

PLANNING REPORT – SECTION 4.56 APPLICATION TO MODIFY DA183/93 – REDBANK POWER STATION

Land and Environment Court Proceedings 2021/00128111



Prepared for VERDANT TECHNOLOGIES AUSTRALIA 25 October 2021

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Clare Brown
Project Code	P0035055
Report Number	Final

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

All information supplied to Urbis in order to conduct this research has been treated in the strictest confidence. It shall only be used in this context and shall not be made available to third parties without client authorisation. Confidential information has been stored securely and data provided by respondents, as well as their identity, has been treated in the strictest confidence and all assurance given to respondents have been and shall be fulfilled.

© Urbis Pty Ltd 50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

urbis.com.au

CONTENTS

1.	Introduction	1
	1.1. Overview	1
	1.2. Expert Witness Code of Cond	luct1
	1.3. LETTER OF INSTRUCTION	
	1.4. Information Relied On In Prep	paring this Report1
2.	The Site and Locality	
	2.1. The Site	
	2.2. Surrounding context	
3.	The Proposal	
	3.1. The 1993 Amended EIS	5
	3.2. The Original Consent	11
	3.3. 1997 Modification of the Origi	nal Consent
	3.4. Redbank Power Station as co	nstructed
	3.5. The Proposed Modifications.	15
	3.5.1. Modifications to the	Operations and Plant
	3.5.2. Modifications to the	Consent Conditions
	3.5.3. Substantially the Sa	me Development20
4.	Questions to be addressed	
	4.1. Question 1	
	4.2. Question 2	
5.	Conclusion	

Appendix A	CV – Clare Brown
Appendix B	Letter of Instruction
Appendix C	Site Survey
Appendix D	Proposed works - Site Plan (Figure 1 of B&PPS)

FIGURES

Figure 1 - The Site	3
Figure 2 - Regional Context	1
Figure 3 - Process Flow Schematic	3
Figure 4 - Site Arrangement	7
Figure 5 - Plant Layout	3
Figure 6 - View from the South	9
Figure 7 - Site Perspective)
Figure 8 – Power Station viewed from the south	5
Figure 9 - Proposed biomass receival, handling and storage	3
Figure 10 - Vehicle Circulation	3

TABLES

Table 1 - I	Modifications to the Dev	/elopment			2	1
-------------	--------------------------	-----------	--	--	---	---

1. INTRODUCTION

1.1. OVERVIEW

1.1.1 An application under section 4.56 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) was submitted to Singleton Council (**the Council**) seeking the modification of the development consent granted to DA183/93 (**the Original Consent**). The applicant, Hunter Development Brokerage Pty Ltd (**the Applicant**) filed an appeal to the Land and Environment Court of NSW against the deemed refusal of the modification application, Land and Environment Court Proceedings 2021/00128111 (**the proceedings**). The modification application sought to modify the terms of the consent for the construction and operation of the Redbank Power Station.

1.1.2 This report is an update to the Planning Report dated 10 August 2021 and provides a summary of the modification application, describes the proposed works on site for which approval is sought and responds to the matters raised in the letter of instruction issued by Fishburn Watson O'Brien Lawyers dated 25 October 2021.

1.2. EXPERT WITNESS CODE OF CONDUCT

1.2.1 I have read, understood and agree to be bound by the Expert Witness Code of Conduct in the Uniform Civil Procedure 2005 Rules (**Code of Conduct**).

1.2.2 I have prepared this report in accordance with my obligations as an expert witness under the Code of Conduct. I have made all inquiries which I believe are appropriate (save for matters identified in my report). There are no matters of significance which I regard as relevant that have been withheld from the Court.

1.2.3 A copy of my curriculum vitae detailing my qualifications and experience is **Appendix A** to this Planning Report.

1.3. LETTER OF INSTRUCTION

1.3.1 The letter of instruction issued by Fishburn Watson O'Brien Lawyers dated 25 October 2021 (**Appendix B**) identifies the material provided to me to prepare this Planning Report and requests that this report addresses two matters:

- a) Compare the qualitative and quantitative components of the development, as currently approved, in comparison to the development as proposed to be modified. The comparison should involve an appreciation of the developments being compared in their proper contexts (including the circumstances in which the development consent was granted): Moto Projects No 2 Pty Limited v North Sydney Council [1999] LGERA 298 [55-[56].
- b) What modifications are required to the development consent to allow the use of waste biomass as an alternative fuel source as proposed?

1.3.2 Each of these questions will be answered in turn in this Planning Report following a description of the site, the Original Consent, the Power Station operations and the proposed modifications sought to the development and the development consent.

1.4. INFORMATION RELIED ON IN PREPARING THIS REPORT

1.4.1 This amended Planning Report has considered where relevant following documents:

- a) Redbank Power Station Description of Proposed Modifications for Conversion for Fire Biomass fuels prepared by B&PPS dated 20 October 2021 including plans therein
- b) Noise Impact Assessment by Acoustic Logic dated 21 October 2021
- c) Water Cycle Impact Assessment of Changing Biomass Fuel at Redbank Power Station by Sustainability Workshop Ltd dated 21 October 2021
- d) Air Quality Impact Assessment by EMM dated August 2021 and Supplementary Air Quality Report dated 20 October 2021
- e) Transport Assessment by Ason Group dated 20 October 2021
- f) Operational Traffic Management Plan by Ason Group dated 20 October 2021
- g) Traffic Statement by TTPP Transport Planning dated 20 October 2021

- h) Dust Management Plan Redbank Power Station by Jackson Environmental Planning Pty Ltd dated October 2021
- i) Waste Minimisation and Management Report by Jackson Environmental Planning Pty Ltd dated 15 October 2021
- j) Redbank QA/QC Supply Chain and Material Handling Report dated 30 July 2021 as amended by Redbank QA/QC Supply Chain and Material Handling Addendum Report dated 15 October 2021 by Jackson Environmental Planning Pty Ltd
- k) Ecological Sustainable Development (ESD) Assessment by Annette Cowie dated 21 October 2021
- I) Redbank Power Station Proposed Modifications for Conversion to Biomass Fuel Preliminary Hazard Analysis (PHA) by Arriscar Pty Limited dated 21 October 2021
- m) Lighting Assessment by Tigerlight dated 21 October 2021
- n) Relevant legislation and guidelines

2. THE SITE AND LOCALITY 2.1. THE SITE

2.1.1 The Redbank Power Station is located at 112 Long Point Road West Warkworth (**the site**). The legal property description of the site is Lot 450 in DP1119428. The site is located in the Singleton local government area (**LGA**).

2.1.2 The location of the site is shown in **Figure 1** below and its regional context in **Figure 2**. A survey of the site is included in **Appendix B**.

Figure 1 - The Site



Source: Google Maps

2.1.3 The site has an area of 18.03 hectares and is zoned RU1 Primary Production under Singleton local environmental plan 2013 (**the LEP**). The site is located to the north of the Golden Highway/Jerry's Plains Road and vehicle access into the site is from Long Point Road.

2.2. SURROUNDING CONTEXT

2.2.1 The site is located within the Hunter Valley to the west of Singleton township and surrounding suburbs. To the north, northwest and south are a number of open cut and underground coal mines.

2.2.2 The broader locality also supports a range of agricultural activities, industrial service facilities including those at Mt Thorley to the south of the site and the Singleton Army base to the south-east of the site.

Figure 2 - Regional Context



Source: Google Maps

3. THE PROPOSAL 3.1. THE 1993 AMENDED EIS

3.1.1 National Power Company and ESI Energy INC prepared an *Amended Environmental Impact Statement for the Redbank Power Project* dated November 1993. It was submitted with development application No. 183/93.

3.1.2 The amended environmental impact statement (**EIS**) was following an earlier EIS being submitted to Singleton Shire Council (the Council) in 1992 for a Power Project to be located near the Wambo Colliery. The amended EIS was prepared ...to assess any additional potential impacts associated with locating the Redbank Project adjacent to the Warkworth Mine at a site approximately 5 kilometres (km) east of the site proposed in the original EIS. (page1-1)

3.1.3 The amended EIS (page 1-1) identifies three project objectives as being:

- a) Efficient use of natural resources coal tailing, which has a useable energy content, is currently discarded. The Project would use this energy to produce approximately 120 megawatts (**MW**) of electricity, the net output of which (currently estimated at about 100 MW) would be sold to Shortland Electricity.
- b) Introduction of an alternative, environmentally responsible method of tailing disposal the tailings were to be sourced from nearby Warkworth and Lemington coal mines so reducing the volume of tailings sent to or stored in dams at the coal mines. The Redbank Power Project included the application of fluidised bed combustion which would produce a dry (stable) ash for use in land reclamation.
- c) Designed and operated in a manner that minimises environmental impacts

3.1.4 The proposed operator of the Redbank Power Project, National Power, had expertise in the operation of solid fuel power plants that ... with the application of state-of-the-art technology, can burn price disadvantaged fuels such as low quality and waste coals, petroleum coke, and locally produced biomass wastes while meeting or bettering applicable air emission standards. (page 1-2)

3.1.5 The consultation process undertaken and proposed prior to and following the preparation of the amended EIS is set out on pages 1-4 and 1-5.

3.1.6 The amended EIS sets out in section 2 the Project Description of the Redbank Power Project which include the following key elements:

- a) Fluidised Bed Combustion
- b) The Fuel Resource
- c) Project Sizing
- d) Project Siting
- e) Basic Design
- f) Major Equipment
- g) Water Requirements
- h) Transmission Facilities and Routing
- i) Tailing Transfer by Slurry Pipeline
- j) Plant Layout and Staffing
- k) Project Schedule

3.1.7 Section 2.5 Basic Design of the amended EIS discusses the basic plant layout makes the following statements at pages 2-9 and 2-10:

The description of the major features of the Redbank Project provided below are based on conceptual level engineering completed to date. As engineering efforts proceed, changes or adjustments may be made in plant layout and arrangement, equipment and processes.

Fuel for plant would consist, primarily of coal washery tailing supplied directly from the coal preparation plants, supplemented as necessary from existing tailing dams and supplemental fuel stockpile. Fuel would be transferred by slurry pipeline from the Warkworth and Lemington washeries (and, as needed, from the Warkworth and Lemington tailing dams) to9 the Project site via slurry pipeline.

The boiler station would consist of two atmospheric-pressure fluidised bed type boilers of the "FiCirc™" design...

The Project would generate power at 11kV. Connection to the 132kV grid would be via a step-up transformer and circuit breakers...

Turbine exhaust steam would be condensed via the plant cooling system.

The planned life of the plant is expected to be 25-30 years. However, with proper maintenance it is hoped the Project would exceed this figure, thereby providing a superior means of tailing disposal for the host mining facilities for as long and may be necessary. At the end of the plant life, the appropriate use of the site would be discussed with Singleton Council and other interested parties.

3.1.8 Section 2.6 of the amended EIS sets out the Major Equipment to be installed in the Project and this is described in pages 2-10 to 2-11. The major equipment includes:

- a) Fuel Supply and Material Handling this included the on-site storage of supplemental fuels
- b) Combustor and Steam Generator
- c) Turboalternator, Condenser and Feedwater Heating
- d) Cooling System
- e) Ash Handling
- f) Water Treatment
- g) Electrical System
- h) Automation and Control

3.1.9 Figure 2.5-1 Process Flow Schematic of the amended EIS shows the general operational context of the Redbank Power Project and the key elements and equipment. This is extracted as **Figure 3** below. Figures 2.10-1. 2.10-2, 2.10-3 and 2.10-4 (extracted as **Figures 4, 5, 6, and 7** respectively below) are the general site arrangement and plant layouts and three dimensional view of the Project at that time.

3.1.10 It should be noted that **Figures 4, 5, 6 and 7** below are extracted from the amended EIS as they appear. These are the conceptual plans on which the EIS is based which do not have a scale or dimensions or key to the elements shown as would be expected on detailed layout plans today.

3.1.11 As noted on page 2-38 (emphasis added)

The **preliminary plant layout** shown has been developed following consideration of visual amenity and noise as well as daily operations. In addition to areas for the plant itself, space is required for laydown, construction and maintenance. The level of plant staffing during operation is currently estimated at 45-55 employees. This includes operators and technicians as well as management, administration, and other support functions. The plant would be staffed 24 hours a day, 7 days a week, with the day shift being the largest to accommodate routine maintenance.

Figure 3 - Process Flow Schematic



Figure 4 - Site Arrangement



Figure 5 - Plant Layout



Figure 6 - View from the South







3.2. THE ORIGINAL CONSENT

3.2.1 On 10 November 1994 the Land and Environment Court issued Orders in Proceedings 10217 of 1994 (*Greenpeace Australia Limited v Redbank Power Company Pty Limited and ANOR*) dismissing the proceedings bought by the applicant and granting development consent (**the Original Consent**) subject to the imposition of 47 conditions

3.2.2 Order 2 stated that:

Development consent is granted to the construction and operation of a 120 megawatt power plant on land being part lots 1-3 DP 247820 and lots 4-5 DP 247820 at Long Point Road and Jerrys Plains Road, Warkworth, and to the construction of an ancillary slurry pipeline over adjacent land as specified in the development application No 183/93, , and subject to the conditions annexed hereto and marked "A".

3.2.3 The development application was lodged with the Council with an amended EIS on 8 November 1993. As noted in the Court judgement of CJ Pearlman found at 86LGERA143 in the development application the development is described as ...generating works involving the construction of a120 MWe nominal rated fluidised-bed combustion power plant, and is said to involve the construction of a "power station and ancillary [sic] facilities including overland pipes carrying slurry and water."

3.2.4 Annexure A referenced in the judgement included 47 conditions. Condition 1 is extracted as follows:

1. Scope of Development

The development being carried out generally in accordance with the Amended Environmental Impact Statement prepared by the National Power Company and ESI Energy Inc dated November 1993 and the additional clarification contained in the responses to comments prepared by the National Power Company and ESI Energy Inc dated 21 February 1994.

3.2.5 In addition to defining the scope of the approved development the conditions set out requirements for a range of matters including the need to obtain approvals from authorities such as Mine Subsidence Board and the NSW EPA, requirements for intersection upgrades and traffic management, water management and other miscellaneous matters.

3.2.6 The terms of the conditions support the development scope as set out in the amended EIS and provide the framework in which the final design of the Redbank Power Station Project is to be undertaken with nominated elements to be subject of further approval by the nominated agency.

3.2.7 Condition 18 relates to project siting and provides as follows:

18. *Project Siting* The plant is to be sited on Site 2, the centre site, as recommended in the EIS.

3.2.8 The amended EIS identified at Figure 2.4-1 three project siting options for the power plant proposal, Option 2 was the subject site. While the EIS [page 2-9] found that none of the three sites "...presents unacceptable difficulties or impacts, of the three, Site 2, the centre site, was found to result in the fewest impacts to the surrounding area, when measured against the site criteria." The site criteria is set out in the amended EIS.

3.2.9 Some operational matters were to be subject of future requirements of agencies as can be found in conditions 25 and 27 as follows:

25. Stack Height

The height of the stack is to be in accordance with the requirements of the Environment Protection Authority.

27. Provision for monitoring of ambient ground level concentrations of pollutants The applicant is to establish and maintain ambient pollution monitoring stations, the number and location of such stations to be determined by the Environment Protection Authority.

3.2.10 The conceptual scope of the power plant project is set out in the approved EIS as clarified in the comments provided by the National Power Company and ESI Energy Inc dated 21 February 1994.

3.3. 1997 MODIFICATION OF THE ORIGINAL CONSENT

3.3.1 The Original Consent was subject to a modification application and subsequent Land and Environment Court Proceedings with orders being issued on 27 March 1997 modifying the Original Consent.

3.3.2 The modifications to the Original Consent related to the description of the development, condition 1, 16, 17, 18, 40 and 44 as extracted below.

3.3.3 The modifications are represented by strikethrough text for deletions and <u>underlined text</u> for insertions.

2. Development consent is granted the to construction and operation of a 120-megawatt power plant on land being part of lots 1-3 DP 247820 and lots 4-5 DP 247820 at Long Point Road and Jerrys Plains Road, Warkworth, and to the construction of an ancillary slurry pipeline and operation of ancillary tailing collection. preparation and transportation facilities and ancillary water and ash transportation facilities including adjacent land on land within consolidated coal lease 753 as specified in development application No. 183/93 as modified in the information contained in the prepared statements of Roy Alper and Thor Hibbler of February 1997, and subject to the conditions annexed hereto and marked "A".

1. Scope of Development

The development being carried out generally in accordance with the Amended Environmental Impact Statement prepared by the National Power Company and ESI Energy Inc. dated November 1993 and the additional clarification contained in the responses to comments prepared by the National Power Company and ESI Energy Inc. dated 21 February 1994 and the information regarding improvements to the development contained in the prepared statements of Roy Alper and Thor Hibbler of February 1997.

16. Fuel Source

At least the majority of the fuel burn at the power plant in any one year after commercial operation, on a dry tonnes basis, is to be <u>derived from coal washery</u> coal washery tailings obtained either directly from the Warkworth mine <u>washery</u>-washeries and /or Lemington mine washeries or indirectly from tailings storage dams on the Warkworth and/or Lemington mine leases. Coal washery tailings are not to be obtained from mines other than the Warkworth and Lemington Mines <u>Mine</u> without the further approval of Council.

17. Deleted - Start-Up Supplementary Fuel

Start-up-and supplementary-fuel, other than diesel, is to be obtained only from the Warkworth Mine_or other sources. Alternative sources may be utilised in energicality situations with the approval of the Director Environmental Services.

18. Project Siting

The Plant is to be sited on Site 2, the centre site, as recommended in the EIS and ancillary tailing, ash and water facilities are to be sited on adjacent lands including land within consolidated coal lease 753 generally in accordance with the layout indicated in the site map referred to in the Prepared Statement of Roy Alper of February 1997.

40. Deleted-Slurry-Pipeline-

The slurry pipeline that crosses the Wollombi Brook is to be constructed such that the pipe is located beneath the maximum anticipated scour depth and shall have shutoff (isolation) valves installed at each end of the crossing, which valves shall be under the sole control of Redbank and normally locked open.

Identification markers shall be placed at road and creek crossing points to identify the existence of the pipeline.

44. Sealing of Evaporation Pond

In If an evaporation pond is to be used to evaporate concentrated brine, the pond is to be isolated from groundwater to prevent contamination.

3.3.4 The effect of the 1997 modifications to the development and the Original Consent are to clarify the nature of the fuel source for the power station, remove the limitation on the source of supplemental fuel, enlarge the area available for ancillary activities, delete reference to the slurry pipeline proximate to Wollombi Brook as this was not to be constructed and to correct a grammatical error.

3.3.5 The development as modified was determined to be substantially the same as the development granted consent.

3.3.6 It is the development as modified that was constructed, commissioned and operated.

3.4. REDBANK POWER STATION AS CONSTRUCTED

3.4.1 The Power Station was constructed during 2000 and 2001, with the Power Station commencing operation in October 2001. The Power Station was in continual service until October 2014.

3.4.2 The constructed layout of the Power Station is shown in Appendix C and Figure 8 below.

3.4.3 The major features of the Power Station as constructed and operated include:

- a) Fines Circulating fluidised bed combustion technology (FiCirc®1) which was developed to operate with a wide range of fuel such as coal tailings, biomass and other such fuels. The plant is currently configured to handle beneficiated dewatered tailings (BDT) as its main fuel and run of mine (ROM) coal an alternative back up fuel.
- b) A nominal rating at Maximum Continuous Rating (MCR) of 146 megawatts (MWe) (gross) with an overload capacity of 151 MWe gross.
- c) Operated 24 hours a day, seven days per week. There were typically two shifts over this period, starting at 6 am and 6 pm.

3.4.4 The Power Station has been in care and maintenance mode since October 2014 and Verdant Energy is planning to restart the plant in 2021/2022 drawing on either biomass or BDT and RoM coal.

3.4.5 The FiCirc® fluidised bed combustion system installed in the Power Station could be considered the best available technology for a power station as it provides flexibility to operate on a variety of fuel types including BDT and biomass.

Figure 8 – Power Station viewed from the south



Source: BPPS 2021

3.4.6 When operational (between 2001 and 2014) the predominant fuel used was BDT which was delivered to the site primarily via conveyor direct from the Warkworth Mine and RoM coal which was used as a backup fuel. The conveyor which transported the fuel is still in-situ and available for the transport of coal based fuel as may be required. The circled area on **Figure 8** above indicates the area around the culvert which carries the original overland conveyor from the Warkworth Mine.

3.5. THE PROPOSED MODIFICATIONS

3.5.1. Modifications to the Operations and Plant

OVERVIEW

3.5.1.1 The primary modification proposed to the consent is the introduction of biomass as a supplementary fuel source for the operation of the Power Station on site. However, there are also modifications to plant and equipment to facilitate the delivery of biomass fuel to the site.

3.5.1.2 A high-level summary of the material elements of the consent, the proposed modifications and the nature of any change to the elements of the operation as a result of using biomass as an alternate waste stream is presented below. As can be seen, the only change to the material elements of the proposal is the change to fuel feed stock (nature, volumes received, and waste generated) with some minor operational elements to deliver the feed stock to the site and its delivery from onsite storage to the furnaces.

3.5.1.3 In order to facilitate the delivery of biomass fuel by road and its delivery into the Power Station operational system it will be necessary to undertake minor modifications to plant on site.

3.5.1.4 The modification application is seeking approval for works to enable the Power Station to utilise biomass as a supplementary fuel source. The modifications to the development and the Original Consent relate solely to changes to the fuel type and associated handling systems.

3.5.1.5 The works to be undertaken are shown in the plans included in the B&PPS Report are identified as follows:

- a) Installation of supplementary fuel receival, storage and reclaim equipment
- b) Installation of supplementary fuel transport equipment
- c) New internal roadways including the placement of two above ground weighbridges

3.5.1.6 The location of these works are shown in Figures 1, 11, 21, and the drawing titled 00 Plant Systems 128MW Power Plant – Power Plant Arrangement within the B&PPS Report.

BIOMASS DELIVERY

3.5.1.7 Biomass will be delivered to the site via B-double trucks between 6am and 6pm six days per week (Monday to Saturday) and deposited in the existing coal tailings fuel storage areas on the southern side of the Power Station.

3.5.1.8 Trucks transporting the biomass will enter the site via the western gate and empty trucks in the location as shown below leaving the site via the eastern gate on Long Point Road. Weighbridges will be installed on the entry and exit lanes to the site to enable measurement of the mass of biomass fuels being delivered.

3.5.1.9 Figure 4.2 of the Dust Management Plan extracted as **Figure 9** below shows the location of the biomass delivery, management and storage areas.

Figure 9 - Proposed biomass receival, handling and storage



Figure 4.2. Proposed waste woody biomass receival, fuel handling system and storage area (Source: HDB 15 October 2021).

3.5.1.10 The biomass fuel delivery and management system will incorporate a mobile conveyor system and two new conveyors that supply two radial telescopic conveyors to unload the woody biomass to the existing fuel storage area.

3.5.1.11 Both existing conveyors (CV34 and CV35) would be run in parallel to feed biomass from the existing storage area to the six silos that feed the two boilers.

3.5.1.12 These refinements will not alter the central operation of the fluidised bed combustion technology on which the Power Station relies, only the ancillary equipment and machinery.

3.5.1.13 The changes are summarised as follows:

a) Extension of Conveyor CV 76 from the existing crusher house to feed existing conveyor CV34;

- b) Modify conveyors CV34 to feed unit 1 only and CV 35 to feed unit 2 to provide better availability and silo filling efficiency;
- c) Replace chutes with reversing conveyors in boiler silo area;
- d) Modification to the boiler storage silos by removing the bottom section and trouser legs and replacing them with a cylindrical section inclusive of rotating discharge augers;
- e) Modify the furnace fuel feeders removing the current Stock feeders and replacing them with screw feeders, as well as reopening the pneumatic fuel distributors to their original dimension; and
- f) Relocation of the ROM crushing plant.

RESIDUAL ASH DISPOSAL

3.5.1.14 Conditions 34 and 35 of the Original Consent direct how residual ash from the use of BDT and RoM coal in the Power Station operation is to be disposed of. When operational the ash was returned by pipeline to Warkworth Mine as provided for in condition 34. The pipeline has been dismantled within the site. Condition 33 requires the transport of ash by truck to be the subject of an approval by the Council.

3.5.1.15 The Waste Minimisation and Management Plan (**Waste Report**) prepared by Jackson Environmental dated 20 October 2021 identifies the expected volume of ash production from the use of biomass as a supplemental fuel source.

3.5.1.16 It is estimated that the combustion of waste woody biomass in the Power Station will produce a residual ash of approximately 3-5% of the feedstock by weight. Assuming a residue of 5% there will be 134 tonnes of the ash produced per day.

3.5.1.17 The existing ash silo within the site is large enough to hold five days of ash production. This silo receives ash transferred in an enclosed pipeline from the furnaces and is deposited into the top of the fully sealed ash storage silo. The location of the ash storage silo is shown in Figure 2.3 of the Waste Report.

3.5.1.18 It is proposed that the ash be transported from the site by truck. Ash will be discharged from the storage silo via an overhead telescopic chute into the body of a tanker truck positioned beneath the chute in a controlled manner to avoid dust formation.

3.5.1.19 Alternatively the ash can be transferred from the telescopic chute into a mobile puddle mixer, where water is added so that the ash can be transferred into an open top truck.

3.5.1.20 The ash handling and management within the site remains the same as when the Power Station operated on BDT and RoM coal. No new ash handling arrangements, plant or equipment is required within the site.

3.5.1.21 T It is proposed that ash generated will be beneficially reused in forestry or agriculture activities, as this material contains beneficial nutrients for soil improvement when applied at appropriate application rates. The beneficial reuse of ash (from the burning of biomass) is permitted in accordance with *The Ash From Burning Biomass Order 2014*. It is proposed that the ash from the burning of the biomass as fuel be sampled and tested to ensure that the ash meets all chemical requirements under *The Ash From Burning Biomass Order 2014*.

3.5.1.27 The proposed ash management strategy will provide for the sustainable reuse and recycling of nutrients that are otherwise lost from forest soils when trees and biomass are harvested and will remove the need to dispose of the ash to landfill or on-site ash dams.

3.5.1.28 As discussed in section 2.3.3 of the Waste Report, should the Power Station revert to using BDT and RoM coal it will produce coal ash. As with biomass ash it is intended that the coal ash will be beneficially reused in appropriate applications to ensure that human health and the environment are protected at all times.

34. Arrangements for Rehabilitation of Ash Emplacement

.

Satisfactory arrangements are to be made with the Department of Mineral and Warkworth Mine for the final rehabilitation of ash emplacement.

AIP70121.06B

9

35. Monitoring of Ash Leachate, Drainage Water Quality and Soil Properties in the Ash Disposal Areas

The applicant is to test and/or monitor ash leachate, drainage water quality and soil properties in the ash disposal areas in accordance with the requirements of the Environment Protection Authority.

3.5.2. Modifications to the Consent Conditions

3.5.2.1 In order to enable the use of BDT, ROM coal and biomass as fuel sources, it is necessary to amend the terms of the development consent. The starting point for the modification of the terms of the consent is the consent as modified in 1997. The modifications to the terms principally relate to:

- a) the description of the development,
- b) the terms of condition 1 and the documents on which the consent modified relates, and
- c) conditions 16, 33 and 34 in terms of the fuel type and source to be used in the operation of the Power Station and the disposal of ash generated in the process.

3.5.2.2 The modifications to the terms of the consent are detailed below and are as a direct consequence of the introduction of the use of biomass as a supplementary fuel source. In order to differentiate the amendments to the terms of the conditions as proposed now to that approved in 1997 the 1997 amendments have been incorporated into the conditions presented blow. Current changes are shown by strike through where details are being deleted and *italics* and <u>underline</u> where text is inserted.

DESCRIPTION OF DEVELOPMENT

Development consent is granted to the construction and operation of a power plant on land being part lots 1-3 DP 247820 and lots 4-5 DP 247820 at Long Point Road and Jerrys Plains Road, Warkworth, and to the construction and operation of ancillary tailing collection, *fuel delivery and storage*, preparation and transportation facilities and ancillary water and ash transportation facilities on *site* and adjacent land including land within consolidated coal lease 753 as specified in development application No. 183/93 as modified in the information contained in the prepared statements of Roy Alper and Thor Hibbler of February 1997, *and as modified by the documents referenced in condition 1* and subject to the conditions annexed hereto and marked "A".

AND AND

NEW SOUTH

☆

CONDITION 1 – SCOPE OF DEVELOPMENT

The development being carried out generally in accordance with the Amended Environmental Impact Statement prepared by the National Power Company and ESI Energy Inc. dated November 1993 and the additional clarification contained in the responses to comments prepared by the National Power Company and ESI Energy Inc. dated 21 February 1994 and the information regarding improvements to the development contained in the prepared statements of Roy Alper and Thor Hibbler of February 1997 <u>as amended by:</u>

<u>1.</u> The modifications to the plant and equipment to enable Biomass fuel firing, including the receival, storage and materials handling of Biomass fuel, as described in the Redbank Power Station – Description of Proposed Modifications for Conversion to Fire Biomass Fuels by B&PPS dated 20 October 2021 and as shown in green on B&PPS engineering drawings No. C12198-000-010; C12189-000-100, C12198-000120, C12198-000-130, C12198-000-140, C12198-121-105, C12198-121-110, and C12198-121-111; and

2. The modifications to traffic management arrangements on the site to limit the direction of traffic flow to one direction rather than two as described in the Operational Traffic Management Plan by Ason Group dated 20 October 2021.

<u>3.</u> The modifications to manage stormwater on the site as described in the Water Cycle Impact Assessment of Changing Biomass Fuel at Redbank Power Station by Sustainability Workshop Ltd dated <u>21 October 2021.</u>

4. The modifications to lighting described in the Lighting Assessment by Tigerlight dated 21 October 2021':

Where there is any inconsistency between the Amended Environmental Impact Statement and associated documents and those referenced above then the latter documents will prevail.

CONDITION 16 – FUEL SOURCE

Condition 16 has been previously modified to delete reference to the Lemington operation and identifies the source of the coal tailings to be utilised in the operation of the Power Station as being the Warkworth operation.

As discussed above it is proposed to modify the operation of the Power Station to permit it to operate using coal tailings or biomass. The condition as proposed to be modified would read as follows:

At least the majority of the fuel burnt at the power plant in any one year after commercial operation, on a dry tonnes basis, is to be derived from <u>either:</u>

- (a) <u>coal washery</u> tailings obtained either directly from the Warkworth mine washery <u>washeries</u> or indirectly from tailings storage dams on the Warkworth mine leases. <u>Coal washery</u> tailings are not to be obtained from mines other than the Warkworth Mine without the further approval of Council, <u>or</u>
- (b) <u>biomass fuel classified as Biomass from Forestry and Sawmilling Residues or Uncontaminated</u> <u>Wood Waste in the EPA's Eligible Waste Fuel Guidelines (2016)</u>

CONDITION 33 – REMOVAL OF ASH

Condition 33 requires the applicant to obtain a separate approval of the Council to transport ash by road. As detailed in the Waste Report the ash from the Power Station is now proposed to be transported by road and be available for use in a variety of applications. This condition is now redundant and has been assessed as part of the modification to the consent. Previously ash was generally transported to the Warkworth Mine site by a pipeline. This pipeline has been dismantled within the site.

Condition 33 to be deleted in its entirety as shown below

Any proposal to transfer ash by road on a regular basis is to require the separate approval of Council.

CONDITION 34 – ARRANGEMENTS FOR REHABILITATION OF ASH EMPLACEMENT

As discussed above and in the report Waste Report ash will be transported by truck from the site to disposal sites or reuse operations. This will require a modification to the terms of condition 34 so that it is specific to the use of ash for emplacement at the Warkworth Mine site.

Condition 34 to be amended to reads as follows:

Satisfactory arrangements are to be made with the Department of Mineral Resources and Warkworth Mine for final rehabilitation of ash emplacement <u>at Warkworth Mine</u>.

3.5.3. Substantially the Same Development

CONSIDERATION

3.5.3.1 The modification application the subject of the Land and Environment Court Proceedings was submitted under section 4.56 of the EP&A Act which contains a power to modify a development consent granted by the Court where the consent as modified is, amongst other things, substantially the same development as that for which consent was originally granted.

3.5.3.2 Viewed holistically, the development as proposed to be modified retains its material essence. That is, the development remains first and foremost a Power Station powered by waste fuel supplying electricity to the grid. There is no significant qualitative change to the structure or components of the plant other than in respect to fuel loading and handling and ash disposal.

3.5.3.3 The proposed introduction of biomass as a supplementary waste fuel with changes in equipment to facilitate efficient fuel loading, does not change the material essence of the Power Station. The power to modify a consent is not limited to modifying the details of a consent.

3.5.3.4 Having regard to the body of case law around the assessment of "substantially the same development" it is clear that the answer to that question will depend on fact and degree in the context of a specific development.

3.5.3.5 An analysis of the essential elements must focus on a holistic approach to determine the essence of the development. **Table 1** below sets out the quantitative and qualitative difference between the development as granted consent and the development as now proposed to be modified.

Table 1 - Modifications to the Development

Project Item	The Original Consent	2021 Modification Application	Change
Land description	112 Long Point Road West, Warkworth.	112 Long Point Road West, Warkworth.	No change.
Project	Operation of a power plant at Long Point Road and Jerrys Plains Road, Warkworth, and operation of ancillary tailing collection, preparation and transportation facilities and ancillary water and ash transportation facilities.	Operation of a power plant at Long Point Road and Jerrys Plains Road, Warkworth, and operation of ancillary tailing collection, preparation and transportation facilities and ancillary water and ash transportation facilities.	The method of transportation of ash from the site will be by road rather than pipeline to the Warkworth Mine site.
Technological Design Capacity	Operation of Fines Circulating fluidised bed combustion technology (FiCirc®1) and a single151MW steam turbine.	Operation of Fines Circulating fluidised bed combustion technology (FiCirc®1) and a single151MW steam turbine.	No change.
Fuel source and volumes	Use of 700,000 tonnes of BDT and ROM waste per annum.	Use of 700,000 tonnes of BDT and ROM waste per annum. Use of up to 850,000 tonnes per annum of biomass as a supplemental fuel source.	No change to volumes of BDT and ROM. Introduction of biomass as a supplementary waste fuel source. The calorific value of the biomass entering the plant is the same as the BDT and ROM coal.
Waste Outputs	Coal ash from BDT and ROM at 13.4 tonnes per hour or 321 tonnes per day.	Coal ash from BDT and ROM at 13.4 tonnes per hour or 321 tonnes per day. Ash from biomass at 134 tonnes per day.	No change in ash production when BDT and ROM coal are used.
Waste output – reuse.	Coal ash from BDT and FOM returned to mine sites for deposition into tailings dam.	Ash from BDT and ROM will no longer be sent to tailings dams, rather it will be used as a soil amendment in accordance with The Coal Ash Exemption 2014.	Positive environmental change to the disposal of coal ash and biomass ash as permitted under relevant guidelines and regulations.

Project Item	The Original Consent	2021 Modification Application	Change
		Ash from burning biomass will be used as soil or fertiliser amendment on land is permitted under the NSW EPA's The Ash from Burning Biomass Order 2014.	
Transport	Delivery of BDT and ROM predominantly by conveyor and by road if required. Coal ash removed by conveyor and truck if required.	Delivery of BDT and ROM predominantly by conveyor and by road if required. Coal ash removed by truck. Biomass ash to be delivered by B-double trucks up to 70 per day. Biomass ash to be removed by back-loaded trips of B- double trucks approximately three trucks per day.	Delivery of biomass fuel and disposal of ash by truck only. 148 truck movements per day to transport the biomass and biomass ash. Commuter, contractor and service deliveries remain consistent.
Greenhouse Gas Emissions	Emissions from BDT and ROM 1,011,320 t CO ₂ -e/annum	Emissions from BDT and RoM 1,011,320 t CO ₂ -e/annum Emissions from biomass (direct and indirect) 35,465 t CO ₂ -e/annum	No change to emissions from BDT and ROM coal when used. On a comparison basis a reduction from 1,011,320 t CO ₂ -e/annum to 35,465 t CO ₂ -e/annum when biomass rather than coal is used as the fuel source.
Power Generation	Nominal rating at Maximum Continuous Rating (MCR) of 146 megawatts (MWe) (gross) with an overload capacity of 151 MWe gross.	Nominal rating at Maximum Continuous Rating (MCR) of 146 megawatts (MWe) (gross) with an overload capacity of 151 MWe gross.	No change.
Hours of Operation and Shifts	24 hours a day, seven days per week. Two shifts over this period, starting at 6 am and 6 pm.	24 hours a day, seven days per week. Two shifts over this period, starting at 6 am and 6 pm.	No change.

Project Item	The Original Consent	2021 Modification Application	Change
Grid Connection	Electricity generated at the Power Station converted and fed into the grid adjacent to the site.	Electricity generated at the Power Station converted and fed into the grid adjacent to the site.	No change. The supply to the grid remains the same.

3.5.3.6 The comparison in **Table 1** above demonstrates that the proposed development remains for a Power Station generating electricity using Fines Circulating fluidised bed combustion technology (FiCirc®1) and a single151MW steam turbine for supply to the grid. With respect to environmental impact, the modification results in a beneficial outcome over that which was originally approved in terms of beneficial use of the ash from the fuel.

3.5.3.7 Turning to the 'proper context' for the consent, the EIS is instructive. The three major objectives of the approved Power Station are :

- a) Efficient utilisation of natural resources (i.e., fuel resources);
- b) Introduction of an alternative, environmentally responsible method of tailing disposal;
- c) Design and operation of the Power Station in a manner that minimises environmental impacts.

3.5.3.8 The establishment and operation of the Power Station has historically met all three objectives The modifications to the fuel receival and handling and ash disposal proposed retains the ability to receive and utilise BDT and ROM coal and allow for the receipt and use of biomass.

3.5.3.9 The introduction of biomass as a supplementary fuel source meets Objective 1 providing for the efficient use of natural resources that would otherwise be burnt, left to decay or disposed of at landfill without delivering a beneficial outcome or the efficient utilisation of that resource.

3.5.3.10 The design parameters of the modifications to the plant and installation of mobile plant required in order to facilitate the use of biomass as a fuel source for the Power Station is set out in the B&PPS Report.

3.5.3.11 The proposed modifications to the operational parameters of the Power Station will also require a modification of the current Environment Protection Licence (EPL11262). This will follow the modification of the consent.

3.5.3.12 As demonstrated in Table 1 above:

- a) There is no significant qualitative change to the structure or components of the plant other than in respect to fuel receival and fuel loading. This change of nature of the waste fuel, and fuel receival and loading, does not change the material essence of the Power Station.
- b) The introduction of biomass as a fuel source does not result in any material increase in environmental impact.
- c) The objectives set out in the original EIS includes an objective to ...*improve the utilisation of natural (fuel) resources...* and this continues.

3.5.3.13 The power to modify a development consent is not limited to modifying the details of a consent and contemplates modifying the nature of the development itself provided the change is not a radical transformation. The proposed modification to the consent and the development are well within these limits.

4. QUESTIONS TO BE ADDRESSED

4.1. QUESTION 1

4.1.1 *Compare the qualitative and quantitative components of the development, as currently approved, in comparison to the development as proposed to be modified.*

4.1.2 The comparison should involve an appreciation of the developments being compared in their proper contexts (including the circumstances in which the development consent was granted): Moto Projects No 2 Pty Limited v North Sydney Council [1999] LGERA 298 [55-[56].

4.1.3 A qualitative and quantitative analysis of the essential elements of the Power Station is set out in Table 1. This demonstrates that the development as proposed to be modified remains substantially the same development as that consented to.

4.1.4 The essential elements of the development will not be altered by the recommendations detailed in the technical reports referenced in section 1.4 of this report. They can be incorporated into the Operational Management Plan and implemented prior to the commencement of use of biomass in the Power Station.

4.1.5 The design and operation of the Power Station has inherent flexibility which enables the use of a variety of fuel types to generate electricity while managing emissions with limited adverse environmental impacts. The technical assessments of the proposed modifications as presented in Section 4 of this Planning Report identify the manner in which the operations will be managed to limit environmental impact in terms of traffic generation, air quality emissions, greenhouse gas emissions, stormwater and water quality, lighting, waste management and acoustic impacts. The development as proposed to be modified is able to meet relevant controls parameters for the operation of the Power Station.

4.5.6 It is relevant to note that there are no modifications proposed to:

- a) Site buildings
- b) Boiler plant
- c) Steam turbine equipment
- d) Tailing (BDT) fuel system
- e) Water and waste-water treatment systems
- f) Ash Handling plant and storage
- g) Switchyard and electrical transmission equipment
- h) Cooling water systems
- i) Steam and water systems Balance of Plant
- j) Hunter River water make-up and discharge systems
- k) Control System equipment
- I) Technology used to operate the Power Station

4.5.7 In terms of onsite transport management of the biomass and ash transport the heavy vehicle circulation routes within the site will be varied to that shown in **Figure 10** below.

Figure 10 - Vehicle Circulation



Source: Anson 2021

4.5.8 The Lighting Assessment dated 21 October 2021 prepared by Tigerlight identified that additional lighting was required to internal roadways and adjacent to the biomass stockpile area. The recommendations for additional lighting should be implemented as part of the plant recommissioning

4.2. QUESTION 2

4.2.1 What modifications are required to the development consent to allow the use of waste biomass as an alternative fuel source as proposed?

4.2.1 As discussed in section 3.5.2 above amendments are required to the description of the scope of the development and conditions 1, 16, 33 and 34 to allow the use of waste biomass as an alternative fuel source as proposed.

5. CONCLUSION

5.1 This Planning Report provides a description of the proposed modifications to the consent to enable the Power Station to operate with the introduction of biomass as a supplementary fuel source.

5.2 This Planning Report has demonstrated that:

- a) The development as proposed to be modified will be substantially the same development when modified as when approved;
- b) The changes to the fuel delivery, management and storage on site will not require a change to the technology installed and previously used in the operation of the Power Station;
- c) Biomass as a fuel type can be accommodated in the operation of the Power Station as the fluidised bed technology has the designed flexibility to accommodate both coal and biomass a fuel type. The Power Station has been designed to safely operate using a range of fuel types and is able to comply with specified emission limits noting that only one fuel type will be burnt at any one time;
- d) Minor modifications will be required to some ancillary plant and equipment and the introduction of new weighbridges and mobile plant to convey the biomass fuel into the Power Station operational areas; and
- e) The operation of the Power Station using biomass will comply with the relevant operational and road noise criteria and compliance with the relevant EPA policies, without additional ameliorative measures being required.

APPENDIX ACV - CLARE BROWN



CLARE Brown

DIRECTOR

"The success of any project requires thorough planning and preparation. I work closely with clients to drive positive, sustainable outcomes and adapt to the ever-changing regulatory landscape"

SERVICES

Statutory planning Strategic planning and policy advice Precinct planning and place strategies Smart cites and environmental planning Social impact assessment

SECTORS

Government Renewable Energy Infrastructure Commercial Industrial Mixed Use

QUALIFICATIONS

Bachelor of Town Planning (Hons) Bachelor of Law

AFFILIATIONS

NSW Environmental Planning Law Association Urban Development Institute of Australia Planning Institute of Australia Smart Cities Council Clean Energy Council

CONTACT

T +61 8233 7678 M +61 425 284 398 E cbrown@urbis.com.au Working across the public and private sectors, Clare has more than 30 years' planning experience. She is also a trained mediator and lawyer and has advised and represented clients on planning, environment and construction issues. Clare has experience in undertaking stakeholder and community consultation and social impacts assessments, including community needs assessments.

She has extensive experience in providing advice on policy and statutory reform to the NSW planning system, as well as the formulation of policy change and directions. She is well positioned to unravel the complex planning system to provide clear, practical advice to her clients.

Clare appears as an expert witness in merit appeals and resumption matters in the NSW Land and Environment Court, working with both private and government clients.

She is an alternate member of the Sydney Metropolitan and Regional Planning Panels. In this role she is called on to consider a range of regionally significant developments and planning proposals.

PROJECTS

- Agile Planning, Department of Planning, Industry and Environment
- Trees and Public Spaces in the Planning System
- Department of Planning, Industry and Environment
- Preparation of assessment framework and peer review of Local Housing Strategies, Department of Planning, Industry and Environment
- Planning lead on the Strategic Visioning Project Reimagining Campbelltown, Campbelltown City Council
- Specialist advisor on Cobaki Lakes and Kings Forest Urban Development Projects and Release Areas, Tweed Shire Council
- Strategic advice on options for the Bays Precinct Planning Framework, Urban Growth NSW
- Independent reviews of development applications where councils have a conflict of interest, including recent applications in Georges River Council and Sutherland Shire
- Leading a comprehensive range of development applications and state significant development applications



URBIS.COM.AU

APPENDIX B LETTER OF INSTRUCTION



F ishburn W atson O 'Brien

THE LAW SPECIALISTS

Our ref RF:DP:2210330:kh

Watson House 300 George Street Sydney NSW 2000 Phone (02) 6650 7000 Fax (02) 6651 4853 www.fwolaw.com

> Enquiries: Ross Fox 02 6650 7038 rfox@fwolaw.com

25 October 2021

Ms Clare Brown URBIS Level 8, Angel Place 123 Pitt Street Sydney NSW 2000

Privileged and Confidential

By Email: cbrown@urbis.com.au

M:\Docs\2210330\3144029.docx

Dear Clare

Hunter Development Brokerage Pty. Limited (t/as HDB Town Planning and Design) v Singleton Council Case Number 2021/00128111 – Class 1 Application Modification Application DA 183/1993, 112 Long Point Road, Warkworth

We refer to our letter of 8 July 2021 and provide the following further information and instructions with respect to the proposed development.

1. Further information

We provide the following additional documents to support your brief:

- a) Redbank Power Station Description of Proposed Modifications for Conversion to Fire Biomass Fuels by B&PPS dated 20 October 2021;
- b) Noise Impact Assessment by Acoustic Logic dated 21 October 2021;
- c) Water Cycle Impact Assessment of Changing Biomass Fuel at Redbank Power Station by Sustainability Workshop Ltd dated 21 October 2021;
- d) Transport Assessment by Ason Group dated 20 October 2021; and
- e) Operational Traffic Management Plan by Ason Group dated 20 October 2021.
- f) Supplementary Air Quality Report by EMM Consulting dated 20 October 2021;
- g) Redbank Power Station QA/QC Supply Chain and Material Handling Addendum Report dated 15 October 2021;
- h) Traffic Statement by TTPP Transport Planning dated 20 October 2021;

- Waste Management Plan by Jackson Environment and Planning dated 15 October 2021;
- j) Dust Management Plan by Jackson Environment and Planning dated 15 October 2021;
- k) Ecological Sustainable Development Assessment by Annette Cowie dated 22 October 2021;
- Redbank Power Station Modifications Preliminary Hazard Analysis by Arriscar Pty Limited dated 21 October 2021; and
- m) Lighting Assessment by Tigerlight dated 21 October 2021.

I confirm that we have shared these documents with you via Dropbox link.

2. Further instructions

We request that you prepare a planning report which addresses the following matters:

- a) Compare the qualitative and quantitative components of the development, as currently approved, in comparison to the development as proposed to be modified. The comparison should involve an appreciation of the developments being compared in their proper contexts (including the circumstances in which the development consent was granted): *Moto Projects No 2 Pty Limited v North Sydney Council* [1999] LGERA 298 [55-[56].
- b) What modifications are required to the development consent to allow the use of waste biomass as an alternative fuel source as proposed?

Please give me a call if you have any questions.

Yours faithfully, **FISHBURN WATSON O'BRIEN**



ROSS FOX Principal Accredited Specialist Planning and Environment

APPENDIX C SITE SURVEY

GRID NORTH





Unit 3 479 High St PO Box 418 MAITLAND NSW 2320 Ph (02) 4934 5011 Email land@davidcantsurveyors.com PLAN

COORDINATES	OF	CORNERS
MGA	202	0

Point	Е	Ν
1	318748.6	6393842.5
2	318835.1	6393860.4
3	318875.2	6393882.1
4	318921.2	6393936.5
5	319066.7	6394005.7
6	318661.7	6393408.5
7	319157.4	6393409.8
8	319149.2	6393441.4
9	319120.6	6393512.5

AERIAL IMAGE FROM THE SPATIAL SERVICES PORTAL TAKEN ON 21/10/2011. ALIGNED FROM OBJECTS MEASURED ON SITE.

'E' – EASEMENT FOR ELECTRICITY TRANSMISSION LINES & ACCESS THERETO, VARIABLE WIDTH (DP638567)

PROJECT	FENCING IDENTIFICATION ON LOT 450 DP1119428.
LOCATION	112 LONG POINT ROAD WEST, WARKWORTH.
LGA	SINGLETON
CLIENT	REDBANK POWER STATION

SHEET No. **1 of 1** SURVEYOR'S REF 20–158 Warkworth THIS PLAN REMAINS THE PROPERTY OF DAVID CANT SURVEYORS AND CANNOT BE REPRODUCED WITHOUT AUTHORISATION.

APPENDIX D

PROPOSED WORKS - SITE PLAN (FIGURE 1 OF B&PPS)





URBIS.COM.AU