

# Pollution Incident Response Management Plan

## Clarenza Sewage System (STP and Reticulation)

## Table of Contents

Table of Amendments .....	3
1. Introduction.....	4
1.1 Scope .....	4
2. Pollution Incident Response Management Plan.....	4
2.1 Potential Incidents .....	4
2.2 Incident Response.....	5
2.2.1 Human health or Safety Incident .....	5
2.2.2 Pollution incident .....	5
2.3 Community notification .....	5
2.3.1 Incidents at the Sewage Treatment Plant .....	6
2.4 Incident Investigation.....	6
2.5 Pre-emptive Measures .....	6
2.5.1 Physical and preventative measures .....	6
2.5.2 Preventative inspection, monitoring and maintenance.....	7
2.5.3 Pre-emptive documentation .....	8
2.6 Training & Exercises.....	8
3. Responsibility .....	8
4. References .....	8
5. Glossary .....	9
6. Appendices.....	9
6.1 Appendix 1 - Site Plan and Reticulation Schematic .....	10
6.2 Appendix 2 – Wastewater Storage Volumes.....	12
6.3 Appendix 3 - Site Chemical Register .....	13
6.4 Appendix 4 - Personal Protective Equipment List .....	14
6.5 Appendix 5 - Risk assessments and actions.....	15
6.6 Appendix 6 - Additional Emergency Contacts .....	18
6.7 Appendix 7 – Power Failures Generator Priorities .....	19
6.8 Appendix 8 – Clarenza Catchment Controlled Overflow/Surcharge Points .....	20
6.9 Appendix 9 – Major Pollution Incident Form.....	21

### Table of Amendments

Amendment Detail	Authorised by	Date
Version 2 - All CVC PIRMP's re-drafted after testing on the 1 <sup>st</sup> December 2015. Amendments included minor formatting changes; updated to schematics, contact details, chemical registers.	G. Mashiah	24/05/2016
Version 3 - Pollution incident section and form removed, replaced with reference to SOP. References to OHS unit changed to WHS Unit. Updated WHS Unit phone numbers.	D. Eaton	01/06/2017
Version 4 – Quantity of onsite wastewater added in Appendix 2. Names of key personnel added. Info added to Section 2.6 on exercising this plan.	G. Mashiah	30/11/2017
Version 4.1 – post Testing/review meeting December 2017. <ul style="list-style-type: none"> <li>• Minor drafting and typo corrections</li> <li>• Remove references to 'Human Resources' section</li> <li>• Add section 2.5.4 and Remove from appendix 6</li> <li>• Appendix 7 (formerly appendix 8) re-ordered in priority ranking</li> <li>• Appendix 8 (formerly appendix 9) added new locations</li> <li>• Appendix 9 added</li> </ul>		
Version 4.2 – post testing / review meeting February 2019 <ul style="list-style-type: none"> <li>• Minor corrections and additions</li> </ul>	G. Mashiah	25/03/2019

## 1. Introduction

This plan has been developed to document the processes required to prepare for and respond to pollution incidents for the Clarenza Sewage Treatment Plant (STP) and associated reticulation (EPA Licence No. 2760) 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. Prior to this PIRMP, Council followed the actions listed in the Environmental Management Plan (EMP) for the Sewerage Systems. The EMP reporting and incident procedures have now been superseded by this PIRMP. This PIRMP also includes valuable information formerly contained in the EMP which can be used as a reference, including detail on pump station generator requirements and the location of controlled/uncontrolled surcharge points.

### 1.1 Scope

This Pollution Incident Response Management Plan applies to Clarenza Sewage System (STP and Reticulation - EPA Licence No. 2760). For site plan and sewerage schematic, refer to Section 6.1 Appendix 1 - Site Plan and Reticulation Schematic.

## 2. Pollution Incident Response Management Plan

The area of South Grafton is serviced by 77.7km of sewer mains and 19 pump stations which transfer sewage to the Clarenza STP. Clarenza STP treats approximately 2000kL 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 6.2 Appendix 3 – 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
  
- 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 6.5 Appendix 5 - Risk assessments and actions. For detail on actions to reduce risks see Section 2.5 Pre-emptive Measures.

## 2.2 Incident Response

This section details the response requirements in the event of an incident. See also pollution incident form provided in Appendix 9. In all situations:

**The business hours emergency number for CVC is (02) 6643 0200**

**The after hours emergency number for CVC is (02) 6626 6858**

During working hours, these calls are taken by staff on the CVC 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. CVC 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 **serious** immediate threat to Human health or Safety, call triple zero "000" (or "112" if using a mobile) and implement the following process:

1. Undertake reporting in accordance with the procedures listed in the ***CVC WHS Hazard / Incident Reporting Guidelines***
2. If required, evacuate the site
3. Contact Water & Sewer Engineer and/or Manager Water Cycle (Refer contact list Appendix 6)
4. Report the incident to Council's WHS Unit on 6643 0822, 6643 0820 or 0427 288 483.

### 2.2.2 Pollution incident

Water Cycle have developed a Standard Operating Procedure No. 11 for responding to major pollution incidents, which is available on Water Cycle's K Drive at <K:\Water Cycle\OPERATIONS\SOPS\NEW SOP FORMAT\011 Major Pollution Incidents Form.doc> Major Pollution Incidents Form.doc and is included at Appendix 9.

## 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 Clarence Valley 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 Clarence Valley 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 – only CVC staff with appropriate delegations are permitted to speak to the media)
- Site visits/door knocking
- Letter drops
- Warning signs (e.g. 'Potential Sewer Contamination – Do Not Enter Water')
- Other methods as the situation requires

In the event of a chemical or sewage spill into stormwater or waterway, Clarence Valley 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, Clarence Valley 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). Clarence Valley 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 South Grafton is 1-2 km away from the Clarenza STP. The nearest neighbour from the Clarenza STP is approximately 500 metres uphill and to the south-east. 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 Clarenza 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 Clarenza STP have multiple alarm systems to alert operators of conditions that may result in incidents, which include:

- High level alarms
- Communication failure
- Chemical bund alarms
- Motor issue alarm
- No flow/high flow alarms

In the event that these systems fail, Clarence Valley Council has portable bypass pumps and other containment options available.

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. The majority of the SPSs in the Grafton area also have generator inlets installed. Where generator inlets are not installed, Council's electricians can hard-wire a generator if required. Council has an on-going program to continue to install generator inlets at all SPSs. Council has a 500KVA trailer mounted generated located at Shannon Creek, a 135KVA trailer mounted and a 40KVA located in the Lower River area and a 20 KVA and a 120 KVA generator located in the Grafton area. The 120KVA generator is capable of running all of the Grafton SPS's and the 500KVA generator is capable of running Clarenza STP.

Appendix 7 - Power Failures Generator Priorities identifies the ranking order of generator supply required in the event of a total power failure. The ranking 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 decrease 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. The Sewer reticulation systems also have controlled overflow/surcharge points, where surcharging sewage is directed in a controlled manner to a less harmful situation. These are used to avoid surcharges on private property or sensitive locations. Controlled overflow/surcharge points may consist of any combination of reflux valves, weirs, manholes, flaps valves, gas-check manholes and diversion pipes. Controlled overflow/ surcharge points exist both at SPS's where sewers may surcharge because of failure or lack of capacity of the pumping station, and within the reticulation system where sewers may surcharge due to a blockage in the downstream pipes or lack of capacity especially in wet weather events.

Appendix 8 - Clarenza Controlled Overflow/Surcharge Points identifies Controlled Overflow/ Surcharge Points

## 2.5.2 Preventative inspection, monitoring and maintenance

Clarence Valley 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
<b>Sewage Treatment Plant</b>	
Operate the STP as per operation and maintenance procedures	Daily
<b>Pumping Stations</b>	
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	Monthly
Service pumps	Annually (minimum)

Electrical inspections of pump controls	Annually
Pump refurbishments	Determined by service reports
Pump replacements/upgrades	Determined by service reports
<b>Reticulation</b>	
Inspection of controlled overflow/surcharge points	Monthly
CCTV inspections of mains	As per program
Mains rehabilitations	As per program
Location of manholes and boundary shafts	On-going program

### 2.5.3 Pre-emptive documentation

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

- SWP 071 - Jetting Sewer Mains
- SWP 106 - Sewer Main Repair

### 2.5.4 Action plans to minimise harm

To address the risk of sewage overflows, Clarence Valley 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

## 2.6 Training & Exercises

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 ECM and training records will be sent to People and Culture section for filing.

Training will be undertaken annually at the same time as the plan is exercised .

## 3. Responsibility

Manager Water Cycle 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 2009
- Public Health Act 2010



## 5. Glossary

**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

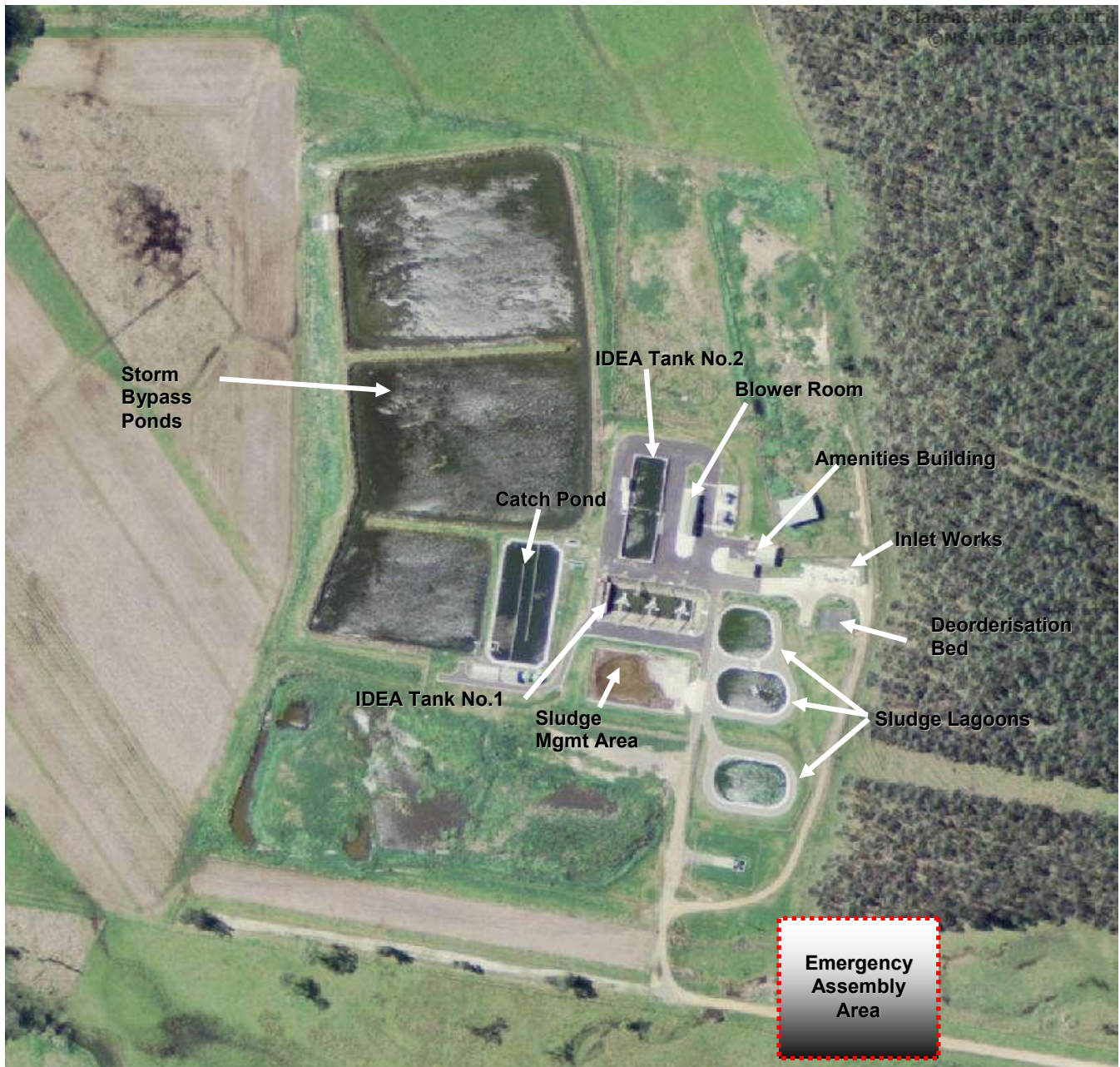
**Loss:** includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

## 6. Appendices

- Appendix 1 - Site Plan and Schematic
- Appendix 2 – Wastewater Storage Volumes
- Appendix 3 - Site Chemical Register
- Appendix 4 - Personal Protective Equipment
- Appendix 5 - Risk assessments and actions
- Appendix 6 - Additional Emergency Contacts
- Appendix 7 – Power Failure Generator Priorities
- Appendix 8 – Controlled Overflow /Surcharge Points
- Appendix 9 – Major Pollution Incident Form

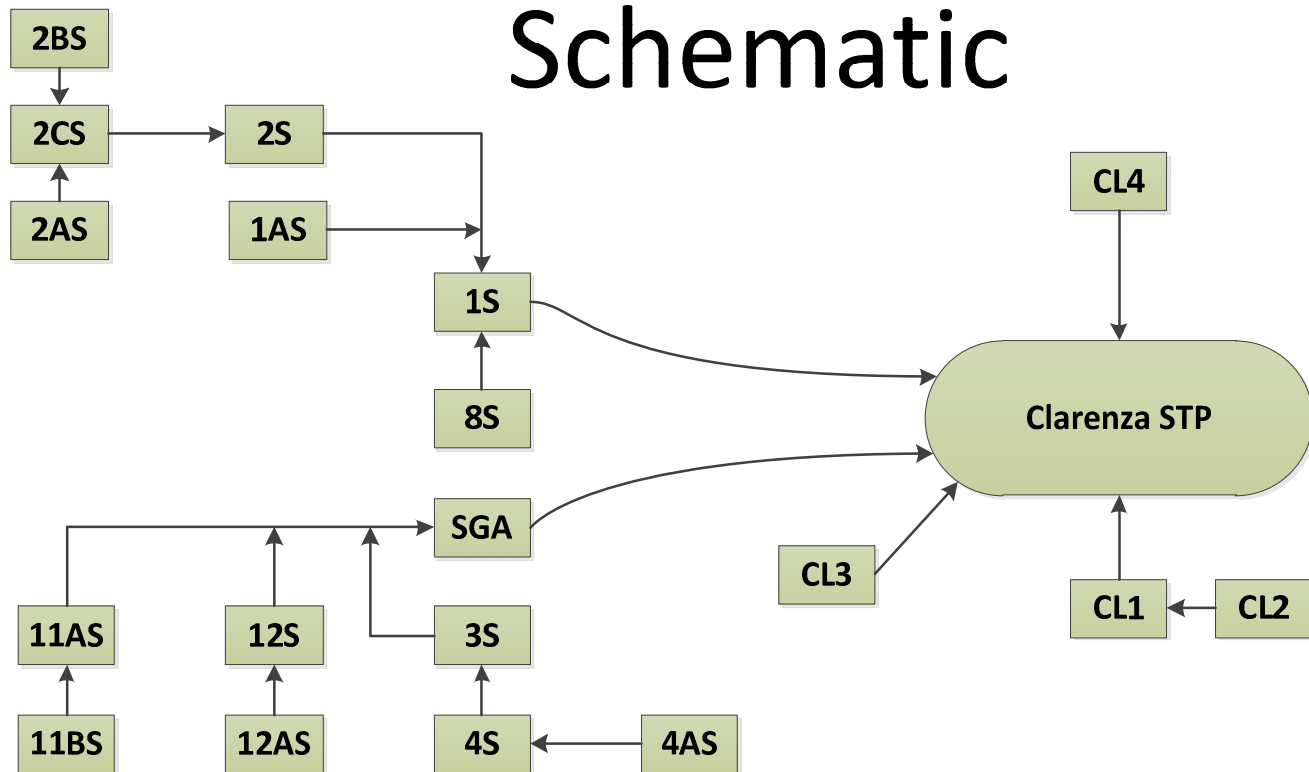
## 6.1 Appendix 1 - Site Plan and Reticulation Schematic

### Clarenza STP Site Plan



Pump Station Name	Pump Station Location
1S	Crossroads
1AS	Rushforth Park
2S	Abbot street
2AS	Rodeo Park
2BS	Jabour Park
2CS	Ryan/Ardent Streets
3S	Armidale St
4S	Abattoirs
4AS	Hyde St
8S	Ellen St
11AS	Fairway Drive
11BS	Denton Drive
12S	St Josephs Sch.
12AS	Bent St (Millers)
SGA	Rushforth Road
CL1	Clarenza Road
CL2	Merton Mews Estate
CL3	Tyson St Industrial
CL4	McAuley College

# Clarenza Sewer Schematic



## 6.2 Appendix 2 – Wastewater Storage Volumes

Date of register: November 2017

Item	Storage (kL)
Inlet Works	69
New IDEA Tank	3990
Old IDEA Tank	4460
Catch Pond	3525
Sludge Lagoon 1	1500
Sludge Lagoon 2	1670
Sludge Lagoon 3	1870
Storm Bypass Pond 1	11250
Storm Bypass Pond 2	28800
Storm Bypass Pond 3	30900

### 6.3 Appendix 3 - Site Chemical Register

Date of register: December 2015

MSDS kept in lab room / office building as well as at chemical location.

Chemical Name	Maximum Volume of Chemicals Stored	Location Where Chemical is Stored
Aluminium Sulphate (Alum)	35000 L	Alum Bund
Sodium Hydroxide (Caustic)	25000 L	Caustic Bund
Diesel	40 L	Shed (in gerry cans)
Unleaded petrol	20 L	Shed (in gerry cans)
Glyphosate	20 L	Shed
Phosphoric Acid	50 L	U.V. Shed
Polymer	2x1000 L Bulk Container	De-watering Hardstand area

## **6.4 Appendix 4 - Personal Protective Equipment List**

This section list the standard PPE items required.

### **Sewage Treatment Plant**

The following items are to be kept at either the Clarenza STP, worn as PPE, or available in vehicles:

- Ear/hearing protection
- Sun screen
- Apron/disposal overalls
- Rubber Gloves
- Goggles
- Gumboots

### **Sewerage reticulation response truck**

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

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

### **Rushforth Depot**

- Gas monitor
- Gas monitor calibration equipment

## 6.5 Appendix 5 - Risk assessments and actions

No	Risk	Impact	Risk LxC = Rating	Controls
<b>Clarenza Reticulation</b>				
1	Sewage overflow due to inflow/infiltration	Land contamination, possibly enter a waterway	C2 = M	<ul style="list-style-type: none"> <li>▪ Reticulation maintenance and rehabilitation to reduce infiltration and inflows</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
2	Sewage overflow due to power failure	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Lightning protection</li> <li>▪ Back up generators, priorities provided in Appendix 7</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
3	Sewage overflow due to storm damaging infrastructure	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Lightning protection</li> <li>▪ Site vegetation management to prevent damage to infrastructure</li> <li>▪ Portable pumps</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
4	Sewage overflow due to Reticulation blockages or damage	Land contamination, possibly enter a waterway	C2 = M	<ul style="list-style-type: none"> <li>▪ Reticulation maintenance</li> <li>▪ Sewer Jetting program (high pressure cleaning of mains for repeat chokes)</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
5	Sewage overflow due to an external persons excavation hitting the sewers	Land contamination, possibly enter a waterway	C2 = M	<ul style="list-style-type: none"> <li>▪ Provide underground service locations to external persons</li> <li>▪ Telemetry designed to pick up a change in inflows</li> <li>▪ Vacuum trucks (for clean up)</li> <li>▪ Portable pumps (for clean up)</li> </ul>
6	Sewage overflow due to SCADA/Communications failure	Land contamination, possibly enter a waterway	A2 = L	<ul style="list-style-type: none"> <li>▪ SCADA testing and alarming</li> <li>▪ Monitoring of SCADA signal issues</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
7	Sewage overflow due to Infrastructure failure (e.g. due to age)	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Reasonably Young network</li> <li>▪ Maintenance and renewal programs</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>

Title	Doc No	Version	Author	Reviewer	Approver	Approval Date
PIRMP - Clarenza		4.2	Kieran McAndrew	Frank Vaarwerk	Greg Mashiah	25/03/2019

No	Risk	Impact	Risk LxC = Rating	Controls
8	Sewage overflow due to Mechanical break down/dual pump failure	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Telemetry monitoring</li> <li>▪ Maintenance and inspection programs</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Portable pump to bypass site and vacuum truck to maintain flows</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>

**Sewage Treatment Plant**

1	Sewage overflow (raw) due to heavy rainfall	Land contamination, possibly enter a waterway	A1 = L	<ul style="list-style-type: none"> <li>▪ Reticulation maintenance to reduce infiltration and inflows</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Overflow storage at the WRP</li> <li>▪ Bypass systems to overflow storage pond</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
2	Sewage overflow (raw) due to Reticulation blockages	Land contamination, possibly enter a waterway	A2 = L	<ul style="list-style-type: none"> <li>▪ Reticulation maintenance</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Overflow storage at the WRP</li> <li>▪ Bypass systems to overflow storage pond</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
3	Sewage overflow (raw) due to damage to onsite reticulation (e.g. during excavations etc)	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Locate services prior to excavations</li> <li>▪ Appropriate supervision of contractors</li> <li>▪ Bypass systems</li> </ul>
4	Sewage overflow (raw) due to SCADA/Communications failure	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ SCADA testing and alarming</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
5	Sewage overflow (raw) due to Infrastructure failure (e.g. due to age)	Land contamination, possibly enter a waterway	B2 = L	<ul style="list-style-type: none"> <li>▪ Maintenance and renewal programs</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>
6	Sewage overflow (raw) due to excessive flows	Land contamination, possibly enter a waterway	A2 = L	<ul style="list-style-type: none"> <li>▪ Reticulation maintenance to reduce infiltration and inflows</li> <li>▪ Spare capacity in pump wells</li> <li>▪ Overflow storage at the WRP</li> <li>▪ Bypass systems to overflow storage pond</li> <li>▪ Monitoring and maintenance</li> <li>▪ Pre-emptive measures see Section 2.5 Pre-emptive Measures</li> </ul>

<b>Title</b> PIRMP - Clarenza	<b>Doc No</b>	<b>Version</b> 4.2	<b>Author</b> Kieran McAndrew	<b>Reviewer</b> Frank Vaarwerk	<b>Approver</b> Greg Mashiah	<b>Approval Date</b> 25/03/2019
----------------------------------	---------------	-----------------------	----------------------------------	-----------------------------------	---------------------------------	------------------------------------



No	Risk	Impact	Risk LxC = Rating	Controls
7	Sewage overflow (raw) due to Treatment plant blockage	Land contamination, possibly enter a waterway	A2 = L	<ul style="list-style-type: none"> <li>Bypass systems</li> <li>Gross solid screening</li> </ul>
8	Chemical spill due to Tank/storage failure	Land contamination, possibly enter a waterway	B2 = M	<ul style="list-style-type: none"> <li>Bunding</li> <li>Alarms</li> <li>Inspection and maintenance of tanks</li> </ul>
9	Chemical spill During delivery	Land contamination, possibly enter a waterway	B2 = M	<ul style="list-style-type: none"> <li>SWMS</li> <li>PPE</li> </ul>
10	Chemical spill due to Damage to chemical reticulation	Land contamination, possibly enter a waterway	A3 = M	<ul style="list-style-type: none"> <li>Locate services prior to excavations</li> <li>Appropriate supervision of contractors</li> <li>Bypass systems</li> <li>Shut off valves for chemicals</li> </ul>
11	Chemical spill due to Vandalism	Land contamination, possibly enter a waterway	A3 = M	<ul style="list-style-type: none"> <li>Site security fences</li> </ul>
12	Chemical spill due to Bund failure	Land contamination, possibly enter a waterway	B3 = M	<ul style="list-style-type: none"> <li>Bund inspections</li> <li>Annual bunding tests</li> <li>Maintenance and renewal</li> </ul>
13	Chemical truck incident outside of bunded area	Land contamination, possibly enter a waterway	B3 = M	<ul style="list-style-type: none"> <li>Only use transport companies with evidence of driver licensing and training</li> <li>Operator onsite during deliveries (or at minimum direct contact with deliver in exceptional circumstances)</li> </ul>

Likelihood	Consequences	Rating	Likelihood					
A <b>IMPROBABLE</b> - May occur only in exceptional circumstances	1. <b>INSIGNIFICANT</b> - 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	L = Low	Consequence	A	B	C	D	E
B <b>REMOTE</b> - Could occur at some time	2. <b>MINOR</b> - 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	M = Medium	1	L	L	L	M	H
C <b>OCCASIONAL</b> - Might occur at some time	3. <b>MODERATE</b> - 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	H = High	2	L	L	M	H	V
D <b>FREQUENT</b> - Will probably occur in most circumstances	4. <b>MAJOR</b> - long term illness/serious injury, significant pollution requiring outside assistance & long term environ 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	V = Very High	3	M	M	H	V	X
E <b>CONTINUOUS</b> - Is expected to occur in most circumstances	5. <b>CATASTROPHIC</b> - 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	X = Extreme	4	H	H	V	X	X
<b>Refer also to Councils Hazards, Risks and Controls Guidelines</b>			5	V	V	X	X	X

Title	Doc No	Version	Author	Reviewer	Approver	Approval Date
PIRMP - Clarenza		4.2	Kieran McAndrew	Frank Vaarwerk	Greg Mashiah	25/03/2019

## 6.6 Appendix 6 - Additional Emergency Contacts

<b>AMBULANCE</b>	<b>000</b>
GRAFTON	6643 1765
<b>NSW FIRE &amp; RESCUE</b>	<b>000</b>
GRAFTON	6643 3491
<b>POLICE STATION</b>	<b>000</b>
GRAFTON	6642 0222
<b>EPA POLLUTION HOTLINE</b>	<b>131 555</b>
<b>RURAL FIRE SERVICE</b>	<b>000</b>
ULMARRA OFFICE	6644 5135
<b>STATE EMERGENCY SERVICES (SES)</b>	<b>132 500</b>
CLARENCE NAMBUCCA REGION OFFICE	6641 6900
<b>HOSPITAL</b>	
GRAFTON	6640 2222
<b>ROADS &amp; MARITIME SERVICES (RMS)</b>	<b>66 401300</b>
SOUTH GRAFTON	66 401064
AFTER HOURS EMERGENCY	1800 644 116
TRANSPORT MANAGEMENT CENTRE	131700
<b>ELECTRICITY (ESSENTIAL ENERGY)</b>	<b>132 080</b>
<b>WIRES</b>	<b>6643 4055</b>
<b>WORKSAFE NSW</b>	<b>131 050</b>
<b>NSW Health</b>	<b>1300 555 555</b>
Pager	149377
<b>CLARENCE VALLEY COUNCIL</b>	
Call centre – business hours	6643 0200
Call centre – after hours	6626 6858
Manager Water Cycle Greg Mashiah	0428 112 982
Water & Sewer Engineer Sam Towndrow	0436 639 521
Environmental Health Officer – contact through call centre or Manager Water Cycle	

## 6.7 Appendix 7 – Power Failures Generator Priorities

Council staff are to physically attend any critical pump station (defined as “Priority 1”) if a high level alarm is received to verify the pump station is physically operating.

*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	Generator Required KVA	Priority ranking
3S	Armidale Street	100 one pump only	1
SGA	Rushforth Rd/Tyson Street	100	1
1S	Crossroads	100 one pump only	2
12S	St Josephs School	40	2
2S	Abbot Street	40	3
4S	Abattoirs	20	3
4AS	Hyde Street	20	3
8S	Ellen Street	20	3
11AS	Fairway Drive	20	3
2CS	Ryan/Ardent Street	20	3
CL1	Clarenza Road	40	3
CL2	Merton Mews	40	3
CL3	Tyson Street Industrial	40	3
CL4	McAuley College	20	3
11BS	Denton Drive	40	4
12AS	Millers Bent St	40	4
2AS	Rodeo Park	20	5
2BS	Jabour Park	20	5
1AS	Rushforth Park	20	5

## 6.8 Appendix 8 – Clarenza Catchment Controlled Overflow/Surcharge Points

Location/ Catchment	Retic or SPS	Overflow/Surcharge Point - Receiving waterway	Inspection Point
1S Beatson St	Retic	Overflow MH, Gas-check MH to 900mm stormwater pipe – approx 200m to Christopher Creek via underdrain	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater pit in Christopher Creek under-drain</li> <li>▪ Christopher Creek at Spring Street</li> </ul>
1S 28 Ryan St	Retic	Overflow pipe from MH to Street gutter	<ul style="list-style-type: none"> <li>▪ Overflow MH</li> <li>▪ Gutter in Kelly Street</li> </ul>
1S Kelly St/Infants School Lane`	Retic	Overflow MH with flap valve to 525mm stormwater pipe – approx 910m to Christopher Ck via Kelly Ck under-drain	<ul style="list-style-type: none"> <li>▪ Overflow manhole</li> <li>▪ Stormwater pit in Lane</li> <li>▪ Christopher Creek at Spring Street</li> </ul>
1S 42 Mackay St	Retic	Overflow MH with 75mm pipe to 600mm stormwater pipe – approx 90m to Musk valley Creek via Tyson Street stormwater	<ul style="list-style-type: none"> <li>▪ Stormwater pit at Cnr Tyson Mackay St</li> <li>▪ Stormwater discharge in Tyson St at Musk Valley Ck</li> </ul>
2S Kennedy/Abbot St	Retic	Overflow MH, Gas-check MH, Intermediate MH, Headwall to Cowans Creek	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater headwall in Abbot St at Cowans Creek</li> </ul>
3S Armidale St	SPS	Overflow MH, Gas-check MH to 450mm stormwater pipe – approx 160m to Musk Valley Creek via Armidale Rd stormwater	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater pit near in Armidale Rd</li> <li>▪ Stormwater discharge in Armidale rd at Musk Valley Ck</li> </ul>
4S Abattoirs	SPS	Overflow MH, Gas-check MH, Headwall to Musk Valley Creek	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater headwall near creek</li> </ul>
8S Ellen St	SPS	Overflow MH, Gas-check MH, Headwall to open drain – approx 220m to Musk Valley Creek	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater headwall near open drain</li> </ul>
12S St Josephs School	SPS	Overflow MH, Gas-check MH, Headwall to open ground	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater headwall</li> </ul>
SGA Bent La/Kelly St	Retic	Overflow MH with flap valve to 300mm stormwater pipe – approx 160m to Kelly Ck under-drain	<ul style="list-style-type: none"> <li>▪ Overflow manhole</li> <li>▪ Stormwater pit in Lane</li> <li>▪ Stormwater pit in Kelly Ck under-drain</li> </ul>
SGA 48 Norrie Street	Retic	Overflow MH, Gas-check MH to 750mm stormwater pipe – Kelly Ck under-drain	<ul style="list-style-type: none"> <li>▪ Gas-check MH</li> <li>▪ Stormwater pit near drain</li> </ul>
SGA Braylesford Park	Retic	Overflow weir in MH to 750mm stormwater pipe in gully	<ul style="list-style-type: none"> <li>▪ Overflow MH</li> <li>▪ 750mm pipe outlet into open drain adjacent to High School playing fields</li> </ul>
SGA 3 Thomas St / Braylesford Park	Retic	Overflow MH, Gas-check MH to 750mm stormwater pipe in gully	<ul style="list-style-type: none"> <li>▪ Overflow MH</li> <li>▪ 750mm pipe outlet into open drain adjacent to High School lower playing fields</li> </ul>
SGA – 4 Moorhead Dr / Cnr McFarlane St	Retic	Overflow MH, Gas-check MH to 750mm stormwater pipe	<ul style="list-style-type: none"> <li>▪ Overflow MH</li> <li>▪ Stormwater Pit 4 Moorhead Dr</li> </ul>

## 6.9 Appendix 9 – Major Pollution Incident Form

K:\Water Cycle\OPERATIONS\SOPS\NEW SOP FORMAT\011 Major Pollution Incidents Form.doc

### WATER CYCLE PROCEDURE # 011 – Major Pollution Incidents Form



This form is usually completed by the Supervisor based on information provided by Operator. If Operator cannot contact the Supervisor, she/he should complete this form. This form is to be saved on ECM when completed.

**Minor events:** There is no need to report minor pollution incidents as they are captured through CRMs. If a minor event occurs without a CRM please create a CRM. Examples of minor events: odour complaints and chemical spills with no human health risk contained in bunded areas.

**Major events:** All major incidents need to be reported through this form. Examples of major events:

- any pollution incident with risk to human health
- chemical spills outside bunded areas or with health impacts
- significant sediment run off incidents
- large sewer spills, or sewer spills near waterways (including dry gullies), inside buildings or sensitive areas (e.g. schools, shopping precincts)

#### Incident Details

Person Completing Form:					
Incident Location:					
Cause of Pollution Incident:					
Method of detection. (e.g. telemetry, inspections, CRM):					
Actions taken to rectify:					
Incident witnesses (names/ph):					
Quantity discharged:	kL	<input type="checkbox"/> Known <input type="checkbox"/> Estimate	Duration of Discharge:	hr	<input type="checkbox"/> Known <input type="checkbox"/> Estimate
Rainfall in last 24 hours:	mm		Other weather conditions (e.g. tide, currents, wind):		

**Immediate Contacts:** The following should be immediately contacted.

Name	Number	Contacted?	Time contacted	Ref. Number
EPA Environment Line	131 555	Yes / No	am / pm	
SafeWork NSW*	131 050	Yes / No	am / pm	
Fire & Rescue NSW*	000	Yes / No	am / pm	
<i>Consider contacting the following if relevant to incident.</i>				
One of following: (1) NSW Shellfish Program (2) Grant Webster Shellfish Safety Officer (3) Local Industry Rep Alan Brooks	(1) BH: 6539 4800 or AH: 0407 078 269 (2) BH: 6539 4809 or AH: 0407 947 730 (3) 0408 214 896	Yes / No	am / pm	
NSW Environmental Health	BH: 1300 066 055 or AH: 0428 882 805	Yes / No	am / pm	
Fisheries	1800 043 536	Yes / No	am / pm	
Affected Neighbours	Determined on site	Yes / No	am / pm	
Chemical suppliers	Refer to MSDS	Yes / No	am / pm	
Council's Insurance & Risk Officer	6643 0200	Yes / No	am / pm	

\*Notification is required by legislation. NSW EPA has requested that Council only notify Fire & Rescue of pollution incidents where they have a role in managing the incident (e.g. chemical spill, fire).

**Sampling:** The requirements of a sampling program are likely to be discussed with the immediate contacts listed above. Generally samples will be taken at the point of discharge and a suitable point upstream and downstream of the incident.

**Clean Up:** The clean up requirements will also be agreed upon by the contacts listed above.

Responsible Officer	Greg Mashiah	Version (Date)	V1.0 (May 2017)
---------------------	--------------	----------------	-----------------