

Clean TeQ Sunrise Project Environmental Management Strategy

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REVISION 1

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1. INTRODUCTION

The Clean TeQ Sunrise Project (the Project) is situated near the village of Fifield, approximately 350 kilometres west-northwest of Sydney, in New South Wales (NSW) (Figure 1).

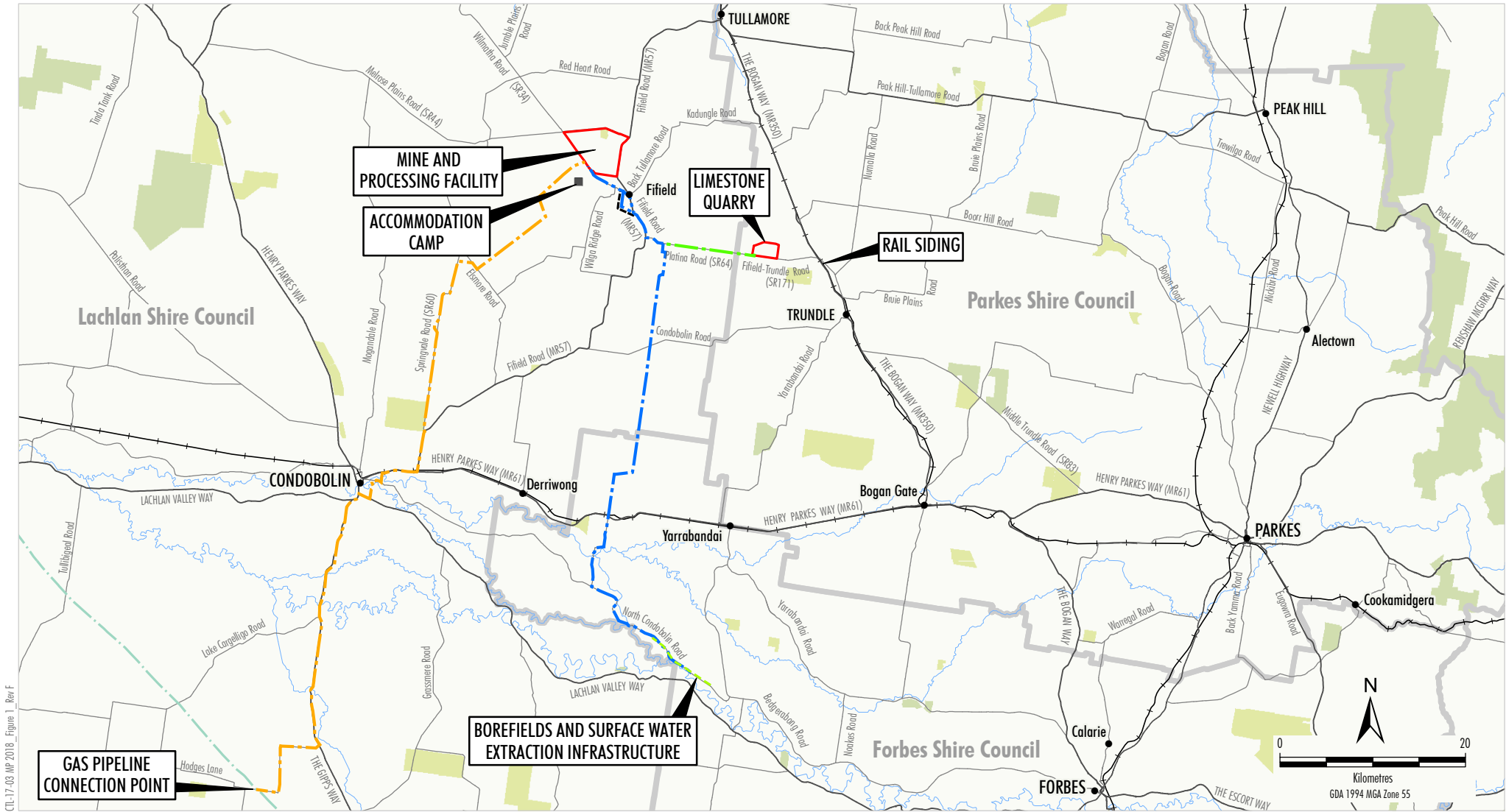
The Project includes the establishment and operation of the following (Figure 1):

- mine (including the processing facility);
- limestone quarry;
- rail siding;
- gas pipeline;
- borefields, surface water extraction infrastructure and water pipeline;
- accommodation camp; and
- associated transport activities and transport infrastructure (e.g. the Fifield Bypass, road and intersection upgrades).

Clean TeQ Sunrise Pty Ltd owns the rights to develop the Project. Clean TeQ Sunrise Pty Ltd is a wholly owned subsidiary of Clean TeQ Holdings Limited (Clean TeQ).

Development Consent DA 374-11-00 for the Project was issued under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) in 2001. Six modifications to Development Consent DA 374-11-00 have since been granted under the EP&A Act:

- 2005 – to allow for an increase of the autoclave feed rate, limestone quarry extraction rate and adjustments to ore processing operations;
- 2006 – to allow for the reconfiguration of the borefields;
- 2017 – to allow for the production of scandium oxide;
- 2017 – to amend hazard study requirements;
- 2018 – to relocate the accommodation camp; and
- 2018 – to implement opportunities to improve the overall efficiency of the Project.



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- LEGEND**
- National Park/Conservation Area
 - State Forest
 - Local Government Boundary
 - Railway
 - Existing Gas Pipeline
 - Mining Lease Boundary (ML)
 - Fifiel Bypass
 - Gas Pipeline
 - Water Pipeline
 - Limestone Quarry Water Pipeline
 - Borefield Infrastructure Corridor

Source: Black Range Minerals (2000); Clean TeQ (2017, 2018);
NSW Department of Industry (2018); NSW Land & Property Information
(2017); Office of Environment and Heritage NSW (2017)

CLEAN TEQ
Powering innovation
CLEAN TEQ SUNRISE PROJECT
Regional Location

Figure 1

1.1 Purpose and Scope

This Environmental Management Strategy (EMS) has been prepared by Clean TeQ to satisfy the requirements of Condition 1, Schedule 5 of Development Consent DA 374-11-00 (Table 1).

The objectives of this EMS are to fulfil the relevant conditions in Development Consent DA 374-11-00 by providing a strategic framework for environmental management of the Project including all Environmental Management Plans (EMPs), strategies and programs prepared for the Project. This EMS establishes the overarching framework for the monitoring and environmental management of activities undertaken at the Project. The EMS incorporates the principles of continuous improvement and is consistent with the five pillars of International Standard Organisation 14001: Environmental Management Systems, represented in Figure 2.

Table 1 – Specific Environmental Management Strategy Requirements in Development Consent DA 374-11-00

Development Consent DA 374-11-00 Schedule 5	Section Where Addressed in this EMS
Environmental Management Strategy	
1. <i>Prior to carrying out any development under this consent after 6 May 2017, the Applicant must prepare an Environmental Management Strategy for the development in consultation with the relevant authorities and the CCC and to the satisfaction of the Secretary. This strategy must:</i>	This Document
a) <i>provide the strategic framework for environmental management of the development;</i>	Section 1.1
b) <i>identify the statutory approvals that apply to the development;</i>	Section 4
c) <i>describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;</i>	Section 5.1 and Appendix B
d) <i>include overall ecological and community objectives for the development, and a strategy for the restoration and management of the areas affected by operations, including elements such as creek lines and drainage channels, within the context of those objectives;</i>	Section 6.2
e) <i>identify cumulative environmental impacts and procedures for dealing with these at each stage of the development;</i>	Section 6.3
f) <i>describe the procedures that would be implemented to:</i> <ul style="list-style-type: none"> <i>keep the local community and relevant agencies informed about the operation and environmental performance of the development;</i> <i>receive, handle, respond to, and record complaints;</i> <i>resolve any disputes that may arise;</i> <i>respond to any non-compliance; and</i> <i>respond to emergencies; and</i> 	Section 5.3 and Section 7 Section 8.2 Section 5.4 Section 8.3 Section 5.2
g) <i>include:</i> <ul style="list-style-type: none"> <i>copies of any strategies, plans and programs approved under the conditions of this consent; and</i> <i>a clear plan depicting all the monitoring to be carried out in relation to the development.</i> 	Refer to EMPs (Appendix C) Section 6.1
2. <i>Following approval, the Applicant must carry out the development in accordance with this strategy.</i>	-

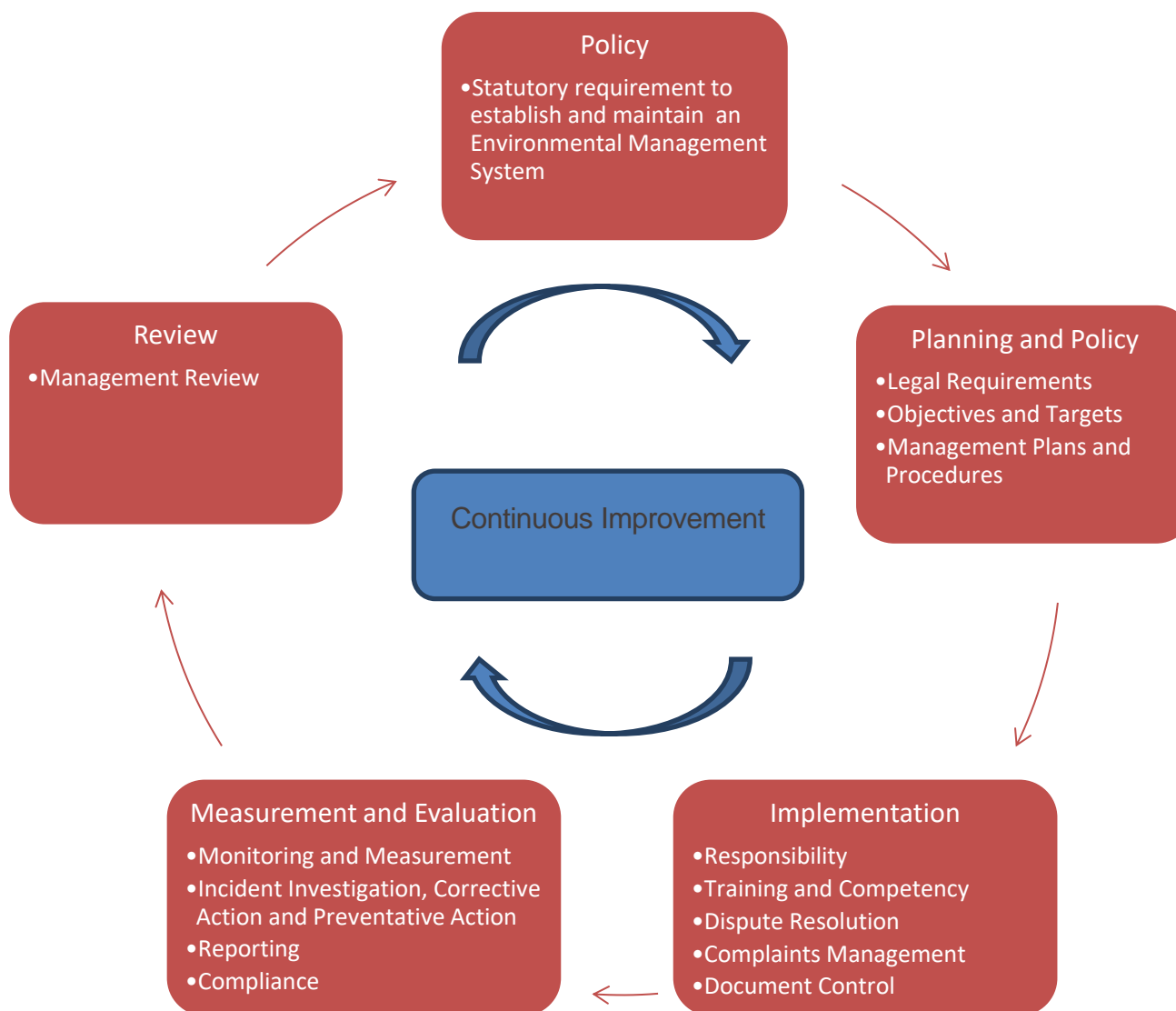


Figure 2 – Clean TeQ Sunrise Project Environmental Management Principles

The EMPs, strategies and programs required at the Project are listed in Table 2, shown on Figure 3 and included in Appendix C.

This EMS has been prepared to assist those undertaking the works on-site to apply appropriate environmental management measures. Where there is any conflict between the provisions of this EMS and the contractual obligations of any contractor, the contractor shall first request clarification from Clean TeQ prior to implementing the element of this EMS over which the ambiguity is identified. In the case of any real or perceived ambiguity between elements of this EMS and statutory requirements, the statutory requirements are to take precedence.

All initial construction activities and other related activities (e.g. monitoring) consistent with Development Consent DA 374-11-00 are covered by this EMS.

This EMS is a public document providing information for operations personnel, contractors, and community and government stakeholders. The document is available on the Clean TeQ website (<http://cleanteq.com.au/>).

In accordance with Condition 12, Schedule 2 of Development Consent DA 374-11-00, Clean TeQ has made a request to the Secretary of the Department of Planning and Environment (DP&E) (the Secretary) for the progressive submission of EMPs for the Project. Consistent with this request, the scope of this EMS is specifically related to the following initial Project construction activities (Figure 4):

- development of the mine, including:
 - site establishment and earthworks;
 - construction of site access roads and haul roads;
 - processing facility earthworks;
 - establishment of temporary facilities required for construction activities (e.g. offices, lay down areas, communications infrastructure);
 - construction of the mine infrastructure area including the offices, workshops, warehouse, laboratory and amenities buildings, fuel storage areas, potable water treatment plant and car parking facilities;
 - construction of the tailings storage facility and evaporation pond;
 - construction of water management infrastructure including the raw water dam, water storage dam and sediment dams;
 - construction and operation of the concrete batch plant;
 - development of gravel and clay borrow pits (including blasting and crushing);

Table 2 – Summary of Required Environmental Management Strategies, Plans and Programs

Plan	EMP Framework
Environmental Management Strategy	<ul style="list-style-type: none"> The objective of this document is to outline the strategic framework for environmental management at the Project.
Noise Management Plan	<ul style="list-style-type: none"> Identification of relevant criteria, monitoring locations, monitoring frequency and operating conditions. Describes the measures that would be implemented to comply with the noise criteria and operating conditions.
Blast Management Plan	<ul style="list-style-type: none"> Identification of relevant criteria, monitoring methods and operating conditions. Describes the measures that would be implemented to comply with the blasting criteria and operating conditions.
Air Quality Management Plan	<ul style="list-style-type: none"> Identification of relevant criteria, monitoring locations, monitoring methods and program. Describes the measures that would be implemented to comply with air quality criteria and operating conditions. Describes the methods to evaluate compliance against criteria, operating conditions, effectiveness of the system and defines a protocol for identification of incidents and notifying of relevant parties of their occurrence.
Water Management Plan	<ul style="list-style-type: none"> Includes a Water Balance, Surface Water Management Plan and Groundwater Management Plan. Outlines the performance criteria for compliance with Water Management Performance Measures.
Biodiversity Management Plan – Revegetation Strategy	<ul style="list-style-type: none"> Includes a Revegetation Strategy identifying areas to be cleared, areas available for revegetation and strategies for progressive rehabilitation. Includes a description of the short, medium- and long-term measures to be implemented to ensure the Revegetation Strategy is effectively implemented. Detailed description of the measures to be implemented to protect biodiversity (e.g. protecting vegetation and fauna habitat, maximising the salvage of resources within the disturbance area, etc.). A program to monitor and report on the effectiveness of these measures. Describes the potential risks to successful implementation of the Biodiversity Management Plan and associated contingency measures. Includes details of who is responsible for monitoring, reviewing and implementing the Biodiversity Management Plan.
Heritage Management Plan	<ul style="list-style-type: none"> Describes the measures that would be implemented for management and protection of known and unknown heritage items, access arrangements to heritage items and ongoing consultation with stakeholders. Details procedures of managing both aboriginal and non-aboriginal sensitive heritage items and values.
Rehabilitation Management Plan	<ul style="list-style-type: none"> Identification of relevant performance and completion criteria for the rehabilitation of the site. Describes the measures that would be implemented to rehabilitate the site. Consideration of a Mine Closure Strategy, including principle objectives of mine closure planning for the Project. A program to monitor, independently audit and report on the effectiveness of these measures.
Road Upgrade and Maintenance Strategy	<ul style="list-style-type: none"> Describes the measures that would be undertaken to identify and upgrade roads and intersections required for the Project. Outlines the maintenance strategy on relevant sections of road network following the upgrades.
Traffic Management Plan	<ul style="list-style-type: none"> Describes all traffic and transport routes to be used during the development. Development of the Road Transport Protocol and safety procedures related to traffic.

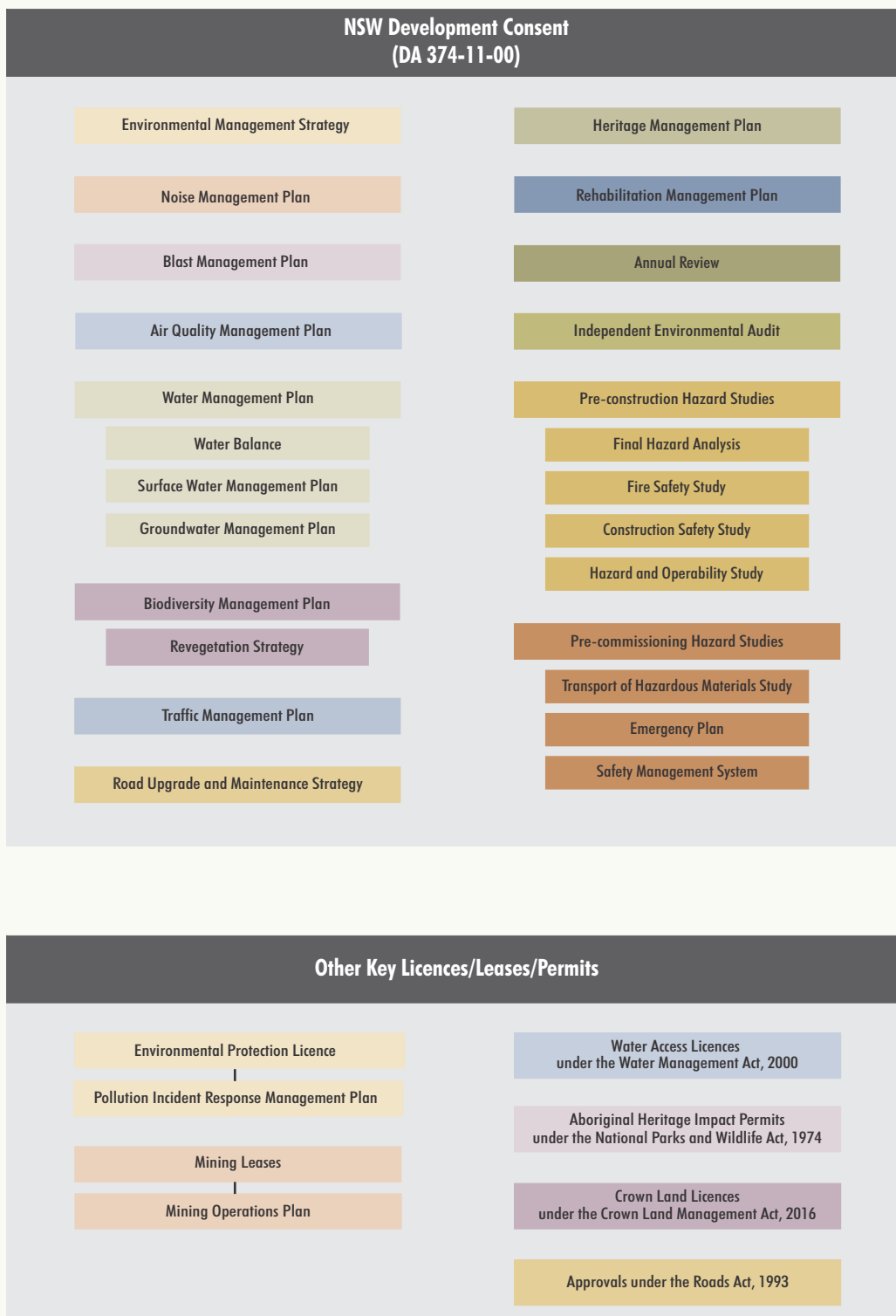
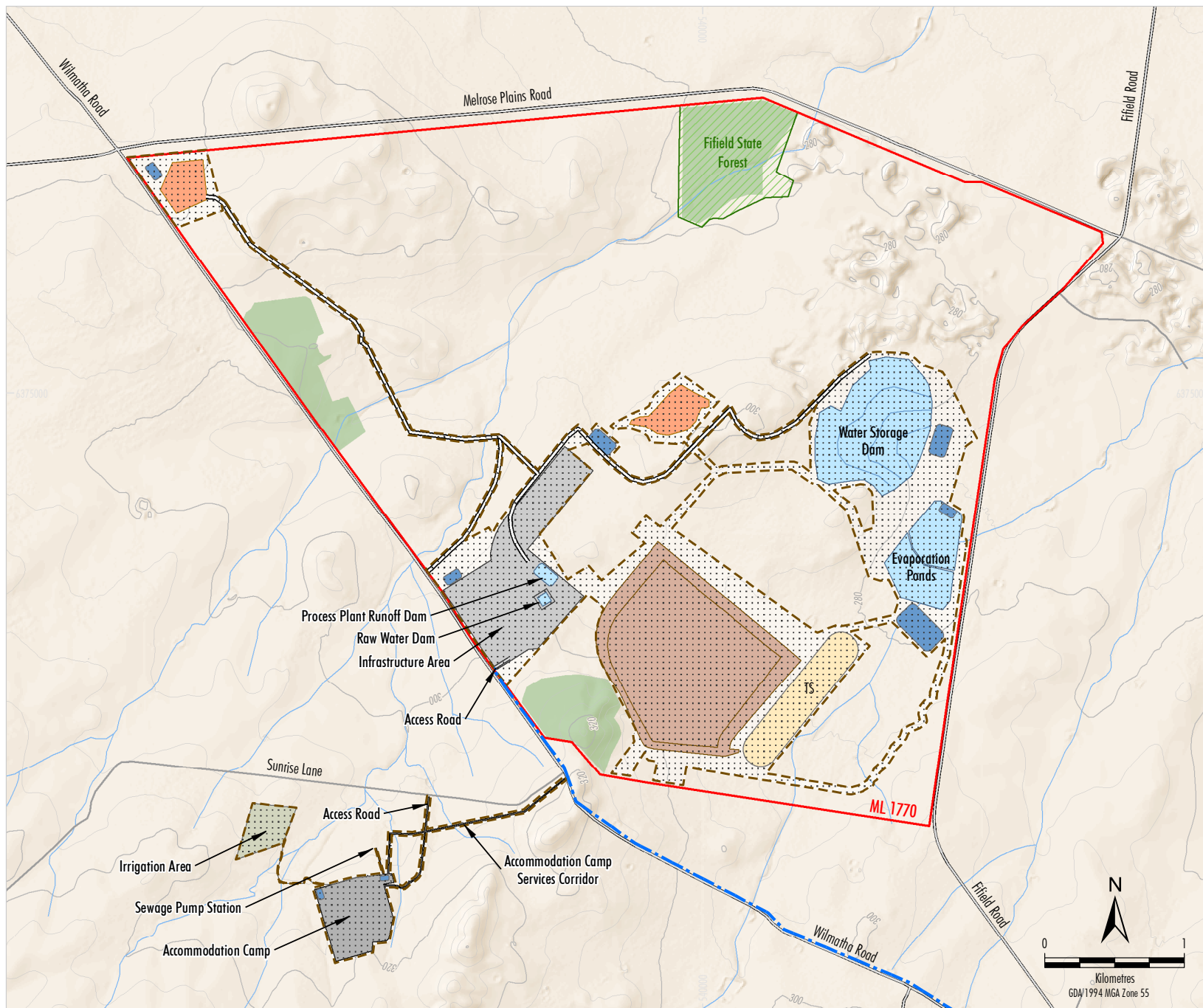


Figure 3



- installation of appropriate fencing and barriers for public safety and security for mining and construction; and
- other associated minor infrastructure, plant, equipment and activities.
- development and operation of the accommodation camp;
- development and operation of the borefields, surface water extraction infrastructure and water pipeline¹; and
- road upgrades.

¹ The water pipeline includes the Fifield Bypass and Alternative Pipeline Route alignments.

2. ENVIRONMENTAL MANAGEMENT STRATEGY REVIEW AND UPDATE

In accordance with Condition 6, Schedule 5 of Development Consent DA 374-11-00, this EMS will be reviewed, and if necessary revised (to the satisfaction of the Secretary), within three months of the submission of:

- an Annual Review (Condition 5, Schedule 5);
- an incident report (Condition 8, Schedule 5);
- an Independent Environmental Audit (Condition 10, Schedule 5); and/or
- any modification to the conditions of Development Consent DA 374-11-00 (unless the conditions require otherwise).

The reviews would be undertaken so that the EMS is updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the Project.

Within four weeks of conducting any such review, the Secretary will be advised of the outcomes of the review and any revised documents submitted to the Secretary for approval.

If agreed with the Secretary, a revision to the EMS required under Development Consent DA 374-11-00 may be prepared without undertaking consultation with all parties nominated under the relevant condition of Development Consent DA 374-11-00.

The revision status of this EMS is indicated on the title page of each copy.

The approved EMS will be made publicly available on the Clean TeQ website, in accordance with Condition 12, Schedule 5 of Development Consent DA 374-11-00.

3. COMMITMENT AND LEADERSHIP

Environmental management is an integral part of management at the Project. Achieving effective environmental and community management requires responsible and proactive leadership. Clean TeQ's Sustainability Policy (the Sustainability Policy) will provide the governing principles for environmental and community management. The Sustainability Policy is provided in Appendix A.

Managers at the Project will demonstrate commitment by:

- implementing the principles outlined in the Sustainability Policy;
- endorsing and implementing this EMS;
- making personnel aware of their responsibilities in relation to the policy;
- ensuring the Sustainability Policy is readily accessible and displayed in prominent locations; and
- appropriately resourcing implementation and review of this EMS.

Management at the Project must demonstrate visible and proactive leadership through their commitment to achieving the EMS objectives and goals of the Sustainability Policy. The prevention and management of the potential and actual environmental impacts from Project activities will be achieved through:

- taking a systematic approach;
- taking preventive action in preference to reactive correction;
- proactive attention to environmental issues by all people in the organisation; and
- innovative changes to the way Clean TeQ operate in order to continually improve its environmental performance.

This EMS has been approved by the Clean TeQ management team.

4. STATUTORY REQUIREMENTS

Clean TeQ's statutory obligations relevant to environmental management are contained in:

- the conditions of Development Consent DA 374-11-00;
- relevant licences, permits and conditions attached to mining leases; and
- other relevant legislation.

Obligations relevant to this EMS are described below.

4.1 Development Consent DA 374-11-00

4.1.1 EMS Requirements

Condition 1, Schedule 5 of the Development Consent DA 374-11-00 requires the preparation of an EMS. Table 1 presents these requirements and indicates where they are addressed in this EMS.

4.1.2 Management Plan (General) Requirements

In addition to the EMS requirements prescribed in Condition 1, Schedule 5;

Condition 4, Schedule 5 of Development Consent DA 374-11-00 outlines the management plan (general) requirements that are also applicable to the preparation of this EMS. Table 3 presents these requirements and indicates where each is addressed within this EMS.

Table 3 – Management Plan (General) Requirements

Development Consent DA 374-11-00 Schedule 5	EMS Section
Management Plan Requirements	
4. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, are consistent with other plans prepared for other stakeholders, and include:	
a) detailed baseline data;	Refer to EMPs
b) a description of: <ul style="list-style-type: none">• the relevant statutory requirements (including any relevant approval, license or lease conditions);• any relevant limits or performance measures/criteria;• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 4 Refer to EMPs Refer to EMPs
c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Refer to EMPs
d) a program to monitor and report on the: <ul style="list-style-type: none">• impacts and environmental performance of the development;• effectiveness of any management measures (see c above);	Sections 6 and 7
e) a contingency plan to manage any unpredicted impacts and their consequences;	Refer to EMPs
f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 7

Table 3 (Continued) – Management Plan (General) Requirements

Development Consent DA 374-11-00 Schedule 5	EMS Section
g) a protocol for managing and reporting any: <ul style="list-style-type: none"> incidents; complaints; non-compliances with statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria; and 	Section 8.1 Section 8.2 Section 8.3 Section 8
h) a protocol for periodic review of the plan. <i>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>	Section 2

4.2 Licences, Permits and Leases

In addition to Development Consent DA 374-11-00, all activities at or in association with the Project will be undertaken in accordance with the following licences, permits and leases which have been issued or are pending issue.

Key licences, permits and leases pertaining to the Project include:

- Mining Lease 1770 issued by the NSW Minister for Resources under the *NSW Mining Act, 1992*.
- Mining Operations Plan(s) submitted and approved by the NSW Division of Resources and Geoscience.
- Environment Protection Licence (EPL) 21146 issued by the Environment Protection Authority (EPA) under the *NSW Protection of the Environment Operations Act 1997* (POEO Act).
- Water supply works, water use approvals and water access licences (WALs) issued by DoI - L&W under the *NSW Water Management Act 2000* including:
 - Water Supply Works Approval 70CA614098 for the Project borefields.
 - WAL 32068 in the Upper Lachlan Alluvial Groundwater Source (Upper Lachlan Alluvial Zone 5 Management Zone) for 3,154 share components under the *Water Sharing Plan for the Lachlan Unregulated and Alluvial Water Sources 2012*.
 - WAL 39837 in the Upper Lachlan Alluvial Groundwater Source (Upper Lachlan Alluvial Zone 5 Management Zone) for 766 share components under the *Water Sharing Plan for the Lachlan Unregulated and Alluvial Water Sources 2012*.
 - WAL 28681 in the Lachlan Fold Belt Murray-Darling Basin (MDB) Groundwater Source (Lachlan Fold Belt MDB [Other] Management Zone), for 243 share components under the *Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2011*.
 - WAL 6679 in the Lachlan Regulated River Water Source, for 123 share components (General Security) under the *Water Sharing Plan for the Lachlan Regulated River Water Source 2016*.

- Groundwater licences for monitoring bores under the *Water Management Act, 2000*.
- Aboriginal Heritage Impact Permits (AHIP #C0003049 and AHIP #C0003887) issued by the Office of Environment and Heritage (OEH) under the *NSW National Parks and Wildlife Act, 1974*.
- Mining and workplace health and safety related approvals granted by the NSW Department of Industry and SafeWork NSW.
- Heavy Vehicle Authorisation Permit 119039 issued by the National Heavy Vehicle Regulator under the *Heavy Vehicle National Law NSW*.
- Crown Land Licence LN 603648 issued under Section 152A of the *NSW Roads Act, 1993*.
- Crown Land Licence RI 586882 under the *Crown Land Management Act, 2016* (under application).
- Approvals to undertake works in, on or over a public road under the *NSW Roads Act, 1993*.
- Approval to install and operate a new sewage management system under the *Local Government Act, 1993*.

4.3 Other Legislation and Requirements

Clean TeQ will conduct the Project consistent with the requirements of Development Consent DA 374-11-00 and any other legislation that is applicable to an approved Part 4 Project under the EP&A Act.

In addition to the statutory obligations described in Sections 4.1 and 4.2, the following Acts (and their regulations) may be applicable to the conduct of the Project:

- *Aboriginal Land Rights Act, 1983*;
- *Biodiversity Conservation Act, 2016*;
- *Biosecurity Act, 2015*;
- *Crown Land Management Act, 2016*;
- *Contaminated Land Management Act, 1997*;
- *Dams Safety Act, 2015*;
- *Dangerous Goods (Road and Rail Transport) Act, 2008*;
- *Energy and Utilities Administration Act, 1987*;
- EP&A Act;
- *Fisheries Management Act 1994*;
- *Forestry Act, 2012*;
- *Local Government Act, 1993*;
- *Mining Act, 1992*;
- *National Parks and Wildlife Act, 1974*;
- *Pipelines Act, 1967*;

- POEO Act;
- *Rail Safety (Adoption of National law) Act, 2012;*
- *Roads Act, 1993;*
- *Soil Conservation Act, 1938;*
- *Water Act, 1912;*
- *Water Management Act, 2000;*
- *Work Health and Safety Act, 2011; and*
- *Work Health and Safety (Mines and Petroleum Sites) Act, 2013.*

Commonwealth Acts which may also be applicable to the conduct of the Project include:

- *Environment Protection and Biodiversity Conservation Act, 1999; and*
- *Native Title Act, 1993.*

Relevant licences or approvals required under these Acts will be obtained as required.

5. IMPLEMENTATION – SUNRISE PROJECT ENVIRONMENTAL MANAGEMENT STRUCTURE

An overview of the environmental management structure at the Project is illustrated on Figure 3.

5.1 Roles and Responsibilities

A combination of Clean TeQ's employees and contractor staff are responsible for environmental management at the Project. The roles and responsibilities of members of the site, including the environmental management team are provided in Appendix B. All employees and contractors working at the Project are accountable for:

- complying with relevant legislation;
- complying with this EMS;
- communicating any information they become aware of in relation to environmental management; and
- taking actions to prevent and mitigate environmental impacts.

Accountabilities for environmental management are defined in this EMS to ensure personnel and contractors at the Project are aware of their roles and responsibilities.

The relevant site contacts for the Project are provided in Table 4.

Table 4 – Site Contacts

Clean TeQ Position	Contact	Phone
Senior Manager – Site Execution	Paul Goodchild	0439 536 951
Mining Manager	Luke Cox	0490 527 293
Environmental Superintendent	Andrew Jones	0477 152 984
General Manager Government, External Relations and Community	Justine Fisher	0416 196 403
Health, Safety and Environment Manager	Vanessa Naidoo	0408 367 662
Community Complaints Line	community@cleanteq.com	1800 952 277

5.2 Environmental Emergencies

Clean TeQ will maintain a Pollution Incident Response Management Plan (PIRMP) that relates to its operations. This management plan will outline the process for responding to environmental emergencies in a timely and effective manner and adopting appropriate measures for the control and recovery from emergencies. Where appropriate, environmental emergency response procedures will be integrated with on-site Emergency Response Plans.

The contractor that controls and manages the activities on site is required to develop and maintain an Emergency Response Plan. The Emergency Response Plan must include the following details:

- a) an effective first response to an emergency;
- b) evacuation methods;
- c) notifying emergency services at the earliest opportunity;
- d) medical treatment and assistance;
- e) effective communication with everyone at the worksite;
- f) how often the emergency procedures are to be tested; and
- g) instruction and training about implementing the emergency procedures.

At an overarching level Clean TeQ will also develop and maintain an Emergency Response Plan and associated services to ensure that emergencies are adequately managed.

Reporting of incidents will be undertaken in accordance with the protocol outlined in Section 8.1.

5.3 Information Dissemination

Community Consultative Committee

In accordance with Condition 7, Schedule 5 of Development Consent DA 374-11-00, a Community Consultative Committee (CCC) has been established. The CCC will be operated in accordance with the *Community Consultative Committee Guidelines for State Significant Projects 2016* (DP&E, 2016).

Clean TeQ Website

In accordance with Condition 12, Schedule 5 of Development Consent DA 374-11-00, the Clean TeQ website will be maintained as a tool for the provision of information to stakeholders and interested parties regarding the operation and environmental performance of the Project. The following information will be available on the Clean TeQ website:

- the *Syerston Nickel Cobalt Project Environmental Impact Statement* (Project EIS) (Black Range Minerals, 2000) and subsequent environmental approval documentation (e.g. modifications to Development Consent DA 374-11-00);
- current statutory approvals for the development (i.e. Development Consent DA 374-11-00, Mining Lease 1770 and EPL 21146);
- approved strategies, plans or programs required under the conditions of Development Consent DA 374-11-00;
- a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of Development Consent DA 374-11-00 (the Annual Review (Section 7.1) will be placed on the Clean TeQ website to address this requirement);
- a complaints register, which is updated on a monthly basis;
- any independent environmental audit, and Clean TeQ's response to the recommendations in any audit; and
- any other matter required by the Secretary.

Information available on the Clean TeQ website will be updated as required by Development Consent DA 374-11-00.

Internal Communication

Environmental management documentation developed and retained by Clean TeQ will be filed in accordance with the document register and made available to relevant Clean TeQ employees and contractor staff.

Environmental management and performance will be communicated to staff, contractors and visitors through:

- toolbox training, formal training, memos, weekly/daily planning meetings;
- induction and orientation processes;
- incident or near miss communications;
- site inspections and auditing; and
- communication sessions.

Relevant Agencies

Clean TeQ will notify relevant agencies in accordance with the requirements of Development Consent DA 374-11-00, including incident reporting (Section 8.1). In addition, a copy of the Annual Review will be made available to the following agencies:

- the EPA;
- Roads and Maritime Services;
- Department of Industry – Water;
- the OEH; and
- the relevant Council.

5.4 Dispute Resolution

Clean TeQ has a dispute resolution process (see Figure 5).

The Community Relations Superintendent and/or the Environmental Superintendent (or nominated delegate depending on the nature of the dispute) will work with subject matter experts and the leadership team to resolve disputes with community members internally and as quickly as possible. If the dispute cannot be resolved internally, either party may refer the matter to the Secretary for resolution.

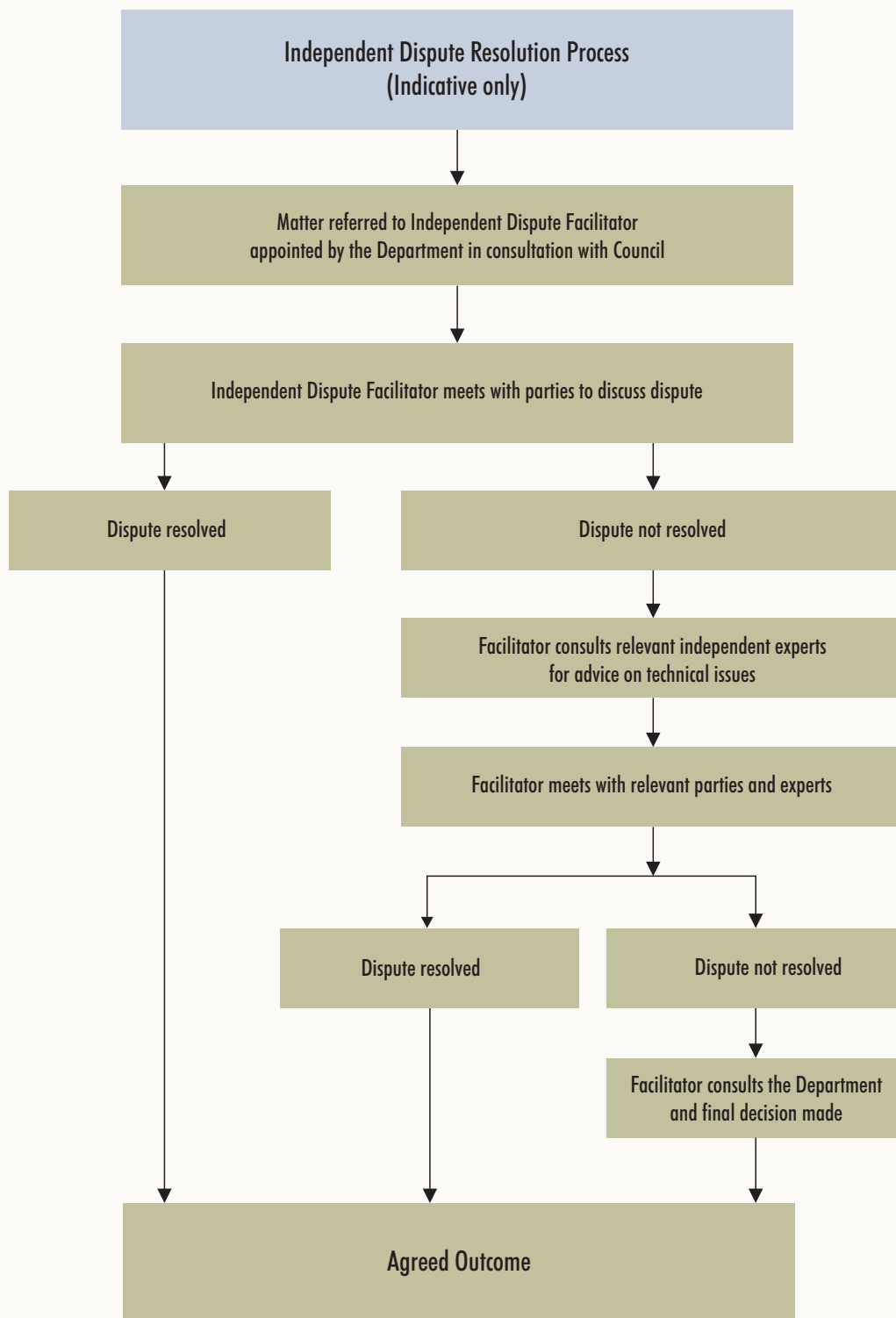
5.5 Records Management

A copy of any document that includes data or records will be kept and maintained by Clean TeQ to demonstrate compliance with relevant legislation, leases, licences, approvals, and any other document that governs operations at the Project. The Environmental Superintendent will be responsible for the management of any necessary environmental records.

5.6 Training

It is the responsibility of Clean TeQ to employ people that are appropriately trained, competent and have an appropriate level of experience and understanding to undertake their work in a manner that minimises impacts on the environment and community. In addition, a component of the site-specific induction is to promote and provide all employees and contractors with general environmental awareness training.

A register of training records and competencies will be maintained and kept up to date in a Project Training Register.



Visitors Induction

Visitors to the Project will undergo a visitor's induction, which will outline the overarching environmental, health and safety requirements. The nominated Clean TeQ contact will be responsible for the actions and conduct of their visitors and will reinforce the Project's environmental requirements.

At all times, visitors will be under the supervision of a fully inducted Clean TeQ employee.

Site Induction

Prior to commencing any work duties on site, all personnel will undergo a site-specific project induction. The site-specific induction includes a detailed summary of the Project as well as associated health, safety, environment and community requirements. The induction also includes a comprehensive understanding of the Project's environmental impacts and aspects with a focus on the relevant legislation and legal responsibilities applicable to site.

Task Specific Training

Occasions may arise where employees or contractors are required to undertake training in specific environmental management duties (i.e. use of air quality monitoring equipment, or use of real-time response protocols). A training needs analysis will identify where these instances occur.

6. MONITORING, ECOLOGICAL AND COMMUNITY OBJECTIVES AND CUMULATIVE ENVIRONMENTAL IMPACTS

6.1 Monitoring Programs

Monitoring will be conducted for a range of parameters to satisfy the requirements of Development Consent DA 374-11-00. Details of the monitoring programs developed for the Project are included in each EMP (e.g. the air quality monitoring program is detailed in the Air Quality Management Plan), and are briefly summarised in Table 5 below. Monitoring will be conducted in accordance with relevant statutory requirements and undertaken by suitably experienced and capable personnel where relevant.

A summary of the Project environmental monitoring sites is shown on Figures 6 and 7.

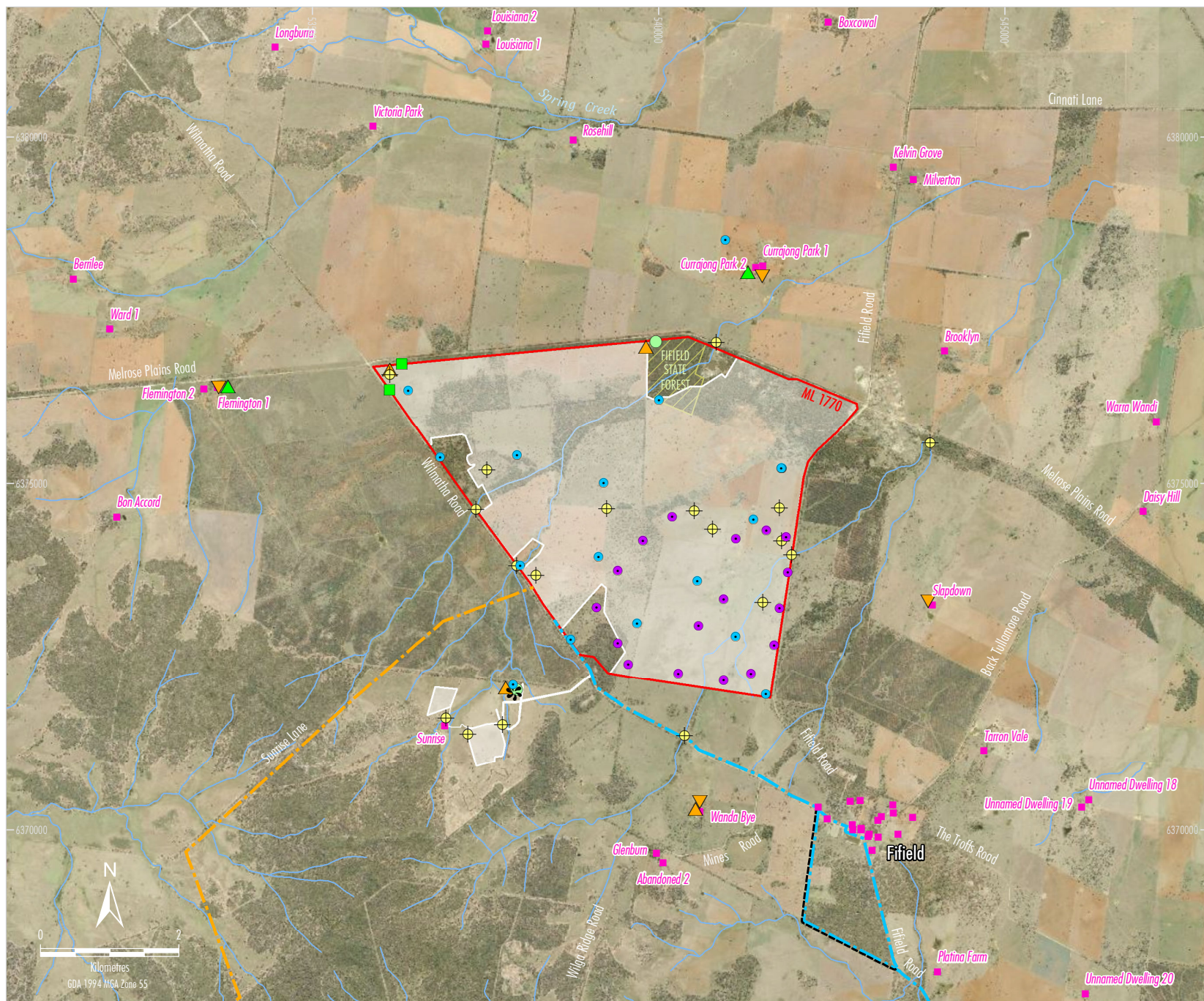
Table 5 – Summary of the Mine and Processing Facility Environmental Monitoring Programs

Environmental Management Plan	Monitoring Program	Parameter
Air Quality Management Plan	Air Quality Monitoring Program	<ul style="list-style-type: none">• Air quality monitoring.• Meteorological monitoring.
Noise Management Plan	Noise Monitoring Program	<ul style="list-style-type: none">• Noise monitoring.• Meteorological monitoring.
Blast Management Plan	Blast Monitoring Program	<ul style="list-style-type: none">• Blast (blast plumes, vibration and overpressure) monitoring.• Visual monitoring (blast fumes).
Surface Water Management Plan	Surface Water Monitoring Program	<ul style="list-style-type: none">• Surface water quality monitoring.
Groundwater Management Plan	Groundwater Monitoring Program	<ul style="list-style-type: none">• Groundwater quality monitoring.• Groundwater level monitoring.
Rehabilitation Management Plan	Rehabilitation Monitoring Program	<ul style="list-style-type: none">• Rehabilitation monitoring, including:<ul style="list-style-type: none">– Landscape Function Analysis;– Landscape Organisation Index;– Soil Surface Assessment;– Vegetation Dynamics; and– Visual monitoring.

6.2 Ecological and Community Objectives

Clean TeQ's ecological and community objectives are included in the Sustainability Policy available on the Clean TeQ website and provided in Appendix A. These include:

- focus on hazard identification and management of risks to our people, the environment and communities in which we operate;
- design, construct and operate our projects to mitigate or remove environmental impacts, minimise our use of energy and natural resources and remediate any environmental impact of our activities;



- LEGEND**
- State Forest
 - Mining Lease Boundary (ML)
 - Approved Surface Development Area
 - Fife Road Bypass
 - Gas Pipeline
 - Water Pipeline
 - Dwelling
 - Construction Phase Monitoring Sites**
 - Dust Deposition Monitoring Site
 - PM_{2.5} and PM₁₀ Monitoring Site
 - Meteorological Station
 - Noise Monitoring Site
 - Construction Phase Blast Monitoring Site
 - Indicative Construction Phase Blast Monitoring (Infrastructure) *
 - Groundwater Monitoring Site
 - Proposed Groundwater (Piezometer) Monitoring Site
 - Surface Water Quality Monitoring Site

* Blast Monitoring would be undertaken in proximity to the closest public infrastructure to blasting activities.

Source: Black Range Minerals (2005); Clean TeQ (2017, 2019); NSW Department of Industry (2017); NSW Land and Property Information (2017); Office of Environment and Heritage NSW (2017) NSW Imagery: © Department of Finance, Services & Innovation (2018)

**CLEAN
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CLEAN TEQ SUNRISE PROJECT
Mine and Processing Facility
Environmental Monitoring Sites

Figure 6



- LEGEND**
- Water Pipeline
 - Borefield Infrastructure Corridor *
 - Borefield Location
 - Production Bore (not constructed)
 - ⊙ Production Bore (constructed)
 - Existing Borefield Monitoring Piezometer
 - + Proposed Borefield Monitoring Piezometer
 - ⊕ Regional Monitoring Bore (Existing)
 - ⊕ Regional Monitoring Bore (Proposed)
 - ▲ Surface Water Flow Gauge
- * Infrastructure Corridor includes linking pipeline, access road and electricity transmission line.
- Source: Ivanplats Syerston (2005); NSW Land & Property Information (2017); NSW DPI - Water (2018)
NSW Imagery: Esri, DigitalGlobe (2017)

Figure 7

- build relationships and work in a spirit of togetherness with the people and organisations in the areas in which we operate. These relationships are based on mutual respect, open and transparent dealings and lasting commitment; and
- share our values, foster value creation and help our host communities thrive beyond us.

Rehabilitation

Clean TeQ's strategy for the restoration and management of the areas affected by the Project, including elements such as creek lines and drainage channels, is outlined in the Biodiversity Management Plan and Revegetation Strategy and the Rehabilitation Management Plan (Appendix C). These management plans are consistent with the Project's ecological and community objectives outlined above.

The rehabilitation principles for the Project, as described in the Rehabilitation Management Plan, include:

- Preservation of areas of existing vegetation outside the approved surface development area.
- Rehabilitation of mine landforms will be progressive and conducted in accordance with approved plans (i.e. Mining Operations Plan and Rehabilitation Management Plan).
- The newly prepared (i.e. topsoiled) landforms will be protected via the construction of moisture-retaining passive drainage systems, water-holding structures (e.g. surface depressions) and, where appropriate, the use of authorised hybrid cover crops to provide initial erosion protection.
- Revegetated landforms will form an expansion of, and be continuous with, existing woodland areas.
- Outer embankments of the tailings storage facility will be rehabilitated progressively during operational years.
- Livestock will be excluded from rehabilitated areas where agriculture is not the final land use.
- Rehabilitation concepts should be flexible and allow for adjustments, based on trials.

Community

Community objectives for the Project include:

- ensure employees and contractors are informed about Clean TeQ's policies and are made aware of their environmental and community responsibilities in relation to Clean TeQ's activities;
- inform the community of Clean TeQ's activities and consult with the community in an open and honest fashion in relation to Clean TeQ's projects;
- address complaints/conflicts and consult to achieve mutually acceptable outcomes; and

- provide opportunities to share in the benefits that flow from Clean TeQ's activities.

6.3 Cumulative Environmental Impacts

As described in the Project EIS (Black Range Minerals, 2000) and subsequent environmental assessment documents prepared in support of the approved modifications to the Project, the lack of other mining/industrial activities in the vicinity of the Project components limits the potential for material cumulative environmental impacts (i.e. no material cumulative impacts have been identified).

Notwithstanding, the management and mitigation measures described in each EMP have been developed in consideration of potential cumulative environmental impacts.

As part of the regular reviews of each EMP, any new developments in the vicinity of the Project would be considered and if cumulative impacts are identified, procedures for the management and mitigation of these cumulative impacts would be incorporated into the EMPs. These may include:

- working with neighbouring operations with regards to the management of cumulative impacts such as blast fume, dust, noise, lighting and social issues;
- sharing monitoring data with neighbouring operations and on the Clean TeQ website; and
- engaging in a stakeholder consultation program that identifies community concerns about cumulative impacts from local operations.

7. REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE

A list of EMPs required for the Project is provided in Table 2. These plans/strategies will be reviewed, and if necessary, revised within three months of the submission of an annual review, incident report, independent audit or any modification to Development Consent DA 374-11-00, in accordance with Condition 6, Schedule 5 of Development Consent DA 374-11-00. Table 6 summarises the EMS reporting and review requirements.

Table 6 – Project Reporting Requirements

Report	Frequency	Distribution	Distribution Method	Responsibility for Data Collection and Preparation	Responsibility for Submission
Environmental Incident Report	As required – see Section 8.1	DP&E Other relevant agencies including the relevant Council	Email	Environmental Superintendent	Health, Safety and Environment Manager
Annual Review (incorporating Annual Environmental Management Report)	Annually (by the end of March each year)	DP&E	Email and Website	Environmental Superintendent	Health, Safety and Environment Manager
Annual Return	Annually (for the period 1 January to 31 December)	EPA	Email and Post	Environmental Superintendent	Health, Safety and Environment Manager
Independent Review	As required – see Section 7.2	DP&E Other relevant agencies	Email and Website	Suitably qualified, experienced and independent person who is approved by the Secretary	Approved Person

7.1 Annual Review

In accordance with Condition 5, Schedule 5 of Development Consent DA 374-11-00, Clean TeQ will review the environmental performance of the Project by the end of March each year (for the previous calendar year) to the satisfaction of the Secretary.

In relation to environmental management, the Annual Review will (where relevant):

- describe the development that was carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
- include a comprehensive review of the monitoring results and complaints register of the development over the past year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous years; and
 - relevant predictions in the EIS.

- identify any non-compliance over the past year, and describe what actions were (or are being) taken to comply;
- identify any trends in the monitoring data over the life of the development;
- identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- describe what measures will be implemented over the next year to improve the environmental performance of the development.

A copy of the Annual Review will be made available to the following agencies:

- the EPA;
- Roads and Maritime Services;
- Department of Industry – Water;
- the OEH; and
- the relevant Council.

7.2 Independent Environmental Audit

In accordance with Condition 10, Schedule 5 of Development Consent DA 374-11-00, an independent environmental audit of the Project will be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary.

The independent environmental audit will assess the environmental performance of the Project and review the adequacy of this EMS. If necessary, appropriate measures or actions to improve the environmental performance of the Project or this EMS will be recommended.

An independent environmental audit will be conducted within one year of the commencement of the development under this consent, after 6 May 2017. The independent environmental audit, and Clean TeQ's response to the recommendations in the audit, will be made publicly available on the Clean TeQ website, in accordance with Condition 12, Schedule 5 of Development Consent DA 374-11-00.

8. REPORTING PROTOCOLS

In accordance with Condition 4(g), Schedule 5 of Development Consent DA 374-11-00, Clean TeQ has developed protocols for managing and reporting the following:

- incidents;
- complaints;
- non-compliances with statutory requirements; and
- exceedances of the impact assessment criteria and/or performance criteria.

These protocols are described in detail in this section. In accordance with Condition 9, Schedule 5 of Development Consent DA 374-11-00, Clean TeQ will provide regular reporting on the environmental performance of the Project on the Clean TeQ website.

8.1 Incident Reporting

An incident is defined as a set of circumstances that causes or threatens to cause material harm to the environment and/or breaches or exceeds the limits or performance measures/criteria in Development Consent DA 374-11-00.

In the event that review of environmental monitoring data indicates an incident has occurred, the incident will be reported in accordance with Condition 8, Schedule 5 of Development Consent DA 374-11-00. Clean TeQ will notify the Secretary and any other relevant agencies including the relevant Council immediately after becoming aware of the incident. Clean TeQ will also notify any affected landholders of any incident that has caused, or threatens to cause, material harm to the environment.

Within seven days of the date of the incident, Clean TeQ will provide the Secretary and any other relevant agencies with a detailed report on the incident and such further reports as may be requested. The report will:

- describe the date, time and nature of the exceedance/incident;
- identify the cause (or likely cause) of the exceedance/incident;
- describe what action has been taken to date; and
- describe reasonable and feasible options to address the incident and identify the preferred option to address the incident (in accordance with the contingency plan described in the relevant EMP).

8.2 Complaints

Clean TeQ will maintain a Community Complaints Line (tel: 1800 952 277) and email address (community@cleanteq.com) for the sole purpose of receiving community contacts and complaints. The Community Complaints Line number will be available on the website and included in Clean TeQ's advertising and community communication tools. The Community Complaints line will be staffed 24 hours a day, seven days a week during construction and operations. Clean TeQ will respond to callers on the next business day. If the issue is urgent a member of the leadership team will be contacted immediately.

Clean TeQ has developed a procedure (Figure 8) that outlines its commitment to receiving, resolving and recording complaints received from the community. Detailed records of each complaint resolution are kept in Clean TeQ's record management systems.

Complaints will be investigated within 24 hours of receipt. The cause of the complaint will be analysed and actions to resolve the complaint taken as soon as possible. In complex cases where resolution will take more than 48 hours, Clean TeQ will commit to update the community member regularly until the complaint is resolved.

In accordance with Condition 12(a), Schedule 5 of Development Consent DA 374-11-00, a complaints register will be made available on the Clean TeQ website and updated monthly.

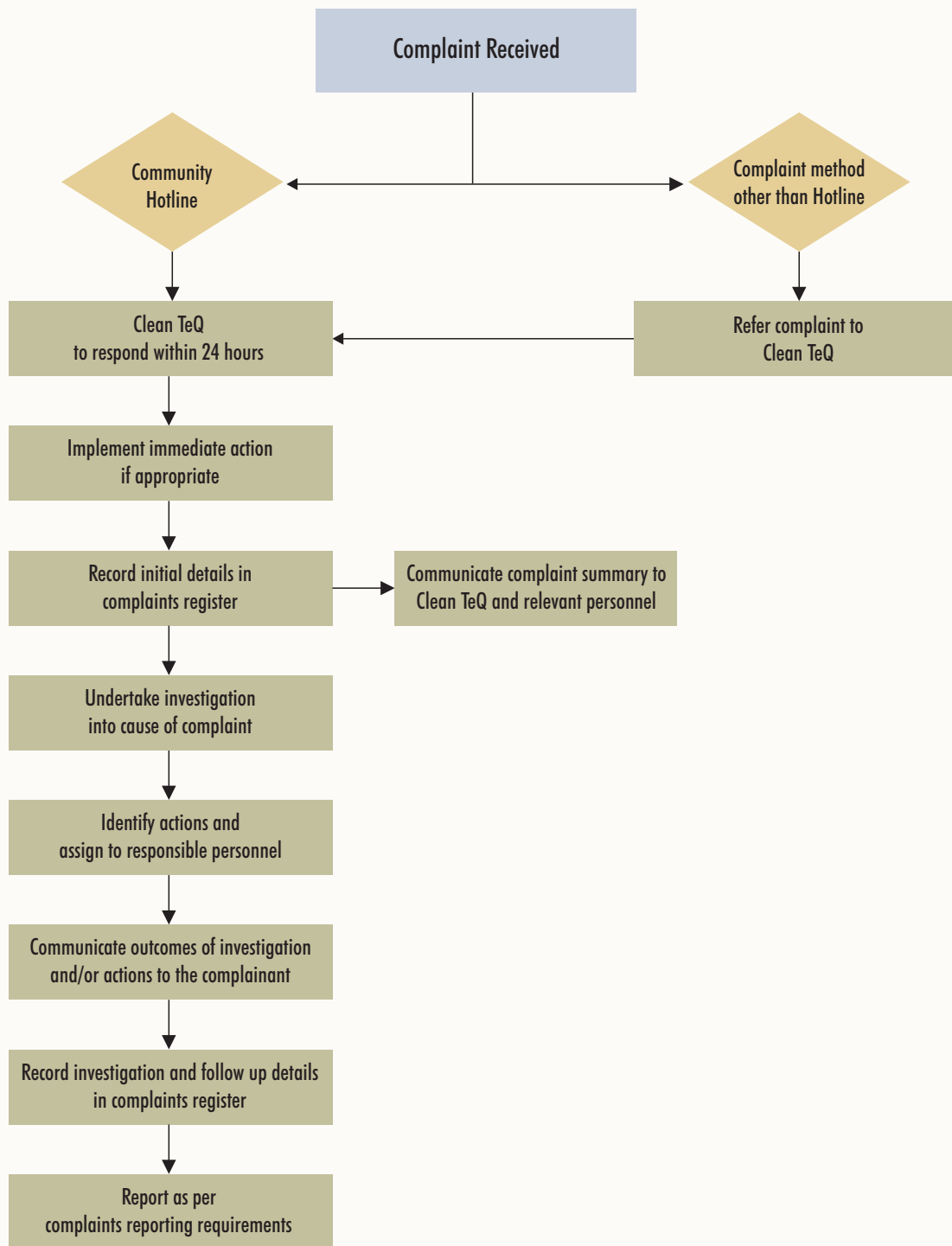
8.3 Non-Compliance with Statutory Requirements

A protocol for managing and reporting non-compliances with statutory requirements has been developed as a component of Clean TeQ's EMS and is described below.

Compliance with all approved plans and procedures is the responsibility of all personnel (staff and contractors) employed on or in association with Clean TeQ and the Project.

The Clean TeQ Environmental Superintendent will undertake regular inspections, internal audits and initiate directions identifying any remediation/rectification work required, and areas of actual or potential non-compliance.

Section 5.1 of the Surface Water Management Plan and Groundwater Management Plan include surface water and groundwater impact trigger levels for the Project.



CTL-17-03 MP 2018_EMS_0028

Figure 8

As described in Section 8.1, Clean TeQ will report incidents in accordance with Condition 8, Schedule 5 of Development Consent DA 374-11-00 and in accordance with the protocol for industry notification of pollution incidents under Part 5.7 of the POEO Act. Clean TeQ will notify the Secretary and any other relevant agencies including the relevant Council immediately after the authorised person becomes aware of the incident which causes or threatens to cause material harm to the environment. Within seven days of the date of the incident, Clean TeQ will provide the Secretary and any other relevant agencies with a detailed report on the incident and such further reports as may be requested.

A review of compliance with all conditions in Development Consent DA 374-11-00, Mining Lease 1770 and all other approvals and licences will be undertaken prior to (and included within) each Annual Review (Section 7.1).

Additionally, in accordance with Condition 10, Schedule 5 of Development Consent DA 374-11-00, an independent environmental audit (Section 7.2) would be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary to assess whether Clean TeQ is complying with the requirements in Development Consent DA 374-11-00, and any other relevant approvals, EPLs, and/or mining leases.

9. REFERENCES

Black Range Minerals (2000) *Syerston Nickel Cobalt Project Environmental Impact Statement*.
October 2000.

Department of Planning and Environment (2016) *Community Consultative Committee Guidelines for State Significant Projects 2016.*

APPENDIX A:
SUSTAINABILITY POLICY

Sustainability Policy

Clean TeQ's vision is to empower the clean revolution. We apply our innovative technologies to find better ways to solve planet Earth's most pressing environmental problems.

Three values underpin everything we do:

INVESTED: We achieve positive outcomes for all our stakeholders. We are committed to creating and sustaining value from Clean TeQ's core technologies.

CONNECTED: We actively interact to leverage our combined capabilities and create mutually beneficial outcomes.

PREPARED TO BE DIFFERENT: We have the courage to pursue excellence and are prepared to do things differently to add value, while managing the risks in our business.

Reflecting our commitment to sustainability, we will:

- Ensure the commitments defined in our Sustainability Policy are applied in all business planning and decision-making processes.
- Build a strong and positive safety culture based on visible leadership, ongoing training and access to the right tools and equipment. We aspire to create a workplace that ensures everyone goes home safe and well, every day. The contribution of all members of our organisation is essential to building this culture.
- Implement robust management systems across our businesses, with a commitment to continual improvement.
- Focus on hazard identification and management of risks to our people, the environment and communities in which we operate.
- Design, construct and operate our projects to mitigate or remove environmental impacts, minimise our use of energy and natural resources, and remediate any environmental impact of our activities. We respect the conservation of biodiversity.
- Meet or exceed the regulatory requirements in the areas in which we work.
- Deliver the highest possible quality products and services.
- Build relationships and work in a spirit of togetherness with the people and organisations in the areas in which we operate. These relationships are based on mutual respect, open and transparent dealings and lasting commitment.
- Share our values, foster value creation and help our host communities thrive beyond us.
- Provide equal opportunity and create a diverse work environment in which everyone is treated fairly, with respect and can reach their potential.

We verify the implementation of these commitments through regular review.

Sam Riggall

Chief Executive Officer

January 2019



APPENDIX B:
SITE ENVIRONMENTAL MANAGEMENT – ROLES AND RESPONSIBILITIES

Table B1 – Site Environmental Management – Roles and Responsibilities

Role	Responsibility
Health, Safety and Environment Manager	<ul style="list-style-type: none"> Perform in an overview role to provide strategic direction. Provide adequate resources to implement and support the requirements of the EMS. Ensure overall compliance of the Project with legislation and approvals. Provide support for the development of strategies, systems and plans to address all legal requirements associated with the Project.
Department Managers	<ul style="list-style-type: none"> Assess environmental aspects and impacts of the operation during mine planning process and during the risk assessment process. Coordinate activities under their supervision in accordance with the EMS and related sub-plans, procedures, and programs. Consider past environmental performance when engaging contractors. Participate in reviews of the EMS.
General Manager Government, External Relations and Community	<ul style="list-style-type: none"> Assist with the response to incidents. Assist with the notification and reporting of incidents. Manage external government and community consultation.
Environmental Approvals Lead	<ul style="list-style-type: none"> Responsible for obtaining necessary environmental approvals. Coordinate the development, communication and maintenance of EMPs.
Environmental Superintendent	<ul style="list-style-type: none"> Manage the implementation of EMPs, approvals, licences and permits. Manage internal auditing and regulatory reporting (including the Annual Review). Manage and drive progressive rehabilitation planning, development and reporting. Support staff environmental training. Develop corrective action management plans for any non-compliance in consultation with the relevant area manager. Coordinate the implementation of management plans and environmental monitoring programs and regularly review environmental monitoring data for compliance with relevant criteria.
Department Supervisors	<ul style="list-style-type: none"> Responsible for implementation and compliance with EMPs. Provide support for Environmental Superintendent's responsibilities. Provide support and advice to the operation including department managers and general staff and contractors. Undertake regular site inspections and audits to maintain compliance with the EMPs and legislative requirements relating to the Project. Oversee activities undertaken at the Project to assist in managing environmental aspects in accordance with the Project management and legislative requirements. Implementation of corrective actions arising from environmental incidents and audit. Coordinate the activities of specialist sub-consultants and project personnel for environmental assessment/monitoring/auditing responsibilities in accordance with the Project Management Systems.
Safety and Training Department	<ul style="list-style-type: none"> Maintain the Emergency Response Team. Maintain records of training. Maintain Emergency Response Plans. Maintain chemical registers.
All Employees and Contractors	<ul style="list-style-type: none"> All general employees trained in environmental procedures and protocols as part of the induction process and regular site meetings. All general employees responsible for immediately reporting environmental incidents. All general employees responsible for undertaking works in an environmentally sound manner and in accordance with EMPs and site commitments.

APPENDIX C:
ENVIRONMENTAL MANAGEMENT PLANS REQUIRED UNDER
DEVELOPMENT CONSENT DA 374-11-00

[Available on the Clean TeQ website]
[\[https://www.cleanteq.com/sunrise-project/management-plans/\]](https://www.cleanteq.com/sunrise-project/management-plans/)



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