



ENVIRONMENT PROTECTION ACT 1970
SECTION 19B

WORKS APPROVAL

CHUNXING CORPORATION PTY LTD

Holder of

Works Approval: 232330

Issued: 31/08/2020

ACN: 632 456 538

Registered Address: LEVEL 1, UNIT 7
11 LORD STREET
BOTANY, NSW 2019

Premises Address: CROWN ALLOTMENT 2047
FOURTH ROAD
HAZELWOOD NORTH, VIC 3840

Scheduled Categories: I02 Metal Works and A02 (Other Waste Treatment)

Description: This approval allows the construction of a used lead acid battery (ULAB) recycling facility (secondary lead smelter) to process 50,000 tonnes per annum of ULAB to produce 28,000 tonnes per annum of refined lead.

TIM EATON
Executive Director

Delegate of the Environment Protection Authority

Issued under the *Environment Protection Act 1970*, Section 19B

PREAMBLE

Works Approvals

Who we are: The Environment Protection Authority (“EPA”) is an independent statutory authority established under the *Environment Protection Act 1970* (“the Act”). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we issue works approvals: EPA is responsible for preventing or controlling pollution (including noise) and improving the quality of the environment. This responsibility includes regulating activities that may present a danger to the environment. One of the tools available to EPA is issuing works approvals for scheduled premises to prevent or minimise risk to the environment.

Section 19A of the Act requires the occupier of a “scheduled premises” to obtain works approval to construct or install plant and equipment in order to discharge, handle, treat or dispose of waste to the environment. These types of premises are defined in the *Environment Protection (Scheduled Premises and Exemptions) Regulations 2007* (“the Regulations”).

When we issue works approvals: EPA will issue a works approval when satisfied that an applicant has put in place measures to protect the environment. Works approvals allow construction of works to occur and set control measures to minimise a site’s environmental risk. EPA can amend a works approval in response to changes in standards and site activities. Works approval holders must submit reports if required by a condition of the approval.

Works Approval information and obligations

For the purposes of this works approval “You” means the works approval holder identified on the first page of this works approval at the “premises” identified on the first page and represented in Schedule 1.

If you object to any of the works approval conditions, you may have the decision reviewed by applying in writing to the Registrar, Planning and Environment Division, Victorian Civil and Administrative Tribunal (“VCAT”), 7th Floor, 55 King Street, Melbourne within 21 days of the date of issue. An application fee may be applicable when lodging an appeal with VCAT. Contact VCAT on (03) 9628 9777 for further details on fees associated with an appeal. A copy of the appeal should also be forwarded to the Manager, Development Assessments Unit, Environment Protection Authority, GPO Box 4395, Melbourne, 3001, within 7 days of lodgement of the appeal.

Interested (third) parties may also appeal against the works approval within 21 days of the date of issue. The Tribunal will notify you if such appeals are received. If an appeal is lodged, you must not go ahead with the works until the appeal is resolved.

Compliance: You must comply at all times with the Act and all policies and regulations administered by EPA. Strict penalties apply for non-compliance with any part of your works approval.

Works Approval structure

Structure: Your works approval has:

- Works conditions - setting out requirements for construction or installation;
- Schedule 1A - locality plan of your premises;
- Schedule 1B - plan of premises (provided by you).

CONDITIONS

General Conditions

WA_G1

Subject to the following conditions, this approval allows the construction of the following works and associated equipment – a used lead acid battery (ULAB) recycling facility with secondary smelter which is capable of processing 50,000 tonnes per annum of ULABs to produce 28,000 tonnes per annum of refined lead. It consists of the following key components:

- 1) Recycling processing facility consisting of:
 - a) ULAB storage and sorting
 - b) a continuous ULAB breaking process unit
 - c) acid neutralisation using hydrated lime, $\text{Ca}(\text{OH})_2$
 - d) pre-desulphurisation of lead paste process
 - e) a set of dual chamber furnaces, each 5m in diameter and with a capacity of 75 tonnes for smelting lead paste
 - f) slag tapping and quenching
 - g) metallics melting in one kettle, 3m in diameter and with a capacity of 120 tonnes
 - h) five refining kettles (each 3m in diameter and with a capacity of 120 tonnes) and refinery process
 - i) by-product productions
 - j) plastics processing plant.
- 2) Air emission control system for flue gas designed to emit to the atmosphere via a 30m stack (DP1) at maximum mass emission rates of no more than the following:
 - a) $\text{SO}_2 \leq 3.5 \text{ g/min.}$
 - b) $\text{NO}_2 \leq 67 \text{ g/min.}$
 - c) Sulphuric acid mist, $\text{H}_2\text{SO}_4 \leq 2.3 \text{ g/min.}$
 - d) Metals: $\text{Pb} \leq 0.103 \text{ g/min; Cr} \leq 0.015 \text{ g/min; As} \leq 0.012 \text{ g/min; Cd} \leq 0.00055 \text{ g/min; and Sb} \leq 0.004 \text{ g/min.}$
 - e) Dust: $\text{PM}_{10} \leq 9.2 \text{ g/min}$ and $\text{PM}_{2.5} \leq 6 \text{ g/min.}$
 - f) Dioxin $< 0.00000003 \text{ g/min.}$
- 3) Air emission control system for fugitive emissions designed to emit to the atmosphere via 20m stack (DP2) at maximum mass emission rates of no more than the following:
 - a) $\text{SO}_2 \leq 4.1 \text{ g/hour.}$
 - b) $\text{NO}_2 \leq 24 \text{ g/hour.}$
 - c) Sulfuric acid mist $\leq 0.05 \text{ g/hour.}$
 - d) Metal: $\text{Pb} \leq 0.01 \text{ g/hour; Cr} \leq 0.15 \text{ g/hour; As} \leq 0.0036 \text{ g/hour;}$

$Cd \leq 0.0019$ g/hour; and $Sb \leq 0.0008$ g/hour

e) Dust: $PM_{10} \leq 1.1$ g/hour and $PM_{2.5} \leq 0.72$ g/hour.

- 4) Fugitive air emission control system, designed to achieve the following:
 - a) total enclosure of recycling process in buildings which are free of significant cracks or gaps, provided with ventilation and under negative pressure of at least 1.73 Pascals (0.013 mm mercury), except for the plastics plant area.
 - b) an inward flow of air maintained through all-natural draft openings.
 - c) collection of fugitive emissions throughout the storage, smelting and melting areas of the process buildings and discharge to a baghouse.
 - d) collection of gaseous emissions from battery breaking area.
 - e) final treatment of collected fugitive emissions, through a wet scrubber prior to discharge to the atmosphere via a stack (DP2).
- 5) Fit for purpose wastewater treatment plant capable of treating all process water generated to the standards suitable for reuse on-site and/or discharge to sewer.
- 6) Stormwater management system which is designed to contain stormwater run-off in one in 100-year rainfall event and firefighting water.
- 7) Fit for purpose storage facilities designed for chemicals, dangerous goods and combustible materials.
- 8) Risk and emergency management system, including firefighting protection system meeting the requirements in WA_W1.

WA_G2 The works must be constructed in accordance with the application accepted on 6 December 2019 as augmented or amended by additional information dated 30 June 2020, 13, 20, 28 and 31 July 2020, as well as 7, 12, 26 and 27 August 2020 ('the application'), except that, in the event of any inconsistency arising between the application and the conditions of this approval, the conditions of this approval shall apply.

WA_G3 This approval will not take effect until any permit which is required under the *Planning and Environment Act 1987* has been served on the Authority by the applicant.

WA_G4 This approval expires:

- 1) On the issue or amendment of a licence relating to all works covered by this approval
- 2) When EPA advises in writing that all works covered by this approval have been satisfactorily completed and no licence is required, or
- 3) On 30 August 2022, unless the works have been commenced by this date to the satisfaction of EPA.

Works Conditions

WA_W1 Before commencing construction of the following components of the works, you must provide to EPA the following plans or reports:

- 1) Reports of the final detailed process design. The reports, with any accompanying plans and specifications (prepared under section a) through c) of this condition must be endorsed by a suitably qualified person or persons approved by the EPA in writing.

- a) The complete process, including:
 - i. ULAB storage and sorting
 - ii. a continuous ULAB breaking process
 - iii. acid neutralisation using hydrated lime, $\text{Ca}(\text{OH})_2$
 - iv. pre-desulphurisation process to achieve $< 1.2\%$ sulphur remaining in paste
 - v. smelting lead paste in a set of dual chamber furnaces
 - vi. slag tapping and quenching
 - vii. metalics melting and refining in one kettle
 - viii. five refining kettles and refinery process
 - ix. by-products production
 - x. storage and shipment of finished goods and waste
 - xi. plastics processing plant.
 - b) a report of the detailed design of equipment, demonstrating good engineering practice, including compliance with Australian engineering, occupational health, and safety standards.
 - c) a report of the detailed design of the process building, including storage and holding areas for: rejected wastes, excess product from the breaker, other sources of materials in the plant, i.e. the refinery and external purchases of scrap or feed material. All storages must be fit for purpose.
- 2) A report of the final detailed design and schematics of the building's negative pressure ventilation system, except for the plastics plant area, prepared by a suitably qualified building ventilation designer, including:
- a) free of significant cracks or gaps, corrosion or other deterioration that could cause lead bearing material to be released from the primary barrier.
 - b) negative pressures of at least 1.73 Pascals (0.013 mm mercury).
 - c) an inward flow of air through all-natural draft openings.
 - d) the locations of doors, windows/or intake vents, sealing of the building.
 - e) building ventilation extraction rate and extraction fan capacity.
- 3) A report of the detailed design of pollution control system, including:
- a) the flue gas emission control system, including both the furnace and refining area:
 - i. must consist of baghouses and scrubbers as a minimum, with the investigation of the feasibility of installing a wet electrostatic precipitator, to meet the performance specifications in WA_G1 2)
 - ii. must design conceptual provision for retrofitting of additional pollution control equipment that may be required in the future.
 - b) vent collection of fugitive emissions must be designed to maintain lead compounds in any process vent gas $< 0.20 \text{ mg/m}^3$ (dry weight) concentrations and the discharge to atmosphere must meet the performance specifications in WA_G1 3).
- 4) A report of the final detailed designs and schematics of the wastewater treatment plant, including:
- a) designed capacity to treat the maximum hydraulic and pollutant loadings.

- b) critical control points related to Process Flow Diagram and Pipe and Instrument Diagram.
 - c) operational monitoring
- 5) A report detailing the final stormwater water management system design, including the
- a) the water balance of roof rainwater and stormwater.
 - b) the storage pond design.
 - c) the bunding around the premises.
 - d) capacity to manage firefighting water on-site and/or seek agreement with Gippsland Water to discharge fire water into the sewer system if fire water cannot be contained within the storage ponds and bunded area.
 - e) consideration for installing cut-off valves to prevent off-site run-off in the event of incidents, i.e. fire and spills.
- 6) A report detailing the fit for purpose investigation of the baseline land and groundwater conditions, prepared by an EPA-appointed environmental auditor, including:
- a) an investigation of the existing land and groundwater conditions at the site and in the surrounding areas.
 - b) construction environmental management plan (CEMP) for managing contaminated soil and groundwater to meet the requirements in the *Environmental management Plan Former Lurgi Gasworks Site Morwell, Victoria*, 24 September 2008.¹
 - c) recommendation for revising the contaminated land EMP, because of the redevelopment of the site.
- 7) A report of the final detailed designs and schematics of all chemicals, dangerous goods, combustible and hazardous substances storages, including:
- a) inventory of substances (input materials and by-products), including the information of their material safety data sheets.
 - b) location and volume of each substance to be stored at any one time.
 - c) the designs for storage and handling of dangerous goods and flammable and combustible liquids/substances, are demonstrated to be in accordance with:
 - i. the *Dangerous Goods (Storage and Handling) Regulations 2012*
 - ii. the *Storage and Handling of Combustible Recyclable and Waste Materials* (EPA publication 1667.2)
 - iii. the *Liquid Storage and Handling Guidelines* (EPA's Publication 1698),
 - iv. all relevant Australian Standards.
 - d) design for loading and unloading chemicals and dangerous goods.
- 8) A report of a full plant and operations risk assessment, including a comprehensive risk management study that considers all process and environmental risks for operation (normal and other than normal operating conditions), including the following:
- a) Hazard and Operability Study (HAZOP).
 - b) a report of the final detailed designs and schematics of the fire mitigation controls, informed by a fire risk study and endorsed by a suitably qualified fire

¹ Link to the plan: https://apps.epa.vic.gov.au/EnvAuditFiles/53X/51360-1/51360-1_c.pdf

safety engineer which includes implementation of all recommendations of the Country Fire Authority/Fire Rescue Victoria.

- c) emergency management plan which must be developed in consultation with and reviewed by CFA's State Infrastructure and Dangerous Good Unit.
- d) the detailed requirements for process control and monitoring, and alarm system.
- e) air pollution control equipment maintenance, performance monitoring and alarm system.
- f) real time monitoring for process and control system which is capable of monitoring the performance of air pollution control equipment (baghouses and scrubbers), vent extraction rates and wastewater treatment plant. This must include relevant performance parameters and indicative alarm set points.
- g) contingency measures to manage air quality in the event of incidents or emergencies.

- 9) Design for continuous and periodical air emission monitoring programs to demonstrate compliance with air quality standards, including testing of stack emissions, as well as site boundary monitoring, soil and surface water monitoring.
- 10) Provide a CEMP for management of noise and dust emissions, stormwater run-off, infiltrated groundwater and contaminated soil (if any) during construction.
- 11) A communication and engagement plan for the construction phase of the ULAB recycling facility, including a pollution report line and a schedule of community liaison committee (CLC) meetings.
- 12) Confirmation that access to both the property and 'Used Lead Acid Battery Facility' will be achievable via the Fourth Road.

WA_W2	You must not commence construction of the works for which reports are required by condition WA_W1 until written EPA approval of those reports has been received.
WA_W3	Where any reports specified in condition WA_W1 and approved by EPA differ from the application, the works must be constructed in accordance with those approved reports.
WA_W4	You must notify EPA when the construction of the works covered by this approval has been commenced.
WA_W5	You must notify EPA when the construction of the works covered by this approval has been completed.
WA_W7	You must not commission or operate the works without the written approval of EPA.
WA_W10	You must install a device capable of activating an alarm that warns the operator whenever pollution control system fails or partially fails, i.e. building negative pressures, baghouses, scrubbers, cooling tower, flue gas or fugitive emissions extraction fans.
WA_W12	You must install all exhaust stacks so that provisions for sampling are included in accordance with EPA Publication 440.1 " <i>A guide to the Sampling and Analysis of Air Emissions and Air Quality</i> ", as amended from time to time.
WA_W13	You must implement all liquid storage containment and handling measures in accordance with EPA Publication 1698 " <i>Liquid Storage and Handling Guidelines</i> ", dated June 2018.

- WA_W14 You must install all wastewater discharge points so that provisions for sampling are included in accordance with EPA Publication 441 *“Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes”*, as amended.
- WA_W15 During construction, unacceptable noise (including vibration) must not be emitted beyond the boundaries of the premises.
- WA_W16 During construction, stormwater discharged from the premises must not be contaminated with waste.
- WA_W17 All construction activities must be undertaken in accordance with EPA Publication 480 *“Environmental Guidelines for Major Construction Sites”*, as amended from time to time.
- WA_W18 During construction, you must undertake an environmental monitoring program that enables you and EPA to determine compliance with condition(s) WA_W15, WA_W16 and WA_W17.
- WA_W19 During construction, you must ensure that all activities are carried out in accordance with the information provided in the Works Approval Application.

Reporting Conditions

- WA_R1 At least three months before the commencement of any commissioning, you must provide to EPA the following documents:
- 1) Operational procedures underpinning HAZOP, including ULAB transportation, sorting procedures and process, including:
 - a) identification of non-confirming batteries, i.e. lithium batteries and storage of rejects.
 - b) an inventory of prescribed industrial wastes generated, including storage, handling and disposal procedures.
 - c) an Environment Management System prepared in accordance with the standards specified in the Waste Management Plan (E-Waste).
 - d) requirements for record keeping of incoming, outgoing, rejected wastes that would include/satisfy the monitoring/auditing requirements of the Waste Management Plan (E-Waste).
 - 2) A detailed commissioning plan, including:
 - a) confirming effective building sealing and achieving negative pressure specifications.
 - b) air emissions monitoring plan to demonstrate compliance with SEPP AQM.
 - c) noise emission measurement to confirm that ULAB activities can meet the recommended maximum noise levels under the *Noise from Industry in Regional Victoria* (EPA publication 1411).
 - d) test of the performance of the wastewater treatment plant.
 - e) testing to confirm waste categorisations for slag, waste refractory materials and plastic separators.

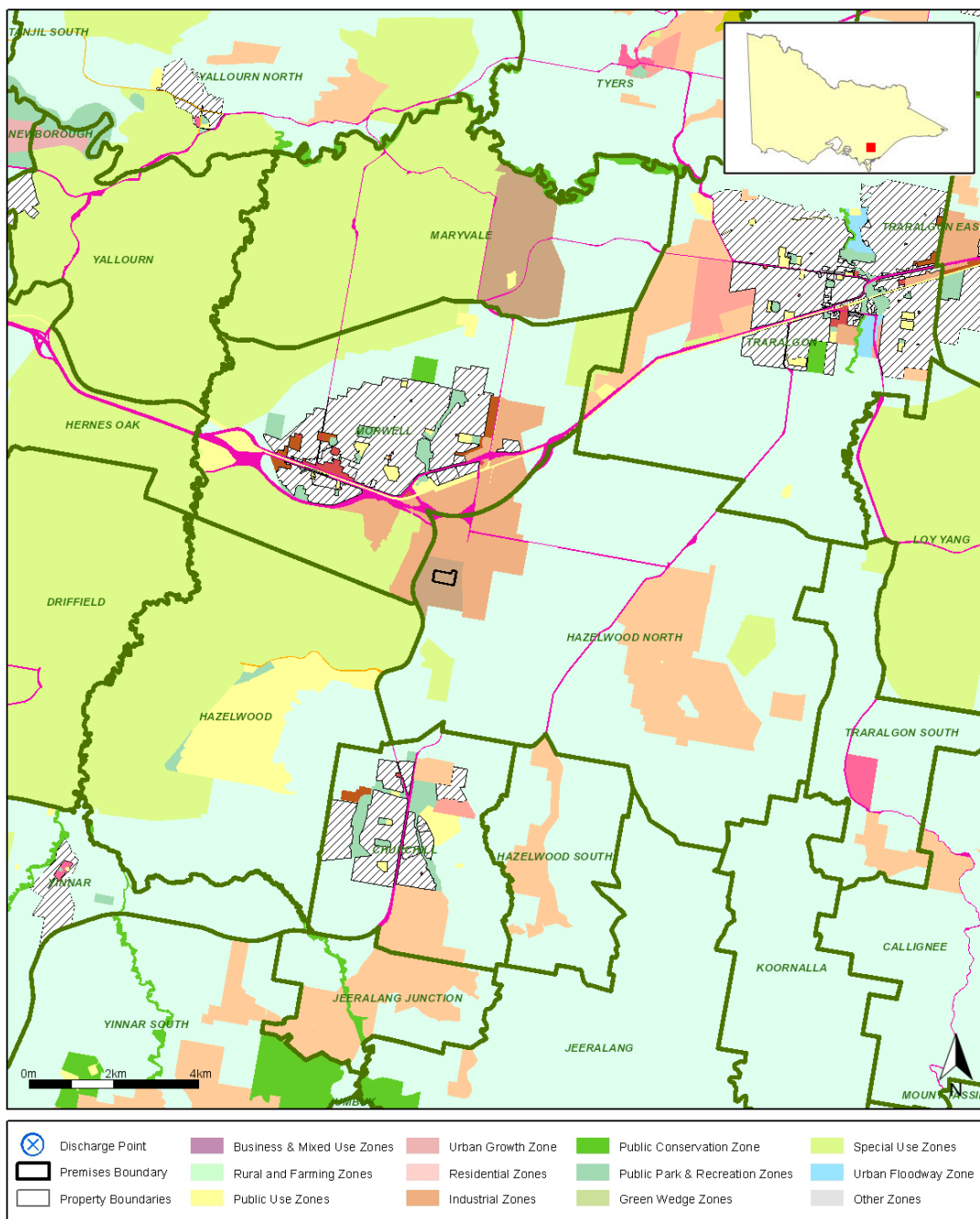
- 3) An environmental improvement plan (EIP) for managing ongoing operation of the ULAB facility, in accordance with EPA's publication 739 *Guidelines for the Preparation of Environment Improvement Plans*. The EIP must include, but not be limited to:
- a) the plan for on-going Community Liaison Committee (CLC) meetings.
 - b) environmental performance standards for air emissions, wastewater treatment and noise emissions.
 - c) an on-going monitoring program for checking the compliance of performance target levels for point sources, as well as a maintenance and audit plan, including:
 - i. a continuous and routine stack testing program, including so₂
 - ii. routine tests for lead and dust at site boundary
 - iii. on-going groundwater monitoring
 - iv. monitoring for the wastewater treatment plant
 - v. monitoring for the performance of baghouse, scrubber, and cooling tower
 - vi. PIW management.
 - d) environmental auditing and reporting.
- 4) A copy of an agreement with Gippsland Water to discharge excess treated wastewater and /or fire water into the sewer system if fire water cannot be contained within storage ponds and bunded area.

WA_R4 Before the commencement of any commissioning, you must provide, to the satisfaction of EPA, a report that includes:

- 1) Construction verification report prepared by a suitably quality expert approved by the EPA in writing demonstrating that the facility has been built in accordance with the works approval and all endorsed reports provided under WA_W1.

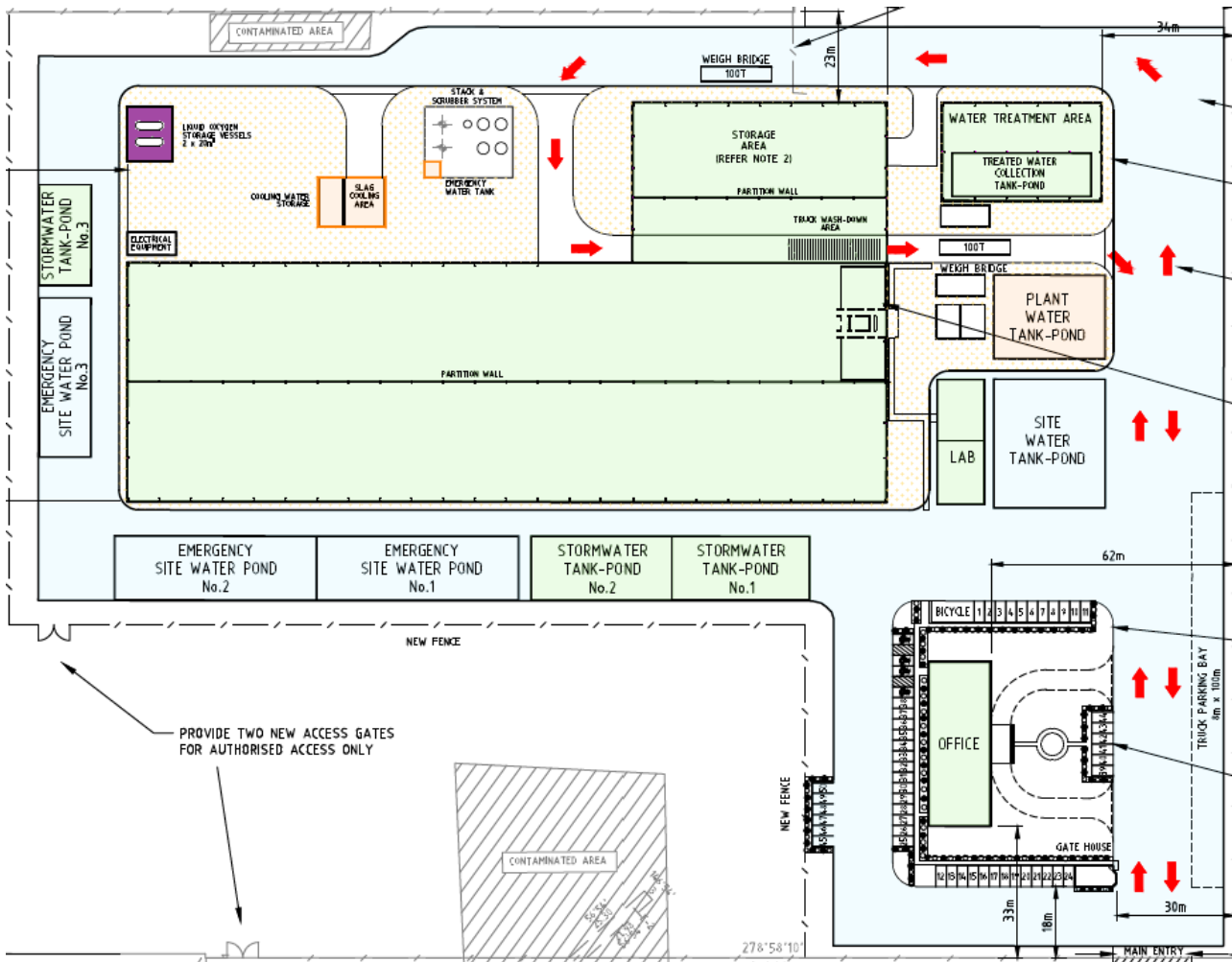
WA_R5 You must not commence operation of the works until written EPA approval of the plans and reports required by condition(s) WA_R1 has been received.

SCHEDULE 1A – LOCALITY PLAN



Works Approval:	232330
Company Name:	CHUNXING CORPORATION PTY LTD
ACN:	632 456 538
Premises Address:	CROWN ALLOTMENT 2047, FOURTH ROAD, HAZELWOOD NORTH, VIC 3840
Issued:	31/08/2020
Before relying on the information in this map, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.	

SCHEDULE 1B – PREMISES PLAN



Works Approval:	232330
Company Name:	CHUNXING CORPORATION PTY LTD
ACN:	632 456 538
Premises Address:	CROWN ALLOTMENT 2047, FOURTH ROAD, HAZELWOOD NORTH, VIC 3840
Issued:	31/08/2020
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