Riverstone Zone Substation (EPL 21988)

Pollution Incident Response Management Plan

Prepared by Endeavour Energy Environmental Services

Version 3

Endeavour Energy | POWER together

Version Control

Version	Date
1	1 May 2025
2	6 June 2025
3	12 Jan 2026
4	
5	

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1. Introduction

1.1 Background

An environment protection licence (EPL) (licence number 21988) was established by Endeavour Energy in 2009 for the Riverstone Zone Substation (ZS). The licence is regulated by the NSW Environment Protection Authority (EPA) and is required under the *Protection of the Environment Operations Act 1997* due to the volume of waste oil that can potentially be stored at the Riverstone Zone Substation.

In 2012, the *Protection of the Environment Operations Act 1997* was amended and the *Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012* was gazetted. One of the outcomes of this amendment was a requirement for all holders of an environment protection licence to prepare and implement a pollution incident response management plan.

The pollution incident response management plan must:

- be kept at all times at the premises;
- include information as required in the amendment;
- be tested on an annual basis; and
- be implemented if a pollution incident does occur.

Endeavour Energy has prepared procedures for emergencies at substations (*WRG0653 - Emergency Evacuation Of Zone And Transmission Substations*) which applies to Riverstone ZS. This pollution incident response management plan supports the emergency procedures by providing additional guidance on the response and reporting of pollution events.

1.2 Objectives

The objectives of the pollution incident response management plan are to:

- provide guidance on responding to a pollution incident, such that potential harm to the environment and humans is minimised; and
- ensure timely and correct reporting of a pollution incident.

1.3 Environment Protection Licence (EPL) details

Name of licensee	Endeavour Energy Network Operator Partnership (Endeavour Energy)
EPL number	21988
ABN	11 247 365 823
Premises name and address	Riverstone Zone Substation 86 Riverstone Parade,

	Riverstone, NSW 2765
Company contact details	**Position:** Endeavour Energy **Business hours contact number:** 133 718 **After hours contact number:** 131 003 **Postal address:** PO Box 811, Seven Hills, NSW, 1730
Website address	https://www.endeavourenergy.com.au/
Scheduled activity	Environmentally hazardous chemicals (premises)
Fee-based activity	Environmentally hazardous chemicals - premises based - Any capacity

2. Site Information

2.1 Site Address and Description

The Riverstone Zone Substation is located at 86 Riverstone Parade, Riverstone, NSW 2765.

The site is currently an operational Zone Substation for Endeavour Energy with typical activities including unstaffed operation of electricity distribution infrastructure, related maintenance and inspection activities.

2.2 Surrounding Land Uses

The Riverstone Zone Substation is located. The land uses surrounding the site are residential and industrial in nature. The Riverstone Business Park industrial area is located approximately 100metres to the west, across the road along Riverstone Parade and beyond the Richmond train line.

2.3 Surrounding Sensitive Environments

The substation is in the catchment of Eastern Creek which flows approximately 500m west of the site. A tributary to Eastern Creek runs from near Riverstone drive approximately 180m southwest of the site. Stormwater drainage outlets leaving the site are connected to a stormwater system that is understood to flow to that tributary.

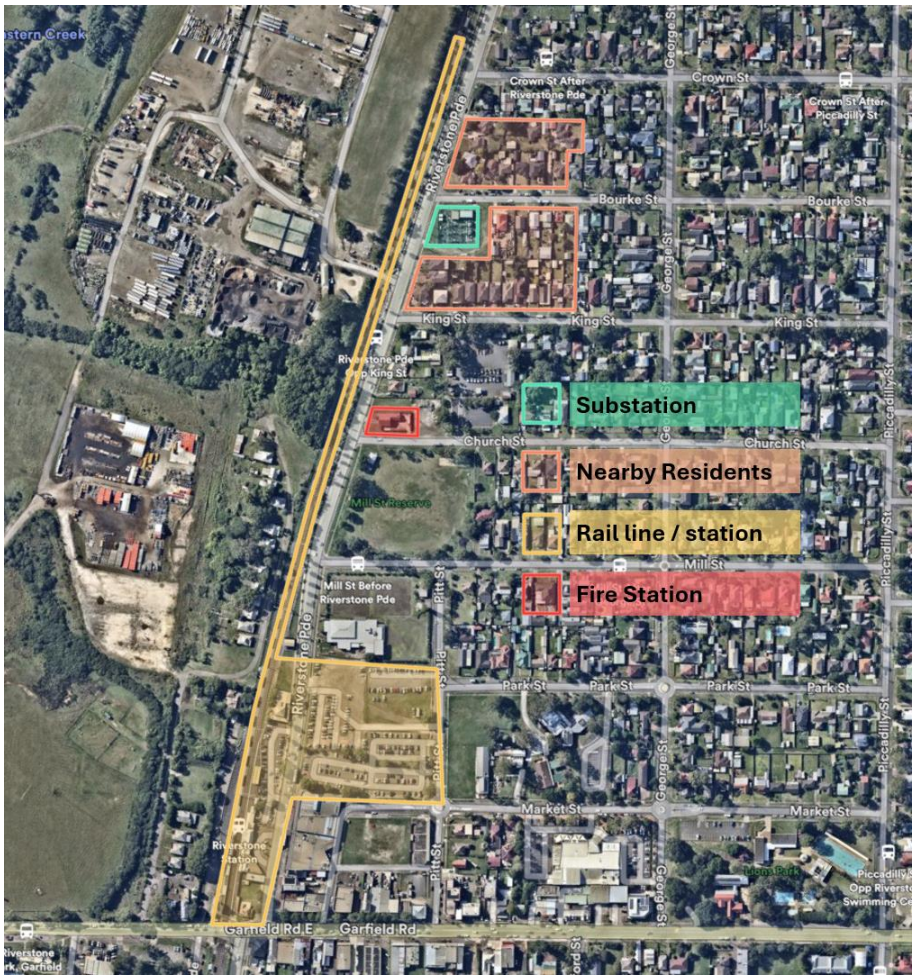
Eastern Creek then flows further north through Vineyard where it joins South Creek, then eventually flows into the Hawkesbury River. The junction of South Creek and Hawkesbury River is 8km north of the site.

The nearest residential properties to the site are on adjacent blocks property approximately 20m to the east and south.

The Richmond railway line runs across the road from the substation, approximately 60m from the transformers and the Richmond railway station and parking is approximately 500m to the south.

The nearest school is Riverstone Public School, located 1.1 km to the south east of the site. Due to the distance, the school is not expected to be impacted by any incidents at the substation.

Figure 2.1- Riverstone Zone Substation and location of sensitive receivers.



Source: Nearmap

2.4 Environmental Hazards and Pollutant Inventory

2.4.1 Environmental Hazards

The primary environmental hazard at Riverstone Zone Substation is associated with the storage of Environmentally Hazardous Chemicals. The chemical regulated under the licence is oil containing polychlorinated biphenyl's (PCB's). The risk is the potential for containment failures and consequent loss of oil to the surrounding environment. The bulk of the oil is contained in

operational transformers constructed in 1971. Secondary containment bunds were retrofitted in XXXX designed to meet Australian Standard 1940:2004 (The Storage and Handling of Flammable and Combustible Liquids) and Endeavour Energy's internal design standards. Oil may also be present in containers and oil water separators stored within the bunds. As such, the likelihood of containment failure is assessed to be as low as reasonably practicable.

Factors which may increase the likelihood of a containment failure are equipment failure (e.g. a significant leak from the transformers, the use of unqualified contractors for waste collection and disposal, equipment deterioration (e.g. bund integrity) and heavy rainfall. However, these factors are controlled by:

- The transformers are inspected on a six-monthly cycle.
- The substation bunds and oil water separators are inspected for integrity issues (e.g. cracks) at least every six months.
- Only contractors licensed by the EPA undertake the removal of oil from the site.
- Bund sumps have level indicators and alarms which are monitored remotely 24/7 by Endeavour Energy's control room.

2.4.2 Pollutant Inventory

The Riverstone Zone Substation contains oil in the following equipment:

- 2 x 25MVA power transformers each with 4450 L oil capacity, above ground in bunded areas.
- Storage of 205 L and 1,000 L containers, above ground, in bunded areas.
- 2 x oil water separators with <100 L oil storage capacity, above ground, in bunded areas

A list of the pollutants and maximum quantities that may be stored at the Riverstone Zone Substation, and the approximate location of each pollutant is detailed in **Table 2.1** below.

Table 2.1- Inventory of pollutants

Pollutant	Maximum Quantity	Location
Transformer (insulating) oil	8900 L[1]	Two above ground 25MVA transformers are located in bunded areas at the eastern side of the site.
	2000 L[2]	These are stored in 205 L and 1,000 L containers, above ground, in bunded areas.
	200 L[2]	In oil water separators, above ground in bunded areas.

Notes:

1- *The concentration of PCB in transformers can vary with operation (due to changes in temperature for example) and may not always be above 50ppm. Amounts listed are the maximum.*

2- *The quantity of oil being stored in containers will vary depending on stock at any one time. Oil is regularly removed from the oil water separators, Amounts listed are the maximum.*

In addition, **Figure A** shows the location of the bunded storage area that covers the transformers, storage containers and oil water separators are.

2.5 Off-site hazards

Given the licensed facility is located in a residential area; neighbouring sites are not a risk to hold amounts of dangerous goods or explosive materials. It is considered unlikely that a potential pollution incident at the Riverstone Zone Substation would set off another incident from any other facilities. In the event of a fire or explosion, notification of neighbouring properties is to be considered as detailed in Section 3.5 of this PIRMP.

3. Responding to Pollution Incidents

3.1 Health and Safety

Before responding to a pollution incident, health and safety risks are to be identified and assessed by Endeavour Energy employees and contractors (where relevant).

The facility is not normally staffed, so a risk assessment is completed before any work is conducted on site, these are assessed by and available to work crews when on site. The risk assessment includes emergency evacuation procedures.

Emergency information is also available in the HAZCHEM cylinder which is retained on-site at the entry point. If the site is required to be evacuated because of a pollution event, evacuation procedures and muster points are detailed in the site emergency evacuation plan and risk assessment.

Safety Datasheets (SDS) for relevant chemicals are retained in the Endeavour Energy Chemwatch online database. Details of hazardous material on site are recorded in a hazardous materials register, available to all staff in SAP.

3.2 Pollution Control Measures

Preventive and mitigation controls established at Riverstone Zone Substation include:

- Bunds equipped with oil water separators exist around oil storage equipment, (eg transformers);
- Spill kits located on site in proximity to oil storage areas;
- Bund sumps are fitted with level indicators and alarms which are monitored by the control room.
- In the event of a fault or fire, alarms are sent to the control room.

3.3 Spill Response

3.3.1 Spill response procedure

Endeavour Energy Company Environmental Management Standard *EMS 0008 Environmental incident response and management* provides guidance on incident response procedures. This procedure is summarised in the flowchart on the following page (Figure 3.1).

Endeavour Energy has spill response teams that are available at any time to assist with spills that are beyond the capabilities of site personnel to control and clean up. The Endeavour Energy spill response teams can be mobilised by calling the Call Centre (13 10 03) as specified in the incident response flowchart (**Figure 3.1**).

The bund sump pumps should be turned off so that no oil can be pumped from the storage bunds.

Materials contained in on-site spill kits should be used by site personnel to control, contain and clean up a spill. If a spill does occur, priority should be made to protecting the stormwater drains to ensure the spill does not migrate into the drains. The location of the stormwater drains is shown on **Figures A and B**. The drain at the southern end of the driveway should be blocked with spill containment material.

Stormwater drainage outlets leaving the site are connected to the gutter on Riverstone Parade. If the spill does migrate into the stormwater drains, monitor the exit point on Riverstone Parade and use spill containment material if the spill is observed at the gutter.

Photo 3.1- Photo showing typical onsite spill kit

Figure 3.1- Endeavour Energy Environmental Incident Response Procedure

3.3.2 Recovery of spill

Following containment of the spill, a licensed liquid waste contractor should be engaged to recover the spill. Endeavour Energy has established a contract with a licensed liquid waste disposal contractor for emergency work. The licensed liquid waste disposal contractor can be mobilised by the Call Centre (13 10 03).

3.4 Contact Details

3.4.1 Endeavour Energy Contact Details

All environmental incidents must be reported to the Endeavour Energy Call Centre (131 003) as per *EMS 0008 Environmental incident response and management* (see Section 3.3.1).

Internal staff should also contact their **immediate supervisor** and relevant Endeavour Energy **Environmental Specialist**.

Contact details are available via EE devices and intranet.

Also refer to guide document *'QRG – PIRMP INCIDENT RESPONSE'* for contact details of the Environmental Services team.

Table 3.2- Emergency contact details for Endeavour Energy:

Position	Contact
Endeavour Energy Call Centre	131 003

The **Environmental Services Manager** will undertake reporting of pollution incidents to external agencies in accordance with the POEO Act. Contact details for external agencies are provided below.

Table 3.3- Contact details for external agencies

Always call 000 first if the incident presents an immediate threat to human health or property

Department	Contact
Environment Protection Authority	131 555
Local Council – Blacktown Council	02 5300 6000
Local Health District After hours	02 9840 3603 02 8890 5555
SafeWork NSW	13 10 50
Fire and Rescue NSW Riverstone – 02 9493 1083	1300 729 579 OR **000** if required*

3.5 Community Communication

3.5.1 Endeavour Energy Communications with the Community

A pollution event from the Riverstone Zone Substation may affect the neighbouring community in the following ways:

- pollution of stormwater system/creek; and/or
- smoke hazard from a fire.

Community populations that may potentially be impacted by a pollution event from the Riverstone Zone Substation include:

- adjacent and nearby residents;
- premises adjacent to the stormwater system/creeks;
- the nearby commuter rail line and station.

In the event of a pollution incident that has the potential to affect surrounding neighbours, the Endeavour Energy Corporate Communications branch should be consulted for advice on community communication.

POLLUTION OF STORMWATER

In the event of a pollution incident impacting the stormwater system, premises adjacent to the system must be notified.

The stormwater from site drains to Riverstone Parade, where it will flow into the gutter at the southwest corner of the substation and south, where it will flow in front of residences and opposite the entry to Riverstone Business Park. It will then flow to a stormwater drain near the corner of King Street, and go subsurface to a culvert on the opposite side of the road, passing under the Riverstone rail line.

The relevant flow path and premises adjacent to the stormwater path are listed in **Table 3.6** and shown in **Figure C**. These communications will be coordinated by the Environmental Services Manager, the Manager Corporate Communications and/or the Head of Sustainability.

Table 3.6- Contact details for Premises Adjacent to the Stormwater System

Company *(Refer also to Figure C)*	Contact
Riverstone Business Park (Hillscom Property Group)	02 8884 8708
Riverstone rail line (Stormwater culvert opposite King St passes under rail line)	Transport for NSW 131 500
Residents on Riverstone Pde between substation and King Street	82 & 85 Riverstone Pde and 48 King St (door knock)

FIRE OR EXPLOSION

In the event of a fire or explosion, consideration should be given to notifying neighbours potentially impacted by the fire (e.g. smoke hazard) depending on the scale of the fire and the direction of winds. A list of neighbours to be notified will be developed in consultation with the Manager Corporate Communications and the Environmental Services Manager (primarily derived from **Table 3.6**).

If a fire or explosion occurs and there is a significant amount of smoke, the nearby railway, adjacent residents and industrial premises will be notified. If it is expected that smoke is easily

visible from 250m away from the site, then the nearest school is to be notified. Contact details are provided in **Table 3.7**.

Table 3.7- Contact details for nearest premises

Premises	Contact
Riverstone rail line & Riverstone Railway Station	Transport for NSW 131 500
Riverstone Business Park (Hillscom Property Group)	02 8884 8708
Riverstone Public School (1.1 km away, only notify if during school hours and smoke likely to be visible)	02 9627 1517
Adjacent Residents (within 100m) - Riverstone Pde - Bourke St - King St	 - 82 & 84, 92 to 98 - 2 to 16, 9 to 21 - 48 to 26

3.5.2 Community Complaints

If a member of the public wishes to make a complaint in relation to activities conducted at the premises, the following number can be called 24 hours a day, 7 days a week. The same number should be called if the public observe an incident at the site:

Table 3.8- Endeavour Energy 24 hours / 7 day community complaint or incident line

Position	Contact
Endeavour Energy Call Centre	131 003

For any non-urgent enquiries, the following number can also be called:

Table 3.9- Endeavour Energy General Enquiries

Position	Contact
Endeavour Energy Call Centre- General Enquiries (non-urgent)	133 718

3.6 Staff Training

A toolbox talk will be completed with relevant staff responsible for operation and maintenance of the Riverstone Zone Substation annually as part of the testing of the management plan. The

toolbox talk will include instruction on relevant parts of this procedure as outlined below. A record of toolbox talks will be maintained in accordance with **Appendix A**.

Nature of Training

- *Purpose*: Explain that the training is designed to equip staff with the knowledge and skills necessary to effectively respond to pollution incidents.
- *Scope*: Includes emergency response procedures, communication protocols, and the use of safety equipment.
- *Format*: Toolbox talks and include practical drills 1 in every 3 years.

Objectives of Training

- *Awareness*: Ensure that all staff are aware of the potential pollution risks and the importance of timely and effective response.
- *Competence*: Develop the ability of staff to implement the PIRMP procedures correctly and efficiently.
- *Communication*: Improve the communication skills of staff to ensure clear and effective information exchange during an incident.
- *Compliance*: Ensure that the training meets the regulatory requirements set out by the EPA and other relevant authorities.

In addition, an internal guide summarising the requirements of this Plan will be provided to Endeavour Energy staff that are involved in the management and operation of the Riverstone ZS.

3.7 Testing of Pollution Incident Response Management Plan

In accordance with the *Protection of the Environment Operations (General) Amendment (Pollution Incident Response Management Plans) Regulation 2012*, this Pollution Incident Response Management Plan must be tested annually.

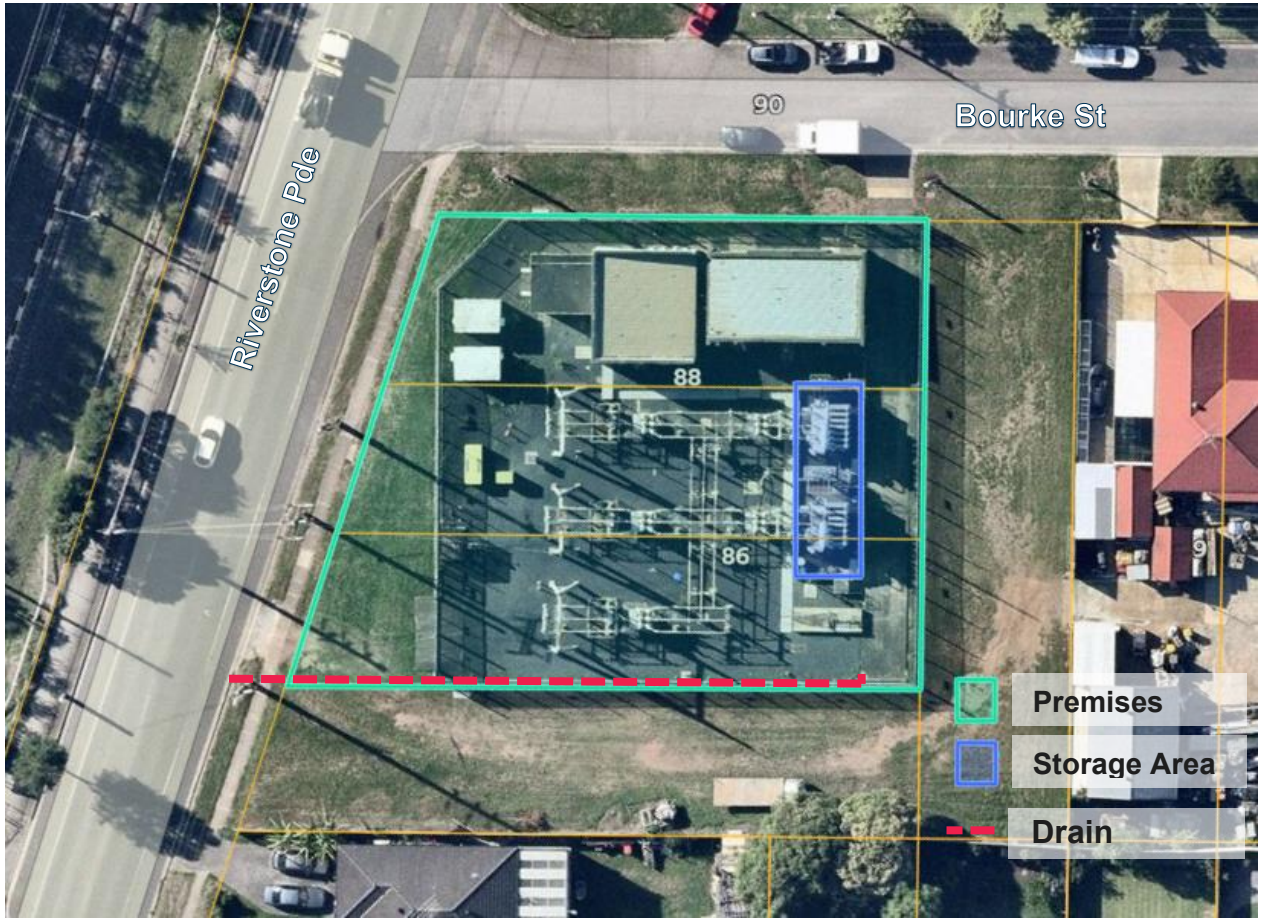
Environment Services Team will manage the testing of this Plan. Testing may involve a “mock” spill event at the Riverstone Zone Substation or a desktop “mock” exercise. A record will be maintained of test events in accordance with **Appendix B**.

In the event of a pollution incident that triggers this plan, it must be tested within one month of the incident occurring.

Figures

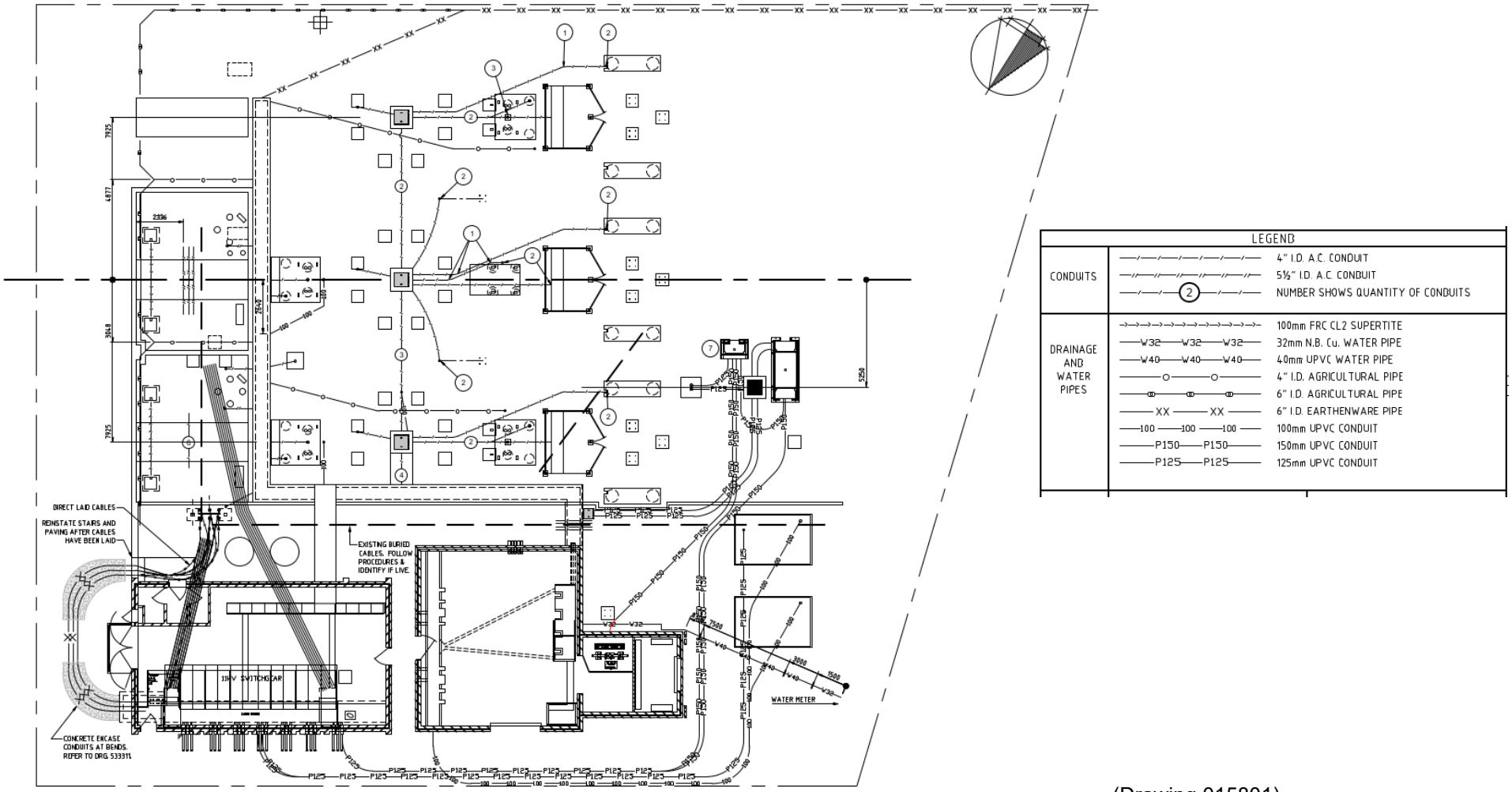
Figures

Figure A. Site layout and chemical storage area



Figures

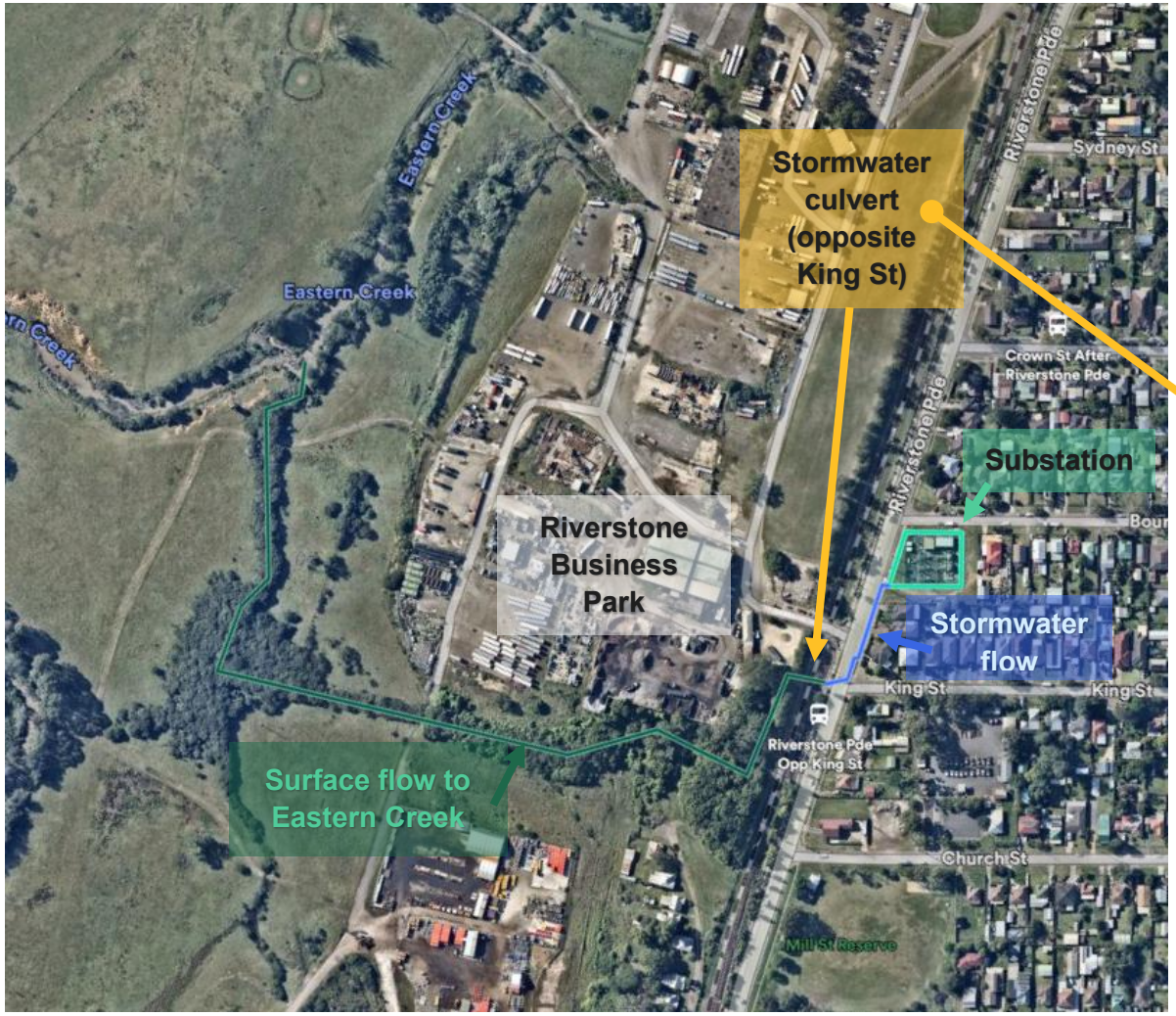
Figure B. Stormwater Drainage Plan



(Drawing 015801)

Figures

Figure C. Premises adjacent to site and stormwater system



Appendices

A - Training record sheet

B - Testing records

Appendices

Appendix A – Training record sheet

Date of Training: _____		
Details of training:		
Employee number	**Name of staff member**	**Signatures of staff member**

Appendix B – Testing records

Date tested	Tested by (names of all people involved in testing)	Details of test (e.g. nature of the test, involvement of other agencies)	Finding of test, including issues identified	Next scheduled testing date (within 12 months)
30 May 2025	Nigel Harpley, Michael Wagner, Andrew Fulton.	A training session and desktop discussion was held with operations staff around the response plan. The discussion involved an oils spill or leak scenario and actions to be taken. Due to being a live electricity transmission substation, a n onsite test was not deemed practical on this occasion.	Several items were identified including having copies of the plan at the premises. A further visit to the site will be conducted to confirm the plan, spill kits and PPE (protective suits) are appropriately located. Location of drain and exit point to road displayed on Figure A.	May 2026
8 January 2026	Nigel Harpley, Andrew Fulton	A mock spill scenario was carried out to verify the drain entry / exit point, flow of a spill to the drain and timing. Tap was turned on adjacent to OWS pump out points, simulating the transfer of oil from the bunds via OWS.	Corrections made to figure a and section. Observation was that a spill due to pumping from the bunds (as simulated by water tap fully on) would enable significant time and provide opportunities to contain the spill. A significant amount would be required to even breach the drain system and flow off site).	Jan 2027

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