



Tasman Extension Project Environmental Impact Statement

SECTION I

INTRODUCTION

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1 INTRODUCTION

This document is an Environmental Impact Statement (EIS) for the Tasman Extension Project (the Project). The Project provides for the extension and continuation of operations at the existing Tasman Underground Mine.

The existing Tasman Underground Mine is located within Mining Lease (ML) 1555, approximately 20 kilometres (km) west of the Port of Newcastle in New South Wales (NSW) (Figure 1-1). The Tasman Underground Mine is owned and operated by Newcastle Coal Company Pty Ltd, a wholly owned subsidiary of Donaldson Coal Pty Limited (Donaldson Coal)¹. Donaldson Coal is a wholly owned subsidiary of Gloucester Coal Ltd (GCL).

Donaldson Coal also owns and operates the Donaldson Open Cut Mine and Abel Underground Mine, which are located approximately 10 km north-east of the Tasman Underground Mine (Figure 1-1).

1.1 PROJECT OVERVIEW

1.1.1 Purpose of this Report

This EIS has been prepared to accompany a Development Application made for the Project, in accordance with Part 4 of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act).

The Project is a “State Significant Development” to which Division 4.1 of Part 4 of the EP&A Act applies in accordance with the *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP).

This EIS considers the potential environmental impacts of the Project in accordance with clauses 6 and 7 in Schedule 2 of the NSW *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) and the Director-General's Requirements (DGRs) issued by the NSW Department of Planning and Infrastructure (DP&I) on 14 December 2011 (Attachment 1). The DGRs were issued in accordance with clause 3 of Schedule 2 of the EP&A Regulation. A summary of the DGRs is provided in Section 1.2.

¹ At all relevant times in relation to the Project, Donaldson Coal will be acting as an agent for and on behalf of Newcastle Coal Company Pty Ltd. For consistency, the remainder of this EIS and all its appendices will refer to Donaldson Coal in relation to activities and actions conducted by either party.

1.1.2 Background

The location of the existing Tasman Underground Mine is shown on Figures 1-1 and 1-2. A description of the existing Tasman Underground Mine operations is provided in Section 2.1.

The Tasman Underground Mine has been approved to produce approximately 975,000 tonnes per annum (tpa) of run-of-mine (ROM) coal from the Fassifern Seam. The Tasman Underground Mine is a bord and pillar operation, which uses continuous miners for first workings and secondary total and partial extraction.

The underground mining operations at the Tasman Underground Mine are supported by an existing pit top facility off George Booth Drive and other ancillary infrastructure.

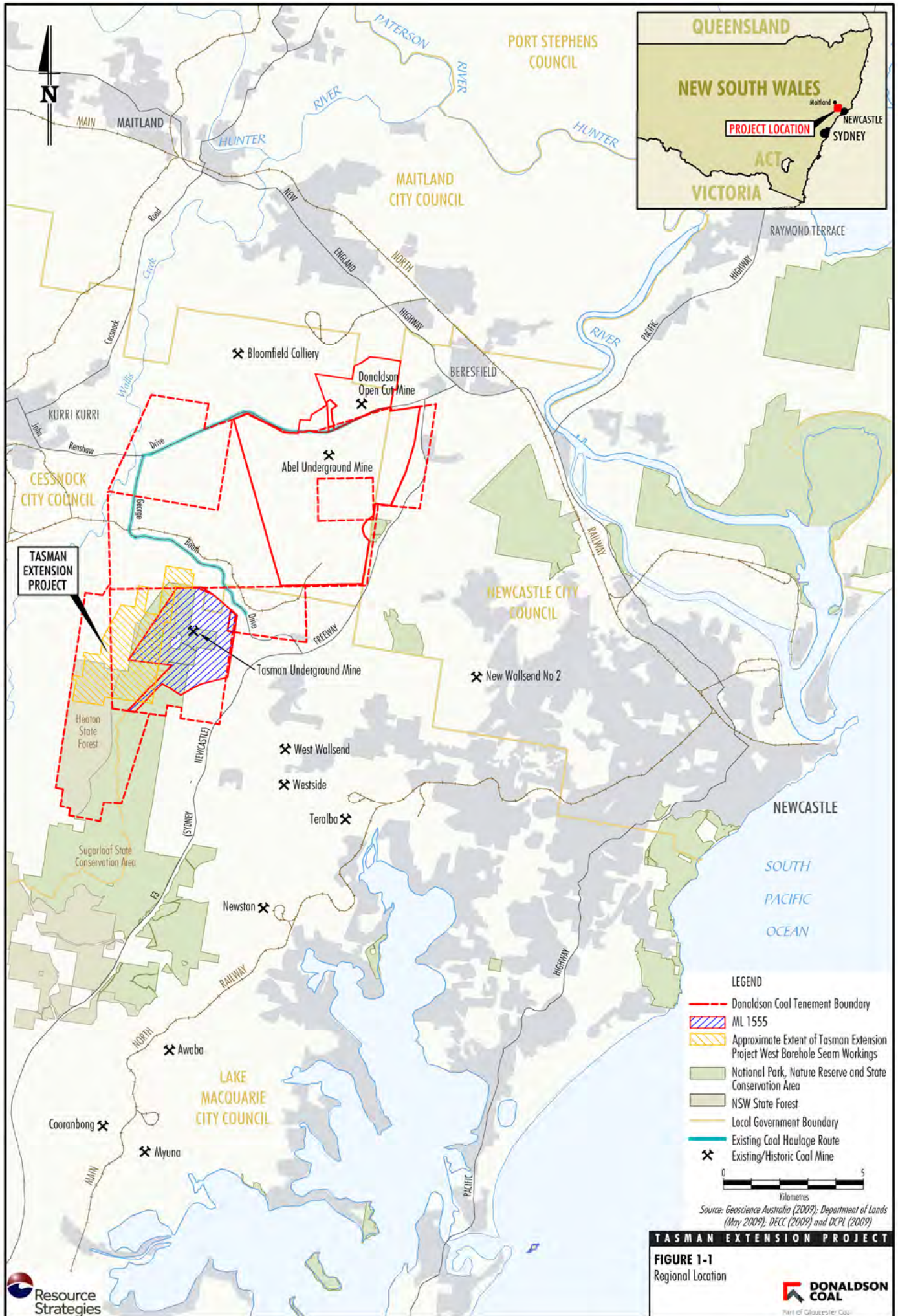
The existing Tasman Underground Mine pit top facility comprises ROM coal handling infrastructure, administration facilities, worker amenities and stores buildings, workshop compound, bunded fuel tank area, transformer, water management systems and mine infrastructure.

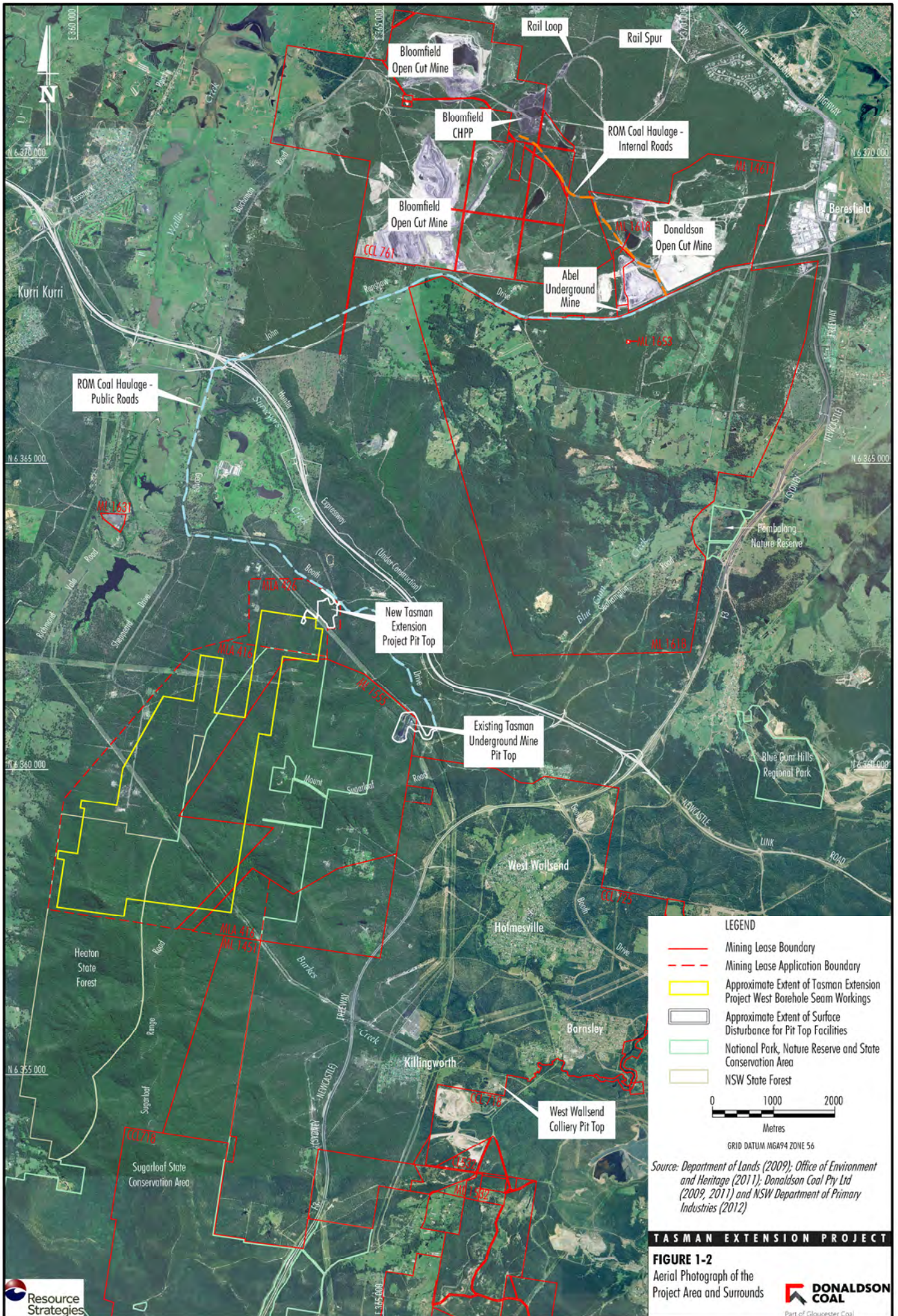
ROM coal produced at the Tasman Underground Mine is transported to the Bloomfield Coal Handling and Preparation Plant (CHPP) via approximately 16 km of public roads (i.e. George Booth Drive and John Renshaw Drive). The coal is processed at the Bloomfield CHPP prior to rail transport to the Port of Newcastle and other customers. Bloomfield Collieries Pty Limited (Bloomfield) own and operate the Bloomfield CHPP within Consolidated Coal Lease (CCL) 761. The Bloomfield CHPP is approved to operate under the Abel Underground Mine Project Approval (05_0136).

Donaldson Coal continues to operate in a co-operative manner with the Bloomfield Colliery operations. Commercial arrangements exist between Donaldson Coal and Bloomfield for the handling and processing of ROM coal at the Bloomfield CHPP and loading of trains for transport to customers.

1.1.3 Project Summary

The Project provides for the continuation and then extension of operations at the Tasman Underground Mine and would extend the current operations by approximately 15 years. Table 1-1 provides a summary comparison of the existing Tasman Underground Mine and the Project components including upgrades.





**Table 1-1
Project Summary**

Project Feature	Summary of the Existing Tasman Underground Mine	Summary of the Project
Mine Life	Scheduled cessation of mining operations at end of 2014. Existing ML 1555 is valid to 26 September 2025.	A 17 year Project providing approximately 15 years of further operational life (i.e. until approximately 2029).
Mining Method and ROM Coal Production	Bord and pillar mining with a combination of total and partial pillar extraction supplemented by augering. ROM coal production of up to approximately 975,000 tpa. Implementation of subsidence control zones (SCZs) to manage impacts on surface infrastructure, cliff lines and steep slopes.	Bord and pillar mining with a combination of total and partial pillar extraction. ROM coal production of up to approximately 1,500,000 tpa (1.5 million tonnes per annum [Mtpa]). Implementation of SCZs to manage impacts on principal residences, surface infrastructure, cliff lines, steep slopes, streams and vegetation to meet defined subsidence performance measures.
Coal Seam/s	Underground mining of the Fassifern Seam.	Continuation of mining of the Fassifern Seam. Underground mining of the West Borehole Seam.
ROM Coal	Production of approximately 10 million tonnes (Mt) over the life of the mine.	Production of approximately 18.7 Mt additional to the existing Tasman Underground Mine.
Surface Infrastructure Area and Mine Entry	Tasman Underground Mine pit top facility off George Booth Drive comprising ROM coal handling infrastructure, administration facilities, worker amenities and stores buildings, workshop compound, bunded fuel tank area, transformer and miscellaneous mine infrastructure. Decommissioning and rehabilitation of the existing Tasman Underground Mine pit top facility at the end of the mine life.	Development of new pit top facility off George Booth Drive comprising ROM coal handling infrastructure, administration facilities, worker amenities and stores buildings, workshop compound, bunded fuel tank area, transformer infrastructure, miscellaneous mine infrastructure and other associated mine infrastructure. Decommissioning and rehabilitation, or placement in care and maintenance, of the existing Tasman Underground Mine pit top facility following completion of mining in the Fassifern Seam. Decommissioning and rehabilitation of the new pit top facility at the end of the Project life.
ROM Coal Transport	Transport of ROM coal via approximately 16 km of public roads (George Booth Drive, John Renshaw Drive) to Bloomfield CHPP. Transport of up to 4,000 tonnes per day. Movement of coal by road restricted to 7.00 am to 10.00 pm Monday to Friday. No coal transport by road on weekends or public holidays.	Transport of ROM coal from the Tasman Underground Mine pit top and new pit top via George Booth Drive and John Renshaw Drive to Bloomfield CHPP. Transport of up to 4,000 tonnes per day prior to commissioning of the Hunter Expressway and up to approximately 6,200 tonnes per day following commissioning of the Hunter Expressway. Movement of coal by road restricted to 7.00 am to 10.00 pm Monday to Friday and 7.00 am to 6.00 pm Saturday (except in the case of exceptional circumstances ¹) with coal transport on no more than 26 Saturdays in a financial year. No coal transport by road on Sunday or public holidays.
Ventilation	Ventilation fan at Tasman Underground Mine pit top facility.	Installation of a new main surface fan on an upcast ventilation shaft.
Water Management	Water management system at the Tasman Underground Mine pit top comprises water management storages, runoff diversions and control, sediment control, mine dewatering and sewage treatment. Make-up water trucked from Bloomfield Colliery or Donaldson Open Cut Mine, if required. Excess water stored in sumps and dams, trucked off-site or stored in underground workings.	A similar water management system is proposed at the new pit top.

**Table 1-1 (Continued)
Project Summary**

Project Feature	Summary of the Existing Tasman Underground Mine	Summary of the Project
Hours of Mining Operation	24 hours per day, seven days per week.	No change.
Operational Workforce	Approximately 110 personnel (excluding service providers and general management).	Approximately 150 personnel (excluding service providers and general management).
Power Supply	Overhead 11 kilovolt (kV) electricity transmission line from West Wallsend.	Power supply infrastructure for the new pit top facility would be the subject of a separate assessment approvals processes. Power supply would likely comprise an overhead 33 kV electricity transmission line from Heddon Greta. Power supply for construction and initial development would be via an extension of the existing 11 kV supply to the Orica Australia Pty Limited (Orica) facilities or diesel generators.
Monitoring of Subsidence Impacts	Monitoring of subsidence and subsidence impacts over underground mining and mine development areas.	Continuation of subsidence monitoring in areas proposed for mining as part of the Project.
Remediation and Rehabilitation Works	Progressive rehabilitation of surface disturbance areas (e.g. exploration drill pads). Remediation of previously mined areas impacted by subsidence effects, where required.	Ongoing surface rehabilitation, mitigation and remediation works. Rehabilitation of mine related infrastructure areas that are no longer required.

¹ Exceptional circumstances include unexpected events such as a significant disruption to the haulage route. Hours would be extended in accordance with a contingency plan in the Road Transport Protocol with the agreement of the DP&I.

The main activities associated with the development of the Project would include:

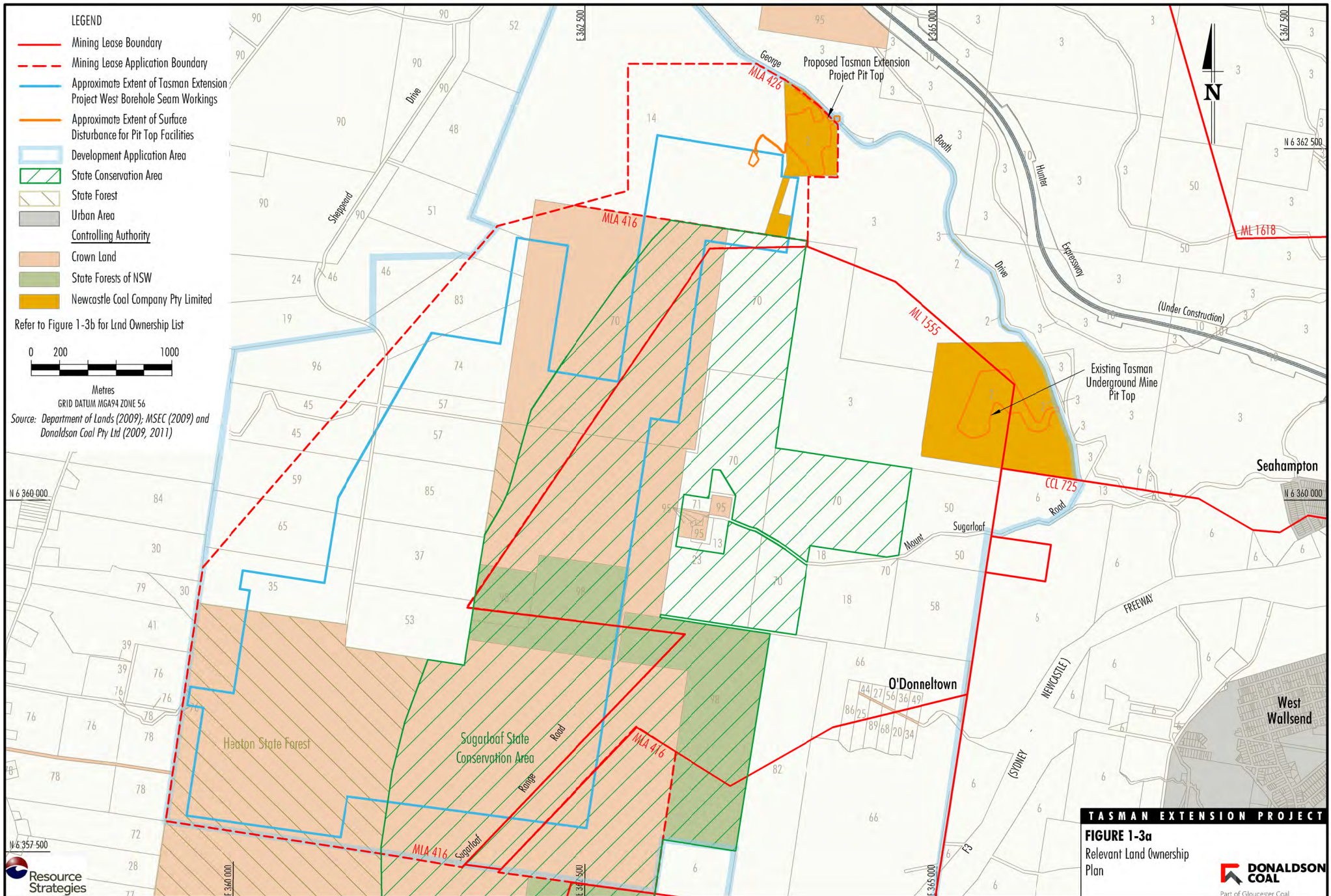
- continued underground mining of the Fassifern Seam using a combination of total and partial pillar extraction methods within ML 1555;
- underground mining of the West Borehole Seam using a combination of total and partial pillar extraction methods (Figure 1-2);
- production of ROM coal up to 1.5 Mtpa;
- development of a new pit top facility, associated ROM coal handling infrastructure and intersection with George Booth Drive (Figure 1-2);
- development of ventilation surface infrastructure;
- continued transport of Fassifern Seam ROM coal from the existing Tasman Underground Mine pit top to the Bloomfield CHPP via truck on public and private roads (Figure 1-2) to approximately 2015 (inclusive);
- transport of West Borehole Seam ROM coal from the new pit top to the Bloomfield CHPP via truck on public and private roads;
- progressive development of sumps, pumps, pipelines, water storages and other water management equipment and structures;
- ongoing exploration activities;
- ongoing surface monitoring, rehabilitation and remediation of subsidence effects; and
- other associated infrastructure, plant, equipment and activities.

Subsidence control zones (SCZs) would be implemented to manage impacts on principal residences, surface infrastructure, cliff lines, steep slopes, streams and vegetation to meet defined subsidence performance measures (Section 2.6.3).

1.1.4 Site Location and Tenure

The Project is located within ML 1555 (Figure 1-1), Exploration Licence (EL) 5337, EL 5498 and EL 5497.

Donaldson Coal has lodged a Mining Lease Application (MLA) (MLA 416) for the portions of the Project mining area to the west and south of ML 1555 with the NSW Division of Resources and Energy (DRE) (within the NSW Department of Trade and Investment, Regional Infrastructure and Services [DTIRIS]) (Figures 1-3a and 1-3b).



2	Newcastle Coal Company Pty Limited	52	Jason Patrick Kelly in 1/100 Share and Nicole Carla Kelly in 99/100 Share as Tenants in Common
3	Coal & Allied Operations Pty. Limited	53	Jo-anne Louise Parkinson
6	Hunter Development Corporation	56	Kevin Arthur Baldwin and Hilda Doris Baldwin as Joint Tenants
10	Roads and Traffic Authority of New South Wales	57	Kevin Harold Starr and Donna Margaret Starr as Joint Tenants
13	The Council of the Shire of Lake Macquarie	58	Kevin Mark Spruce and Loretta Joy Spruce as Joint Tenants
14	Orica Australia Pty Limited	59	Kevin Raymond Mitchell and Rodney Leonard Mitchell as Tenants in Common in Equal Shares
18	Anthony Raymond Sager	65	Mark Andrew Honeysett
19	Anthony Scott Green and Karen Lesley Green as Joint Tenants	66	Maztrok Pty Limited
20	Barry John Colefax and Helen Ruth Colefax as Joint Tenants	68	Michael Richard Leenders
23	Broadcast Australia Pty Ltd	70	The Minister for Lands
24	Bruce Graham Smith and Michelle Smith as Joint Tenants	71	NBN Limited
25	Carol Ann Young	72	Neville Francis Mould and Maria Coral Mould as Joint Tenants
27	Christopher William Carr and Pamela Margaret Carr as Joint Tenants	73	Niel Eric Lawson Horning Allen and Kerry Hamilton Allen as Joint Tenants
28	Colin Claude Eacott and Margaret Ann Eacott as Joint Tenants	74	Patricia June Crowhurst
30	Colin Richard Andrews and Betty Andrews as Joint Tenants	76	Paul Leslie William Foster and Janette Anne Foster as Joint Tenants
32	Craig Robert Bloomfield	77	Perpetual Trustee Company Limited and Gail Sara Smith as Joint Tenants
34	Darren Patrick Treacy	78	Peter Darrel James Foster
35	David Hoey and Julie Anne Hoey as Joint Tenants	79	Peter Glenn Fraser and Janene Anne Fraser as Joint Tenants
36	Garry Baldwin and Coral Baldwin as Joint Tenants	82	Peter Stephen Evans and Susan Patricia Evans as Joint Tenants
37	Garry William Cameron and Kathleen Mary Cameron as Joint Tenants	83	Peter Warren Dryden and Donna Louise Dryden as Joint Tenants
39	Glenn Wesley Andrews	84	Phillip Clarence Pemberton and Lynette Myrtle Pemberton as Joint Tenants
41	Graham Paul Laing	85	Richmond Vale Futures Pty Limited
44	Gregory John McCarthy and Simone Christine McCarthy as Joint Tenants	86	Robert William Prudius and Marites Prudius as Joint Tenants
45	Gregrey Kenneth Hooler	89	Shane Robert Gorman and Robyn Denise Gorman as Joint Tenants
46	H.I. Eco Trades Pty Ltd	90	Stephen John Wile
48	Hermien Spruce and Jason William Rhind as Tenants in Common in Equal Shares	95	The State of New South Wales
49	Istvan Fityus	96	Transgrid
50	J. & A. Brown & Abermain Seaham Collieries Limited	98	Administered by National Parks and Wildlife
51	Jason Mitchell Spruce		

Source: Department of Lands (2011) and Donaldson Coal Pty Ltd (2009)

TASMAN EXTENSION PROJECT

FIGURE 1-3b
Relevant Land Ownership List



Donaldson Coal has lodged a MLA for the pit top, ventilation infrastructure and northern portion of the Project mining area (MLA 426) with DRE (Figure 1-3a). Donaldson Coal will also continue to apply for and renew the exploration tenements with the DRE as required.

The Development Application area includes those lands listed in the real property descriptions provided in support of the Development Application submitted to the DP&I (Attachment 2). Relevant land ownership information for parcels of land within the immediate vicinity of the Project is provided on Figures 1-3a and 1-3b.

The Development Application area is within the Cessnock and Lake Macquarie Local Government Areas (LGAs) (Figure 1-1). A description of the land zoning in the Development Application area is provided in Section 6.2 and Attachment 3.

1.1.5 Proponent

Newcastle Coal Company Pty Ltd (ABN 40 074 900 208), a wholly owned subsidiary of Donaldson Coal (ABN 87 073 088 945), is the proponent for the Project². The contact details for Donaldson Coal are:

Donaldson Coal Pty Limited
Level 7, 167 Macquarie Street
Sydney NSW 2000 Australia
Phone: (02) 9220 9900

Further information on the proponent and its coal mining operations can be found at:

<http://www.gloucestercoal.com.au/>

1.2 DIRECTOR-GENERAL'S REQUIREMENTS

The DGRs for the Project were issued by the Director-General of the DP&I on 14 December 2011 (Attachment 1).

A summary of the DGRs is provided in Tables 1-2 and 1-3. Tables 1-2 and 1-3 also provide the relevant section of this EIS where the DGRs are addressed.

1.3 PROJECT CONSULTANTS

This EIS was prepared by Resource Strategies Pty Ltd with specialist input provided by the following organisations:

- Donaldson Coal project team (*project design, alternatives and justification, preliminary hazard analysis, environmental risk assessment, background data, resource economics, consultation, rehabilitation, remediation and Statement of Commitments*);
- Minter Ellison (*legal review*);
- Ditton Geotechnical Services (DgS) (*subsidence assessment*);
- RPS Aquaterra (*groundwater assessment*);
- Heritage Computing (*technical groundwater advice*);
- Evans & Peck Pty Ltd (*surface water assessment*);
- Fluvial Systems Pty Ltd (*geomorphology assessment*);
- FRC Environmental (*aquatic ecology assessment*);
- Hunter Eco (*terrestrial flora assessment*);
- Biosphere Environmental Services Pty Ltd (*terrestrial fauna assessment*);
- Halcrow Pacific Pty Ltd (*road transport assessment*);
- SLR Consulting Pty Ltd (*noise and blasting impact assessment*);
- PAEHolmes (*air quality and greenhouse gas assessment*);
- South East Archaeology Pty Limited (*Aboriginal cultural heritage assessment*);
- Maximum Archaeology and Heritage (*non-Aboriginal heritage assessment*);
- Gillespie Economics (*socio-economic assessment*);
- Safe Production Solutions (SP Solutions) (*environmental risk assessment*);
- Ardill Payne and Partners (*pit top design and land contamination assessment*); and
- GHD (*pit top roundabout design and private driveway/George Booth Drive review*).

² At all relevant times in relation to the Project, Donaldson Coal will be acting as an agent for and on behalf of Newcastle Coal Company Pty Ltd. For consistency, the remainder of this EIS and all its appendices will refer to Donaldson Coal in relation to activities and actions conducted by either party.

**Table 1-2
Director-General's Requirements – Reference Summary***

Summary of Director-General's Requirements	EIS Reference
General Requirements	
The EIS must include:	
• Form requirements in Clause 6 of Schedule 2 of the EP&A Regulation.	Front of EIS and Attachment 2
• Content requirements in Clause 7 of Schedule 2 of the EP&A Regulation.	Refer to Table 1-3
• Description of the Project, including staging of the Project.	Section 2
• Project justification.	Section 6.7 and Appendices A and M
• Interaction of the Project with existing, approved and proposed mining operations.	Sections 2 and 4 and Attachment 4
• Plans of proposed building works.	Section 2
• Consideration of relevant environmental planning instruments.	Section 6.5 and Attachment 3
• Risk assessment of the potential environmental impacts of the Project.	Section 4.1 and Appendix O
• Description of the existing environment.	Section 4
• Assessment of the potential environmental impacts of all stages of the Project, including cumulative impacts.	Section 4
• Description of the measures to avoid, minimise and/or offset the potential impacts of the Project including contingency plans.	Sections 4, 5, 6 and 7
• Consolidated summary of all proposed environmental management and monitoring measures.	Section 7
Key Issues	
• Subsidence.	Section 4.2 and Appendix A
• Land Resources.	Section 4.3 and Appendix A
• Water Resources.	Sections 4.4 to 4.6 and 6, Appendices B, C and D and Attachment 6
• Biodiversity.	Sections 4.7 to 4.9 and Appendices E, F and G
• Heritage.	Sections 4.10 and 4.11 and Appendices K and L
• Air Quality.	Section 4.14 and Appendix J
• Greenhouse Gases.	Section 4.15 and Appendix J
• Noise.	Section 4.13 and Appendix I
• Traffic and Transport.	Section 4.12, Appendices H and M and Attachment 8
• Visual.	Section 4.19 and Appendix A
• Waste.	Section 2.11
• Hazards.	Section 4.18 and Appendix N
• Social and Economic.	Sections 4.16 and 4.17 and Appendix M
• Rehabilitation.	Section 5
Plans and Documents	
• Relevant plans, architectural drawings and diagrams.	Section 2
Consultation Requirements	
• Describe consultation with relevant local, State or Commonwealth Government authorities, service providers, community groups or affected landowners.	Section 3 and Attachment 5
• Describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues.	Section 3

* The complete version of the DGRs is presented in Attachment 1.

Table 1-3
Content Requirements of an EIS – Clause 7 of Schedule 2 of the EP&A Regulation

Summary of Clause 7 of the EP&A Regulation	EIS Reference
The EIS must include:	
• Summary of the EIS.	Executive Summary
• Objectives of the Project.	Sections 1.1 and 6
• Analysis of any feasible alternatives to the Project, including the consequences of not carrying out the Project.	Section 6.7.2
• Description of the Project.	Section 2
• Description of the environment likely to be affected by the Project.	Section 4
• The likely impact on the environment of the Project.	Section 4
• Description of the measures proposed to mitigate any adverse effects of the Project on the environment.	Section 4
• A list of any approvals that must be obtained under any other Act or law before the Project may lawfully be carried out.	Sections 6.2 and 6.3
• Compilation (in a single section of the environmental impact statement) of the measures proposed to mitigate any adverse effects of the Project on the environment.	Section 7
• Justification of the Project, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development (ESD).	Section 6.7

In addition to the above, peer review of the surface water assessment was undertaken by Emeritus Professor Tom McMahon (Attachment 7).

1.4 DOCUMENT STRUCTURE

This EIS comprises a main text component and supporting studies, which include Appendices A through Q. An overview of the main text sections is presented below:

Section 1 Provides an introduction to the Project and this EIS.

Section 2 Describes the various components and stages of the Project.

Section 3 Describes the consultation undertaken in relation to ongoing community consultation, the Project and the preparation of this EIS.

Section 4 Details the environmental assessment for the Project including: a description of the existing environment; an assessment of potential impacts; and a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the potential impacts of the Project.

Section 5 Describes the rehabilitation and remediation measures for the Project.

Section 6 Outlines the statutory provisions relevant to the Project, describes the alternatives considered and provides a Project justification.

Section 7 Provides a summary of the proposed environmental mitigation, management, monitoring and reporting, and specific environmental commitments in relation to the Project.

Section 8 Lists the documents referred to in Sections 1 to 7 of this EIS.

Section 9 Defines abbreviations, acronyms and terms used in Sections 1 to 7 of this EIS.

Attachments to the main text are also provided as follows:

Attachment 1 Director-General's Requirements.

Attachment 2 Development Application Area and Real Property Descriptions.

Attachment 3 Relevant Environmental Planning Instruments.

Attachment 4 Potential Interactions between the Project and Other Major Projects.

Attachment 5 Community Information.

Attachment 6 Water Licensing Requirements.

Attachment 7 Peer Review Letters.

Attachment 8 Additional Road Transport Assessment Information.

Appendices A to Q contain supporting information, including a number of specialist reports:

- Appendix A Subsidence Assessment.
- Appendix B Groundwater Assessment.
- Appendix C Surface Water Assessment.
- Appendix D Geomorphology Assessment.
- Appendix E Aquatic Ecology Assessment.
- Appendix F Flora Assessment.
- Appendix G Terrestrial Fauna Assessment.
- Appendix H Road Transport Assessment.
- Appendix I Noise and Vibration Impact Assessment.
- Appendix J Air Quality and Greenhouse Gas Assessment.
- Appendix K Aboriginal Cultural Heritage Assessment.
- Appendix L Non-Aboriginal Heritage Assessment.
- Appendix M Socio-Economic Assessment.
- Appendix N Preliminary Hazard Analysis.
- Appendix O Environmental Risk Assessment.
- Appendix P Land Contamination Assessment.
- Appendix Q Private Driveway/George Booth Drive Review.