and Induction

All plant operational staff are trained to a Certification Level III in Wastewater Industry Operations and have at least a competent understanding of the industry. General training requirements are managed through the Council's Human Resources Unit.

Training records and competencies are recorded and maintained utilising Council's corporate human resource system.

5.1 Staff Training

Training is provided to Council employees as part of site inductions, specialised skills and technology (e.g. ChemAlert, Aurion), and annual workplace health and safety and emergency response training. This includes a review of the responsibilities of staff and an update of procedural and legislative changes.

The site specific induction will include:

- Environmental Management e.g. environmental hazards of substances handled, pollution prevention (spill management and overflow management), odour control, waste and stormwater management.
- Health and Safety e.g. physical hazards of the workplace and activities, health and hygiene hazards, personal protective equipment, incident and near miss reporting.
- Emergency response (see below) and pollution incident response procedures.

Emergency response training is delivered annually and includes:

- Emergency Warden evacuation drills
- the communication procedure in the event of an emergency / incident;
- the location of emergency contact details;
- practicing a mock spill clean-up procedure including where to find emergency equipment and how to use it;
- ensuring staff are aware of their obligations in the event of an actual or potential emergency;
- ensuring staff are aware of the responsibilities and roles of other key staff members in the event of an emergency.

5.2 Inductions

The Council HSE Management System states that all employees are required to undertake the following inductions prior to commencing work:

- Corporate WHS Induction
- Workgroup Activity Induction
- Site Specific Inductions

6 Hazards and Risks

6.1 Risk Assessment

A risk assessment workshop was undertaken to identify operational risks to the environment and public health for the WWTP and sewerage system (Appendix B). This assessment included identifying and addressing measures to control risks.

This risk assessment is reviewed annually or if any major changes to network or WWTP are undertaken, or following a major incident.

6.2 Environmental Management Activities and Control

Management activities and operational controls are in place to manage the identified hazards and risks. They aim to provide clear instruction of activities undertaken so they

comply with HSES requirements and minimise hazards and potential environmental impacts.

Key management activities and operational controls include:

- Appropriate design of Infrastructure including fenced compound, Building code regulations, Control building BCA certified and smoke alarm system connected to 24 hour call service, SCADA telemetry and alarms and stormwater system including bunding and isolation valves
- Site security
- Maintenance of vegetation buffer zones
- Daily site inspections by site operators
- Trained operators
- Good Housekeeping
- Work instructions (eg. Chemical Handling)
- SOPs eg. Sewerage Environmental Incident
- Emergency Plan and Procedures including
  - Evacuation procedures
  - Hydrant location/s displayed
  - Training for fire/emergency wardens
  - Back-up generator
- Pollution Incident Response Procedures
- Liquid Trade Waste Policy and management.
- Biosolids management plan
- Dangerous Goods Register (SDSs): Flammable and combustible liquids are stored in accordance with AS1940-2004. All are registered in ChemAlert
- WHS audits
- Maintenance program and procedures
- Monitoring programs
- Complaint register
- Annual inspection of fire safety equipment
- Annual emergency evacuation drills
- Business continuity plan (BCP)

7 Emergency Management

Council's HSES requires potential emergency situations to be identified and procedures documented (Emergency Preparedness and Management Protocol).

The Protocol provides an effective systematic process for the management of emergency situations across all Council operations and response to protect life, property and the environment.

The HSES documents other processes and procedures to assist in the communication and implementation of emergency response procedures:

- Council has an established Emergency Planning Committee that meets twice yearly.
- Employees shall receive training in emergency response procedures appropriate to allocated emergency response responsibilities and degree of risk. In addition, emergency procedure drills shall be conducted annually.
- A central register detailing locations, wardens, training, drills, procedures, maps shall be maintained by the WHS Section.

The Emergency Plan is contained as Appendix A. It has been prepared to complement and interact with TSC HSES.

8 Pollution Incident Response Management

A pollution incident may include:

- plant malfunction
- sewer overflow
- mains break or blockage
- Illegal trade waste disposal
- other occurrence that has the potential to cause public health or environmental harm.

8.1 Pollutant Incident Notification Requirements

The POEO Act requires the occupier of premises, the employer or any person carrying on the activity which causes a pollution incident to immediately notify each relevant authority when material harm to the environment is caused or threatened.

The POEO Act **defines** '**material harm'** 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.*

8.2 Incident Response

Council's Sewerage Environmental Incident Standard Operating Procedure describes the procedures for the prevention and mitigation of environmental and public harm as a result of an incident in the sewerage scheme. As part of this procedure Council has an Environmental Incident Report which details the notification procedures and all actions taken.

8.3 Level of Response

The level of severity of the incident will dictate the appropriate response to the incident. It is essential that when the incident occurs, Council site personnel are able to categorise the relative severity of the incident so that the appropriate actions and plans can be adopted, including communication of the incident both internally and externally.

Incidents are categorised as follows:

Incident Category	Incident Description
Minor Incident (Category 1): *No notification required*	Incidents with no or little public health or environmental effects There is no risk of material harm to humans or the environment
Moderate Incident (Category 2): *Notify NSW EPA and Local Public Health Unit only*	Incidents with limited public health impact or limited and non-permanent impact on the environment There is a risk of pollution or material harm to the environment Clean-up can be completed without assistance
Major Incident (Category 3): *Notification required – Notify NSW EPA, Local Public Health Unit, WorkCover and Fire & Rescue*	Incidents with major impact on Public Health or major and irreversible impact on the environment Potential or actual harm to humans and the environment Assistance is required with clean-up from other agencies

8.4 Initial Response

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 relevant authorities in the following order. The following contacts are included in the Sewerage Environmental Incident Standard Operating Procedure:

EXTERNAL ALERT CONTACT NUMBERS	
Fire	**000**
Ambulance	**000**
Police	**000**
SES	**132 500**
NOTIFYING RELEVANT AUTHORITIES	
NSW EPA (Environment Line)	131 555
Local Public Health Unit	149 377
WorkCover Authority	13 10 50

The Environmental Incident Report should be completed for all incidents above Category 1. The form should be forwarded to the relevant authorities for all Category 2 and 3 incidents.

8.5 Communication with Neighbours and the Local Community

Community notification shall be undertaken at the determination of the Scheme Manager. The main risk that could potentially impact neighbouring properties to the WWTP and in the sewerage network is a release of raw, partially treated sewage or significant odour.

Council's GIS system will be used to assist in identifying local groups to be notified in the event of a disaster or major incident. If required, impacted property owners will be notified by door knock, generally by the first response crew. If the incident is a waterway, signage will be placed in public areas that may be used for recreational activities until the waterways is deemed clear of contamination.

Council's Communications and Customer Service section will coordinate media releases, responses to journalists, and general media related inquiries.

9 Auditing, Improvement and Record Keeping

9.1 Auditing Requirements

Documented procedures detailing audit and inspection programs are detailed in the WHS Workplace Inspections and Audit Protocol.

The Sewerage Scheme will undergo an annual internal audit to ensure:

- Council is meeting their obligations as an EPA Environment Protection Licence holder, and under any other relevant legislation, policies, standards and guidelines; and
- this EEMP is being fully implemented and maintained; and any incident reported as per this EEMP.
- any potential risk exposures or incidents on site are being adequately investigated and management practices developed.

External audits will only be undertaken if directed by NSW EPA.

9.2 Corrective Action

Incident investigation, corrective actions and review are detailed in:

- Incident Injury Hazard Near Miss Reporting and Investigation Protocol
- WHS Risk Management Protocol

A central register detailing all incidents, investigations and corrective actions shall be maintained by the WHS Seciton.

Relevant personnel shall be trained in incident investigation.

All corrective actions shall be reviewed to ensure effectiveness and that controls have not introduced further hazards or risk.

9.3 Plan Review

This plan is to be reviewed annually to ensure it is up to date and allows for any major changes in the network, the treatment plant, to neighbouring or downstream land users, external legislative changes or corporate systems procedures.

There must also be a revision of Council personnel roles and responsibilities and initial/external emergency contact details. The review will correspond with the annual audit.

The plan review process may include the following actions:

- Review responsibilities and staff contacts are current.
- Check the targets identified in the plan and identify which have been achieved.
- Review any complaints or lack of compliance with monitoring targets.
- Identify any new risks to human health or environment and include in the updated Risk Assessment section.
- Determine new actions from the above and include in the updated Control Measures section.
- Determine any new monitoring requirements from the above process and include in the Monitoring section of the plan.
- Undertake either desktop simulation or practical exercise to test pollution incident management specific components of plan.
- Determine any new training requirements and include in the Training section of the plan.
- Assess any upgrades or major works planned at the site.
- Provide updated copies of this document to authorities (e.g. EPA, WorkCover NSW, NSW Fire and Rescue etc.)

Appendix A: Mooball WWTP Emergency Plan

A1 Introduction

This document forms part of the Mooball WWTP Environmental Emergency Management Plan and has been developed to meet the requirements for a WorkCover Emergency Management Plan for sites with notifiable quantities of Dangerous Goods. While the facilities referred to in this EEMP do not store or handle quantities of dangerous goods in exceedance of the threshold or 'placard' quantities, the requirements of the Emergency Management Plan have been incorporated in accordance with the NSW Fire and Rescue guidelines.

A2 Aims

The purpose of this document is to provide site specific incident management information:

- to control and mitigate the effects of minor or major leaks / spills arising from an incident focusing on safe and environmentally aware outcomes
- to facilitate emergency response and provide assistance on site as is appropriate to the situation
- to ensure that vital information is communicated to relevant external agencies
- to facilitate the reorganisation and recovery operations
- to meet the requirements of applicable legislation
- to detail the emergency response incidents for bulk dangerous goods

A3 Attachments

1. Site Plan
2. Emergency Escape Plans
3. Emergency Services Information Package

A4 Initial Response

Treatment Plant Emergency Personnel

Emergency Coordinator

Senior Wastewater Treatment Plant Operator

Kevin Nelson

Secondary Emergency Coordinator

Acting Senior Wastewater Treatment Plant Operator

Glenn Molloy

When the Emergency Coordinator is on leave the Acting Senior Operator will also act as the Emergency Coordinator.

First Aid Officer

Kevin Nelson

Emergency Coordinator Responsibilities

It is the responsibility of the Emergency Coordinator to determine the nature and extent of the incident and to implement relevant emergency procedures. The Emergency Coordinator shall assume the role of emergency services liaison officer should the incident require response from external emergency services.

After hour alarms shall be routed through to the relevant emergency coordinator's mobile for attendance on site, investigation and determined actions.

Emergency Instructions

Specific instructions applicable to various buildings and sections of buildings shall be available to both employees, visitors, contractors through the display of emergency evacuation maps and procedures in the form of emergency procedures flip charts.

All employees, visitors, contractors and other Council workgroups shall be inducted in relation to site emergency procedures.

Manufacturers SDS shall be displayed at the relevant storage and or handling location.

A5 Incident Response Principles

Key principles and duties of the Emergency Coordinator are:

1. Containment (if safe to do so)
2. Rescue (if safe to do so)
3. Raise the Alarm
4. Evacuation
5. First Aid

In many cases the above principles and duties will be conducted simultaneously and always at the direction of the Emergency Coordinator.

A6 Early Warning Alarms and Systems

Security

The entire treatment facility perimeter is chainmesh fenced. There are two padlocked gates which are locked out of normal working hours or when there is no operator in attendance. The outer property boundary is barbwire fenced. In an emergency locks will have to be cut.

The control building is connected to a security system which will call out to a 24 hour call centre. If an alarm is activated the call centre will contact the on-call operator with the details of the alarm. If the on-call operator cannot be contacted there is an escalation hierarchy that the call centre will follow until a Council officer is contacted. It is Councils responsibility to call emergency services should they be required.

The Security Monitoring Centre contact is 07 55640088.

Fire

A fire panel is fitted in the control building and is connected to the security system. It is Council's responsibility to call emergency services should they be required.

Prior to conducting an evacuation drill, the Security Monitoring Centre must be contacted.

Raising the Alarm

On initial discovery of a perceived or actual emergency occurrence the 'on duty' plant attendant is to notify immediately by direct contact or telephone communication the Emergency Co-ordinator.

The 'on duty' plant attendant shall determine the nature and extent of the incident and implement relevant emergency procedures including raising the alarm and notifying emergency services, if required.

Minor or Moderate Incident - Site Alert

This shall be activated by verbal communication

Major Incident – Site Alert and External Alert

Ring 000 – Fire Ambulance Police

This shall be conducted by the Emergency Coordinator or their nominated representative.

The information to be supplied is as follows:

What assistance is required: Fire, Ambulance or Police

Name: Tweed Shire Council – Mooball Wastewater Treatment Plant

Contact name: Caller

Directions: from Murwillumbah

- Head south on Tweed Valley Way
- Turn left into Pottsville Rd at Mooball
- Continue on Pottsville Rd for 600m
- Turn right into MWWTP

Phone No: Your number, or as appropriate

Type of Emergency and Details: Fire, explosion, major leak and details of hazards/ risks present

Injury / Casualty Details: Types of injuries and number of casualties

Note: Ask the emergency service to repeat back the details before hanging up, particularly the directions

A7 Emergency Contact Details

INITIAL ALERT - COUNCIL EMERGENCY COORDINATOR	
Senior Wastewater Treatment Plant Operator – Kevin Nelson Acting Senior Wastewater Treatment Plant Operator – Glenn Molloy	(02) 6671 2920 Mobile - 0408 368 358 (02) 6671 2920 Mobile – 0420 962 406
EXTERNAL ALERT CONTACT NUMBERS	
Fire	**000**
Ambulance	**000**
Police	**000**
SES	**132 500**
NOTIFYING RELEVANT AUTHORITIES	
NSW EPA (Environment Line)	131 555
Local Public Health Unit	149 377
WorkCover Authority	13 10 50

Type of Emergency	Emergency Service Agency Responsible
Fire, Explosion, Chemical Spills/ Leaks, rescue at heights/ confined spaces/ entrapment	NSWFB
Casualties, injuries	Ambulance
Civil disorder, bomb threat	Police
Evacuation of people outside site boundaries (neighbours)	Police

A8 Safety and Containment

Power Isolation

Building/Functional Group	Power Isolation Location
Individual Drives/Processes	Local Emergency Stops and Isolation Switches
Office/Amenities/Switch Room	Main Switch Room
Treatment Processes	Main Switch Room

Equipment

Safety Data Sheets are located near the chemical dosing area. SDS's are also available through Council's chemical database, 'Chemalert', accessed from the Intranet.

PPE is kept onsite in the control building.

Personal gas monitors are only required for Confined Space Entry and are kept in Council's Confined Space Trailer which is brought to site when required. Only personnel who have been Confined Space Trained may undertake confined space work.

- Fire hydrant (off site)
- Fire extinguishers
- Chemical spill kit
- Chemical bunding
- First aid kits
- First aid officers
- Trained plant operators
- Mobile backup generator

Spills and Leaks of Dangerous Goods

1. Notify the emergency co-ordinator of the incident
2. Arrange for two people with appropriate personal protective equipment (PPE) to attend the leak/spill
3. Isolate valves to stop the leak
4. Turn off pumps as appropriate
5. Consult SDS for clean up procedures
6. For major spills arrange for a waste cartage contractor to remove

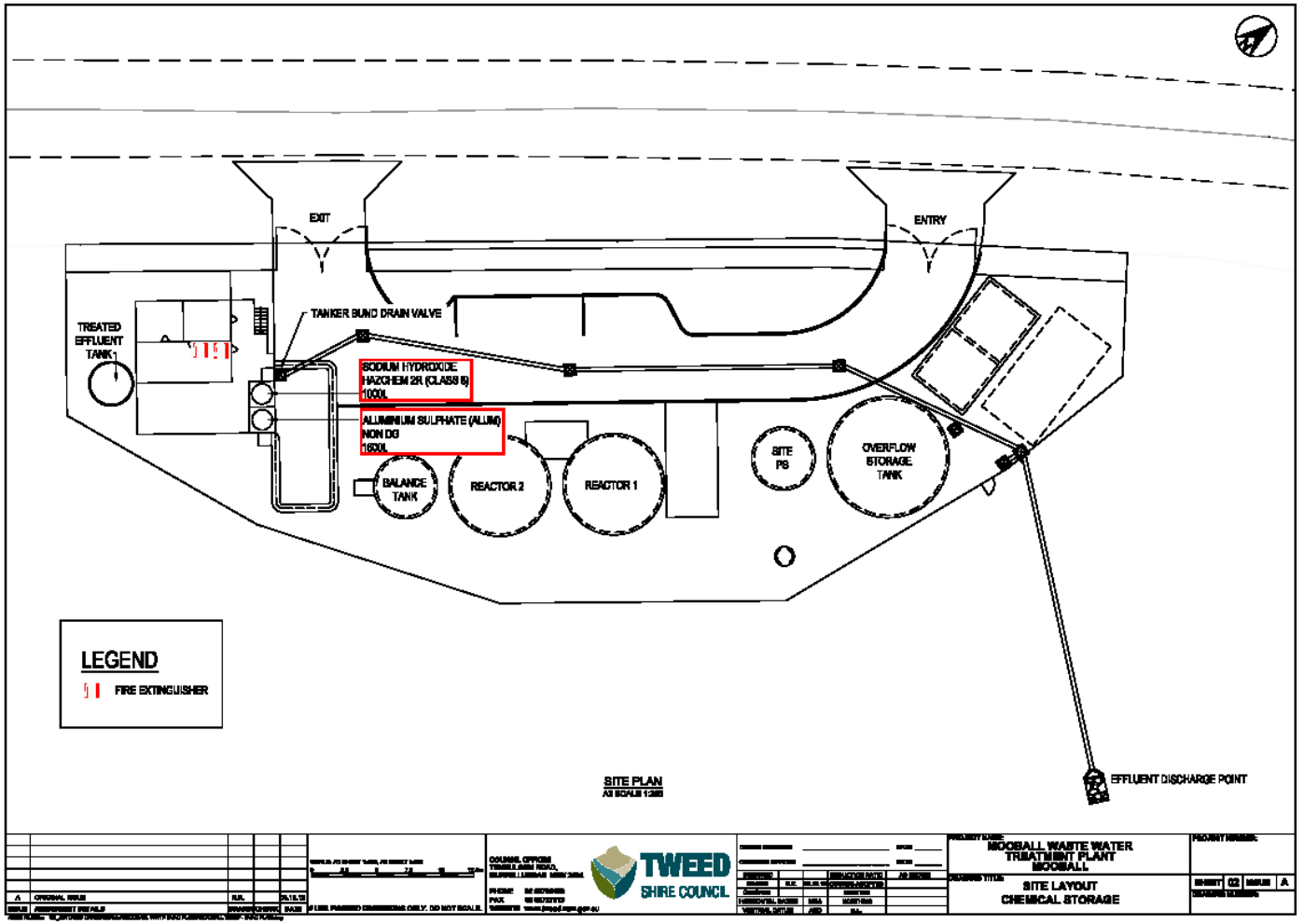
A9 Terminating an Emergency

Once the emergency services incident controller designates that their role is complete, control of the site will then be handed back to the Council emergency coordinator. The emergency controller will then need to facilitate reorganisation and reconstruction activities so that normal operation of the site can resume. This will be done with assistance from relevant Council Engineers and other parties as identified by Council.

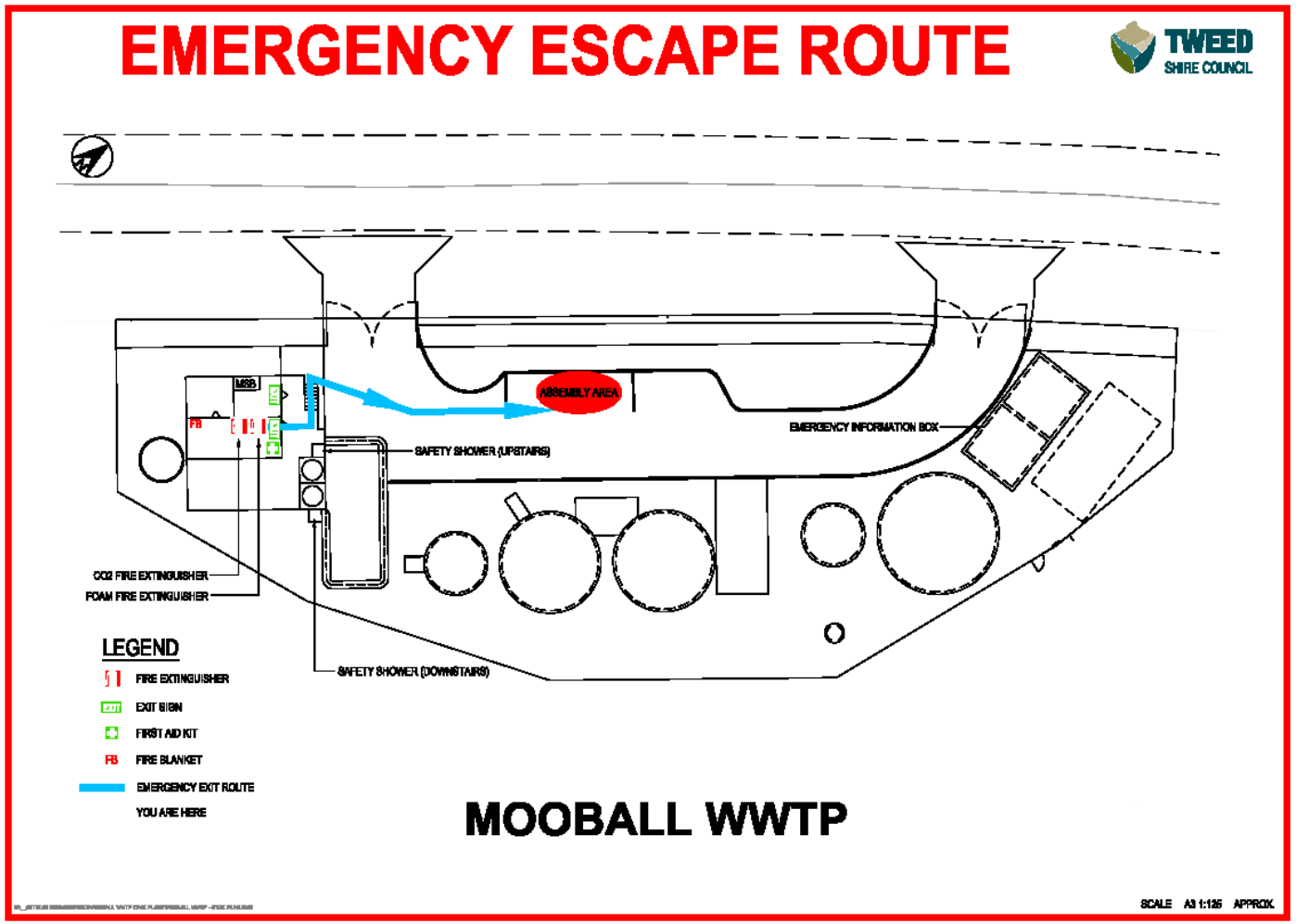
A10 Post Emergency

As part of Council's Emergency Preparedness and Management Protocol all emergencies are reviewed, investigated and the effectiveness of system assessed. Where appropriate the system is amended as part of the continuous improvement process.

Attachment 1 Site Plan



Attachment 2 Emergency Escape Plan



Appendix B: Risk Assessment

TWEED SHIRE COUNCIL WHS & ENVIRONMENTAL RISK MATRIX How dangerous is the hazard you found?						
PROBABILITY		**Very Likely**	**Likely**	**Possible**	**Unlikely**	**Very Unlikely**
WHS **Severity / Consequence**	Environmental Severity / Consequence					
Major injury / illness / death	Catastrophic environmental event.	**1**	**1**	**2**	**3**	**4**
Long term or serious injury / illness (greater than 5 days lost time)	Major environmental event.	**1**	**2**	**2**	**3**	**5**
Short term injury / illness (less than 5 days lost time)	Moderate environmental event.	**2**	**2**	**3**	**4**	**5**
Minor injury (first aid treatment required)	Minor environmental event.	**3**	**3**	**4**	**5**	**5**
Insignificant event	Insignificant environmental event	**4**	**5**	**5**	**5**	**5**

1	**Extreme Risk** – Do not commence work and contact WHS Section and Unit Manager. Secure site as required.
2	**High Risk** – Immediate action required to reduce risk.
3	**Medium Risk** – Urgent action required to reduce risk.
4	**Low Risk** – Ensure adequate control measures are implemented.
5	**Negligible Risk** - Manage appropriately.

If you feel a WHS / Environmental risk fits two or more categories, always treat the risk at the higher level as a precaution.

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating
WWTP and pump station operation / maintenance	**FIRE** Caused by: ▪ Accidental (e.g. discarded cigarette, welding sparks) ▪ Electrical fire ▪ Bushfire / sugar cane burn offs ▪ Lightning strikes ▪ Arson	▪ WWTP - Damage to machinery and equipment causing overflow through lowest point or discharge to Creek ▪ SPS - Damage to machinery and equipment causing overflow through lowest point in to dry gully to creek ▪ Escape to surrounding agricultural and recreational areas ▪ Injury to workers	▪ Buffer zones ▪ Crushed rock ▪ Pump stations & WWTP SCADA telemetry & alarms ▪ Fire safety equipment – extinguishers ▪ Arson - security fencing ▪ Daily site inspections ▪ Ensure work areas are clear of fire hazards ▪ No smoking near/in buildings ▪ Sewerage Incident Response SOP ▪ Emergency Mgmt Plan ▪ Emergency Evacuation routes/procedures ▪ Communication – public notification regarding o/f incident ▪ Business Continuity Plan ▪ Control Building is BCA certified ▪ Hydrant is located adjacent to WWTP property (within 100m of Control Building) ▪ Control Building has dedicated security and smoke alarm system connected 24 hour Call-centre. ▪ Tanker raw sewage to alternative WWTP if plant/equipment sufficiently damaged to make it inoperable ▪ Training in use of fire fighting equipment	UN/Mod = 4
WWTP operation / maintenance	**FLOOD** Damage caused by: ▪ Inundation of WWTP control room and/or tanks ▪ Storage of machinery and hazardous chemicals in flood-prone areas	▪ Flooding of critical infrastructure and sensitive equipment (electrical, pumps etc) resulting in o/f of raw or partly treated sewage to Creek ▪ Discharge of chemicals (caustic and alum) to environment	▪ Top level of tanks and control room floor built above 1:100 flood ▪ Chem storage above 1:100 flood ▪ Floods historically tend to be less than 6 hours before dissipate. ▪ Communication – public notification regarding o/f incident ▪ SCADA telemetry ▪ Sewerage Incident Response SOP ▪ Business Continuity Plan ▪ 24 hr call centre ▪ On call response staff ▪ Tanker raw sewage to alternative WWTP	VU/Maj = 5

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating
Pump station operation / maintenance	**FLOOD** Damage caused by: ▪ Inundation of pump station	▪ Flooding of critical infrastructure and sensitive equipment (electrical, pumps etc) resulting in overflow of raw sewage to environment ▪ SPS9002 and SPS9003 are located below Q100 flood level.	▪ SCADA telemetry ▪ Communication – public notification regarding o/f incident ▪ Sewerage Incident Response SOP ▪ SPSs include submersible pumps with electrical control equipment located above Q20 flood level. ▪ Business Continuity Plan ▪ 24 hr call centre ▪ On call response staff ▪ Tanker raw sewage to alternative WWTP	VU/Maj = 5
Individual site SPS	**FLOOD** Damage caused by: ▪ Inundation of individual site pump station	▪ Flooding of critical infrastructure and sensitive equipment (electrical, pumps etc) resulting in overflow of raw sewage to environment	▪ E-one pump units include submersible pumps ▪ Pump Local Control Panel located above height of property switchboard. ▪ Routine maintenance of pumps ▪ Information sheet to landholder on operations ▪ Sewerage Incident Response SOP ▪ Business Continuity Plan	VU/Min = 5
WWTP operation / maintenance	**STORMWATER CONTAMINATION** ▪ Contaminated stormwater runoff during rain events (i.e. from messy site)	▪ Pollution to Burringbar Creek ▪ Adverse impacts on water quality e.g. reduced oxygen, increased Nitrogen and Phosphorus ▪ Compliance issues (water quality objectives not met) ▪ Impacts on aquatic ecosystems and sensitive species (loss of significant flora and fauna) ▪ Cost of stream rehabilitation ▪ Damage to surrounding infrastructure (roads) ▪ Negative public perception	▪ No contaminated materials stockpiled on site unless bunded ▪ Sewerage Incident Response SOP ▪ Site management plan to incorporate bunding requirements if material stored onsite	U/Mod = 4
	STORMWATER CONTAMINATION ▪ Stormwater contamination from onsite activities (e.g. sludge spill, chemical spill, paint thinner down drain)		▪ Chemical loading zone and storage bunded ▪ Isolation valve on bund closed for all chemical transfers. ▪ Grit area bunded ▪ Operators monitor all contractors i.e. tanker transfers ▪ Site Induction for all contractors and service providers ▪ Trained operators ▪ Site management plan to incorporate actions if non-stormwater discharged to drains	Poss/Mod = 4

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating

Rising main operation	**RAW/PARTIALLY TREATED SEWAGE RELEASE**
	
	Caused by:
	▪ Failure of pipeline structures due to:
	  ▪ human/accident
	  ▪ environmental factors
	  ▪ deliberate vandalism
		▪ Pollution to land/waterways
		▪ Adverse impacts on water quality e.g. reduced oxygen, increased Nitrogen and Phosphorus
		▪ Impacts on aquatic ecosystems and sensitive species (loss of significant flora and fauna)
		▪ Cost of stream rehabilitation/clean up
		▪ Negative public perception
			▪ Marker tape above pipeline security
			▪ Register with DBYD
			▪ Sewerage Incident Response SOP
			▪ Sewer condition maintenance program
			▪ 24 hr call centre
			▪ On call response staff
				Pos/mod = 3

Pump station operation	**RAW/PARTIALLY TREATED SEWAGE SPILL**
	
	Caused by:
	
	▪ Failure of SPS structures due to:
	  ▪ human/accident
	  ▪ mech/elec failure
	  ▪ environmental factors
	  ▪ deliberate vandalism
	  ▪ Power failure
		▪ Pollution to land/waterways
		▪ Adverse impacts on water quality e.g. reduced oxygen, increased Nitrogen and Phosphorus
		▪ Impacts on aquatic ecosystems and sensitive species (loss of significant flora and fauna)
		▪ Cost of stream rehabilitation/clean up
		▪ Negative public perception
			▪ Duty/Standby pumps
			▪ SCADA telemetry
			▪ Battery power backup on instruments and telemetry
			▪ Backup/Standby High level switch and PLC controller
			▪ External warning light for high level and 24 hour response telephone number located on control cabinet
			▪ 24 hr call centre
			▪ On call response staff
			▪ Sewerage Incident Response SOP
			▪ Proactive SPS maintenance program
			▪ Standardised SPS equipment of similar size
			▪ Business Continuity Plan
			▪ Routine maintenance of pumps
			▪ Automatic daily alarm report on exceptional pump starts or pump run times
			▪ Critical electrical and control equipment spares parts are maintained
			▪ Tanker raw sewage to alternative WWTP if extended failure
				Pos/mod = 3

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating

WWTP operation	**RAW/PARTIALLY TREATED SEWAGE RELEASE**
	
	Caused by:
	
	▪ Accidental spillage of raw sewage at the treatment plant and in the network due to:
	  ▪ operation error
	  ▪ pump / equipment failure
	  ▪ blocked or leaking sewer
	  ▪ Insufficient isolation, alarm systems, and auto shut off safety measures
	  ▪ Vandalism of /unauthorised access to treatment plant,
	  ▪ Power failure
		▪ Pollution to Burringbar Creek
		▪ Adverse impacts on water quality e.g. reduced oxygen, increased Nitrogen and Phosphorus
		▪ Compliance issues (water quality objectives not met)
		▪ Impacts on aquatic ecosystems and sensitive species (loss of significant flora and fauna)
		▪ Cost of stream rehabilitation
		▪ Damage to surrounding infrastructure (roads)
		▪ Negative public perception
			▪ O&M manual details operational requirements
			▪ alarms and telemetry
			▪ 24 hr call centre
			▪ On call response staff
			▪ Spill kits / containment procedures and training
			▪ Review of SCADA alarms and emergency shutdown procedures
			▪ Site security measures e.g. fencing, padlocks, signage
			▪ Duty/standby for critical assets
			▪ Routine maintenance of pumps
			▪ Business Continuity Plan
			▪ Critical spares inventory
			▪ Tanker raw sewage to alternative WWTP if extended failure
			▪ Overflow tank with 2 x ADWF capacity.
				VU/Min= 5

	RAW/PARTIALLY TREATED SEWAGE RELEASE Caused by: ▪ Tank failure e.g. balancing tank, overflow storage tank, reactors, dosing facilities, sludge storage tanks, treated effluent storage tank		▪ Concrete structures unlikely to completely fail ▪ Regular inspections ▪ Business Continuity Plan ▪ Tanker raw sewage to alternative WWTP if extended failure	VU/Min= 5
	RAW/PARTIALLY TREATED SEWAGE RELEASE Caused by: ▪ poor influent quality e.g. due to illegal trade waste or domestic discharges ▪ poor operational management of WWTP	▪ Not meeting discharge licence conditions resulting in environmental harm to Burringbar Creek ▪	▪ O&M manuals and SOP/work instructions to mitigate process upsets ▪ In-house Process specialists and trained operators ▪ Process Monitoring plan - compliance with effluent standard ▪ Licence compliance monitoring ▪ Onsite storage (1 day of 2xADWF) ▪ Catchment monitoring program ▪ SCADA telemetry ▪ Enforcement of Council trade waste policy and on-going community education ▪ Tanker to alternative WWTP if required.	P/Mod=3

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating
WWTP operation Pump station operation	**Odour generated through general sewage treatment and collection**	▪ Odour nuisance for local community, public perception issues ▪ Compliance issues (odour impact guidelines not met) ▪ High retrofit costs	▪ Nearest sensitive receptor > 150m ▪ Treatment process has been odour modelled and meets legislative requirements. ▪ Odour treatment (activated carbon) connected to inlet works and inlet pump station– maintained by Council ▪ Regular use of odour loggers to monitor odour treatment performance	P/Min = 4
	▪ Under-designed odour control facility; poor ducting design; insufficient foul air extraction points		▪ O&M procedures for odour control system ▪ Proving period/performance guarantee from supplier	P/Min = 4
	▪ Failure of wastewater treatment processes causing odour		▪ O&M manuals and SOP/work instructions to mitigate process upsets ▪ In-house Process specialists and trained operators ▪ Daily inspections ▪ Process monitoring ▪ SCADA telemetry ▪ Nearest sensitive receptor > 150m	P/Min = 4
	▪ Accidental spillage of raw sewage		▪ O&M procedures to avoid accidental spillage ▪ Clean up procedures as per SOP ▪ Nearest sensitive receptor > 150m	P/Min = 4
	▪ Odour due to septicity in the sewerage network due to Reduced flows at start-up of new sewer network (longer resident times)		▪ Nearest sensitive receptor > 150m ▪ Treatment process has been odour modelled and meets legislative requirements. ▪ Odour treatment (activated carbon) at inlet works – maintained by Council ▪ Flushing water through sewer in early network start up	P/Min = 4
WWTP operation	**Noise** ▪ Operational noise at treatment plant	▪ Disturbance to residents ▪ Noise complaints	▪ Nearest sensitive receptor > 150m ▪ Major pumps submersible ▪ Design of WWTP to minimise noise. ▪ Deliveries and truck movements during normal working hours. ▪ Noise monitoring completed at WWTP to confirm noise meets approval requirements	VU/I=5
Pump station operation	▪ Operational noise at pump stations	▪ Disturbance to residents ▪ Noise complaints	▪ Submersible pumps on all pump stations (low noise)	VU/I=5

Activity	Hazard	Consequence	Existing Measures to Control Risks	Risk Rating
WWTP chemical storage and use	**HAZARDOUS MATERIALS AND CONTAMINATION:** ▪ Accidental release of stored hazardous materials/ chemicals e.g. dosing of alum and caustic soda	▪ Impact on human health (site workers only) ▪ Contamination of the receiving environment, impact on fauna ▪ Fire or explosion ▪ High cost of removal of contaminated material	▪ Bunding of chemical storage and chemical loading area ▪ Immediate clean-up of leaks and spills ▪ MSDS clearly visible where hazardous materials are stored ▪ Chemalert online chemical register ▪ Spill kit located onsite	U/Min = 5
	▪ Overdosing of process chemicals	▪ Contamination of the receiving environment, impact on fauna	▪ Daily chemical usage and chemical process monitoring ▪ O&M manuals and SOP/work instructions ▪ Daily manual monitoring of pH ▪ Chemical pump size limited to design max flow ▪ Operator training/experienced operators ▪ Online pH monitoring	Pos/in = 5

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