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Published on 9 August 2007

Statement No. 745

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

**KEMERTON POWER STATION ENHANCEMENT PROJECT
SHIRE OF HARVEY**

Proposal: The installation of a wet compression system and associated infrastructure within the existing Kemerton Power Station, and the construction of evaporation ponds and a water pipeline to deliver water from an existing offtake located about 4 kilometres to the east. The wet compression system will enable the power station to generate additional power at ambient temperatures above International Standards Organisation conditions by eliminating the sensitivity of the installed gas turbines to ambient temperature. The proposal is further documented in schedule 1 of this statement.

Proponent: Transfield Services Kemerton Pty Limited

Proponent Address: GPO Box 1020, BRISBANE QLD 4001

Assessment Number: 1679

Report of the Environmental Protection Authority: Bulletin 1258

The proposal referred to in the above report of the Environmental Protection Authority may be implemented. The implementation of that proposal is subject to the following conditions and procedures:

1 Proposal Implementation

1-1 The proponent shall implement the proposal as documented and described in schedule 1 of this statement subject to the condition and procedures of this statement.

2 Proponent Nomination and Contact Details

- 2-1 The proponent for the time being nominated by the Minister for the Environment under sections 38(6) or 38(7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal.
- 2-2 The proponent shall notify the Chief Executive Officer of the Department of Environment and Conservation (CEO) of any change of the name and address of the proponent for the serving of notices or other correspondence within 30 days of such change.

3 Time Limit of Authorisation

- 3-1 The authorisation to implement the proposal provided for in this statement shall lapse and be void within five years after the date of this statement if the proposal to which this statement relates is not substantially commenced.
- 3-2 The proponent shall provide the CEO with written evidence which demonstrates that the proposal has substantially commenced on or before the expiration of five years from the date of this statement.

4 Compliance Reporting

- 4-1 The proponent shall submit to the CEO environmental compliance reports annually reporting on the previous twelve-month period, unless required by the CEO to report more frequently.
- 4-2 The environmental compliance reports shall address each element of an audit program approved by the CEO and shall be prepared and submitted in a format acceptable to the CEO.
- 4-3 The environmental compliance reports shall:
 - 1 be endorsed by signature of the proponent's chief executive officer or a person, approved in writing by the CEO, delegated to sign on behalf of the proponent's Chief Executive Officer;
 - 2 state whether the proponent has complied with each condition and procedure contained in this statement;
 - 3 provide verifiable evidence of compliance with each condition and procedure contained in this statement;

4. state whether the proponent has complied with each key action contained in any environmental management plan or program required by this statement;
5. provide verifiable evidence of conformance with each key action contained in any environmental management plan or program required by this statement;
6. identify all non-compliances and non-conformances and describe the corrective and preventative actions taken in relation to each non-compliance or non-conformance;
7. review the effectiveness of all corrective and preventative actions taken; and
8. describe the state of implementation of the proposal.

4-4 The proponent shall make the environmental compliance reports required by Condition 4-1 publicly available in a manner approved by the CEO.

5 Performance Review

5-1 The proponent shall submit a Performance Review Report every five years after the start of wet compression system operations to the Environmental Protection Authority, which addresses:

1. the major environmental issues associated with implementing the project; the environmental objectives for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those objectives;
2. the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable;
3. significant improvements gained in environmental management, including the use of external peer reviews;
4. stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and
5. the proposed environmental objectives over the next five years, including improvements in technology and management processes.

- 5-2 The proponent shall make the Performance Review Reports required by condition 5-1 publicly available in a manner approved by the CEO.

6 Acid Sulphate Soil and Dewatering Management

- 6-1 Prior to the ground disturbance within the water pipeline corridor, the proponent shall undertake field investigations within the site to clearly delineate areas of high, high to medium, and medium to low risk acid sulphate soils, which shall be reported to the Department of Environment and Conservation prior to excavation of trenches.
- 6-2 Within high, high to medium and medium to low acid sulphate soil risk areas, the proponent shall excavate trenches in lengths which permit the trenches to be opened and closed within a 48-hour period.
- 6-3 Prior to trenching and excavation activities, the proponent shall, in consultation with the Department of Environment and Conservation, prepare an Acid Sulphate Soil and Dewatering Management Plan to demonstrate that all practical measures have been included to manage the impacts of acid sulphate soils and dewatering activities, to the requirements of the Minister for the Environment.
- 6-4 The proponent shall review and revise, as required, the Acid Sulphate Soil and Dewatering Management Plan required by condition 6-3.
- 6-5 The proponent shall implement and comply with the Acid Sulphate Soil and Dewatering Management Plan required by condition 6-3 and subsequent revisions of the Acid Sulphate Soil and Dewatering Management Plan required by condition 6-4.
- 6-6 The proponent shall make the Acid Sulphate Soil and Dewatering Management Plan required by condition 6-3 and subsequent revisions required by condition 6-4, publicly available in a manner approved by the CEO.

7 Groundwater Monitoring Bores for the Evaporation Ponds

- 7-1 Prior to the commencement of the wet compression system operation, the proponent shall install at least two additional groundwater monitoring bores no further than 20 metres down hydraulic gradient from the edge of the evaporation ponds to enable saline water plumes to be readily detected.
- 7-2 The proponent shall design and construct the additional groundwater monitoring bores required by condition 7-1, in consultation with the Department of Environment and Conservation and the Department of Water, having regard for *Water Quality Protection Note 30 - Groundwater Monitoring Bores*, Department of Water (February 2006).

8 Fauna

8-1 Trapped fauna within open trenches shall be cleared and recorded by a suitably trained fauna-clearing person no later than 3 hours after sunrise each day, and the clearing and recording shall be repeated before sunset each day.

8-2 Trapped fauna within open trenches shall be cleared and recorded by a suitably trained fauna-clearing person within one hour prior to backfilling of trenches.

Note: “fauna-clearing person” means an employee of the proponent whose responsibility it is to walk the open trench to recover and record fauna found within the trench.

8-3 The fauna-clearing person referred to in conditions 8-1 and 8-2 shall be experienced in the following, to the requirements of the Department of Environment and Conservation:

1. fauna identification, capture and handling (including venomous snakes);
2. identification of tracks, scats, burrows and nests of conservation-significant species;
3. fauna vouchering;
4. assessing injured fauna for suitability for release, rehabilitation or euthanasia;
5. familiarity with the ecology of the species which may be encountered in order to be able to appropriately translocate fauna encountered; and
6. performing euthanasia.

8-4 The proponent shall be responsible for ensuring that basic fauna handling training is provided to the fauna-handling person if they do not possess the skills and experience outlined in condition 8-3 prior to the fauna-clearing person commencing employment.

8-5 The fauna handling training referred to in condition 8-4 shall be developed in consultation with the Department of Environment and Conservation.

8-6 Open trench lengths shall not exceed a length capable of being inspected and cleared by the fauna-clearing person within the required times set out in conditions 8-1 and 8-2.

8-7 The proponent shall monitor weather forecasts through the Bureau of Meteorology and in the event of a weather forecast indicating rainfall sufficient to cause flooding of trenches or drowning of fauna trapped in trenches, the proponent shall, in consultation with the Department of Environment and Conservation, backfill all lengths of open trench with the potential to be flooded or cause drowning of fauna.

8-8 Within 14 days following the completion of pipeline construction, the proponent shall provide a report on fauna management within the water pipeline corridor to the CEO.

This report shall include the following:

1. details of all fauna inspections;
2. the number of fauna cleared from trenches;
3. fauna interactions;
4. fauna mortalities; and
5. all actions taken.

8-9 The proponent shall make the report on fauna management required by condition 8-8 publicly available in a manner approved by the CEO.

9 Decommissioning

9-1 Prior to undertaking ground-disturbing activities, the proponent shall prepare a Preliminary Decommissioning Plan for approval by the CEO, which describes the framework and strategies to ensure that the site is suitable for future land uses, and provides:

1. the rationale for the siting and design of plant and infrastructure as relevant to environmental protection;
2. a conceptual description of the final landform at closure;
3. a plan for a care and maintenance phase; and
4. initial plans for the management of noxious materials.

9-2 At least six months prior to the anticipated date of closure, or at a time approved by the CEO, the proponent shall submit a Final Decommissioning Plan designed to ensure that the site is suitable for future land uses, for approval of the CEO.

The Final Decommissioning Plan shall set out procedures and measures for:

1. removal or, if appropriate, retention of plant and infrastructure agreed in consultation with relevant stakeholders;
2. rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and
3. identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities.

9-3 The proponent shall implement the Final Decommissioning Plan required by condition 9-2 until such time as the Minister for the Environment determines, on advice of the CEO, that the proponent's decommissioning responsibilities have been fulfilled.

9-4 The proponent shall make the Final Decommissioning Plan required by condition 9-2 publicly available in a manner approved by the CEO.

Notes

1. Where a condition states "on advice of the Environmental Protection Authority", the Environmental Protection Authority will provide that advice to the Department of Environment and Conservation for the preparation of written notice to the proponent.
2. The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment and Conservation.
3. The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment and Conservation over the fulfilment of the requirements of the conditions.
4. The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the *Environmental Protection Act 1986*.

David Templeman MLA
MINISTER FOR THE ENVIRONMENT; CLIMATE CHANGE; PEEL

Schedule 1

The Proposal (Assessment No. 1679)

The proposal is to install a wet compression system and associated infrastructure within the existing Kemerton Power Station and to construct evaporation ponds and a water pipeline to deliver water from an existing offtake located about 4 kilometres to the east (See Figures 1, 2, and 3 attached). The wet compression system will enable the power station to generate additional power at ambient temperatures above International Standards Organisation (ISO) conditions (i.e. 15°C, relative humidity of 60% and atmospheric pressure of 101.3kPa) by eliminating the sensitivity of the installed gas turbines to ambient temperature. This sensitivity causes the power output of each of the gas turbines to decrease from 155 megawatts (MW) at ISO conditions to 130MW at hot weather maximum (HWM) conditions (i.e. 41°C, relative humidity of 40% and atmospheric pressure of 101.3kPa).

Wet compression is a process in which a large quantity of water, in the form of fine droplets, is sprayed into the compressor inlet of a gas turbine. An inter-cooling effect is achieved as the water evaporates within the blade path of the compressor and cools the compressed air. The cooler denser air requires less energy to compress and this energy saving results in an increase in the efficiency and power output of the gas turbine.

The wet compression system will be supplied with demineralised water, produced by a new demineralised water treatment plant, which will consume approximately 27ML of water per year, of which about 21.6ML will be directed to the wet compression circuit and about 5.4ML, in the form of reject water (concentrate), will be directed to the two evaporation ponds. The proponent will obtain the required water under a Water Supply Agreement with Harvey Water. The water will be sourced from Stirling Dam via the Harvey Weir and will be delivered through an approximately 4 kilometre long water pipeline which will be connected to an existing offtake on Campbell Road which is maintained by Harvey Water (Figure 3). The water pipeline will be constructed of polyethylene, and will be located within a 15-metre wide corridor between the offtake on Campbell Road and the power station (Figure 3).

The proposal involves the installation of the following infrastructure:

- an approximately 4 kilometre long water pipeline to deliver fresh water to the power station;
- a wet compression injection skid and associated spray rack installed inside the gas turbine compressor air inlet;
- a forwarding pump skid;
- a demineralised water treatment plant;
- a demineralised water storage tank with a capacity of 1.0ML;
- two evaporation ponds within the power station site boundary which will have a combined capacity of 20.8ML and will be lined with 1.5mm thick high density polyethylene;
- additional cooling fans for the generator transformer; and
- associated piping, electrical cabling, and control system.

The proposal is described in the referral document *Kemerton Power Station Enhancement Project Environmental Approval Supporting Documentation*, Version 3, Report No. 2006/259, prepared by ATA Environmental for Transfield Services Kemerton Pty Limited (April 2007).

The main characteristics of the proposal are summarised in Table 1 below.

Table 1 - Summary of key proposal characteristics (Assessment No. 1679)

| Element | Description |
|---|--|
| Fuel type. | Natural gas / liquid fuel |
| Operating hours. | Approximately 1000 hours per year (10% liquid fuel). |
| Facility footprint. Site area including buffer. Water pipeline corridor area. | Not more than 2 hectares Not more than 28 hectares Not more than 6 hectares |
| Cooling water. | Not more than 27 megalitres per year sourced from Stirling Dam. Water will be delivered to the power station via an approximately 4 kilometres long polyethylene water pipeline connected to an existing off-take on Campbell Road. |
| Solid waste. | Not more than 10 tonnes per year |

Figures (attached)

Figure 1 - Regional location.

Figure 2 - Site plan.

Figure 3 - Water pipeline route, wetlands, vegetation and condition.

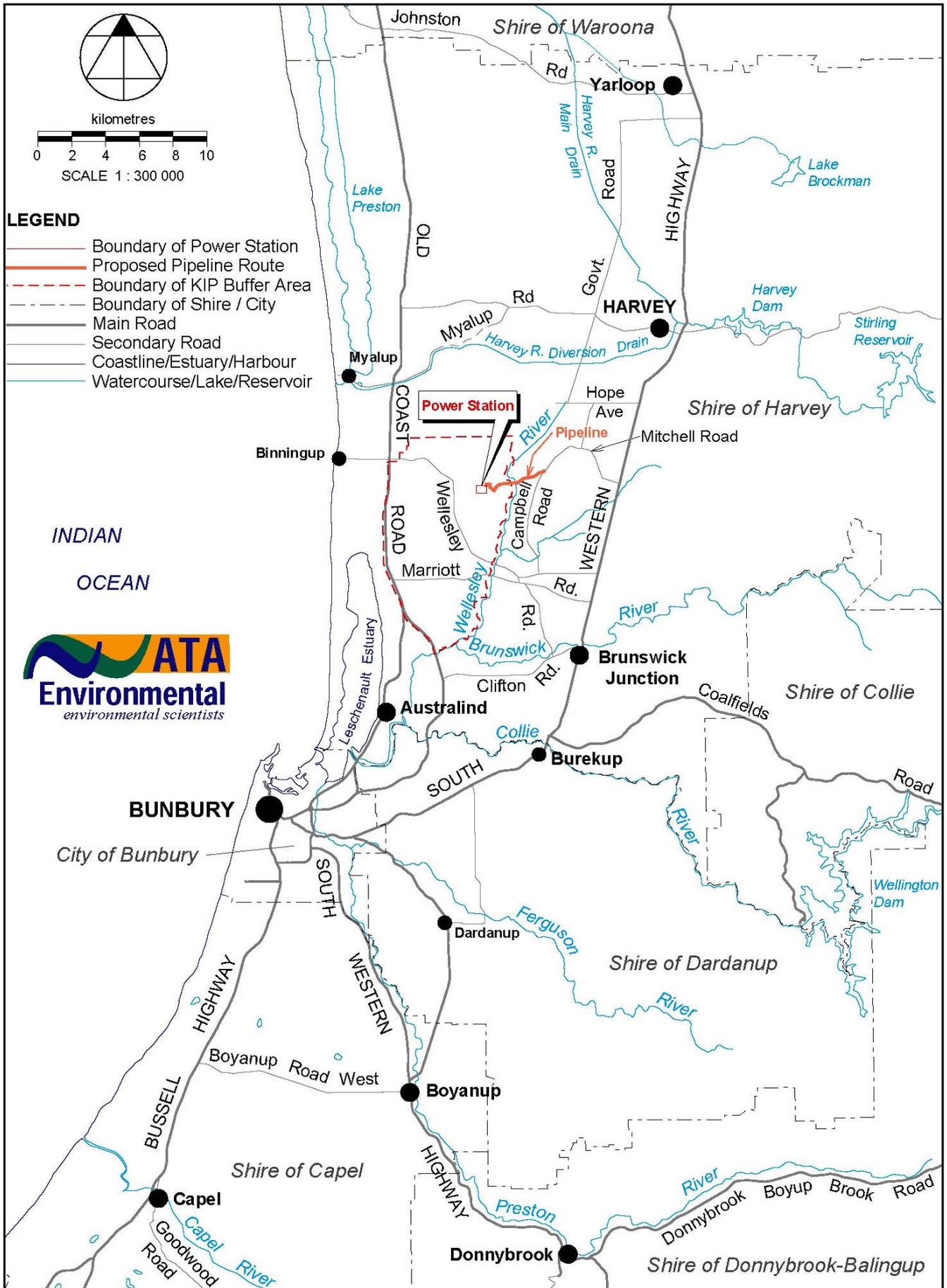


Figure 1 - Regional location

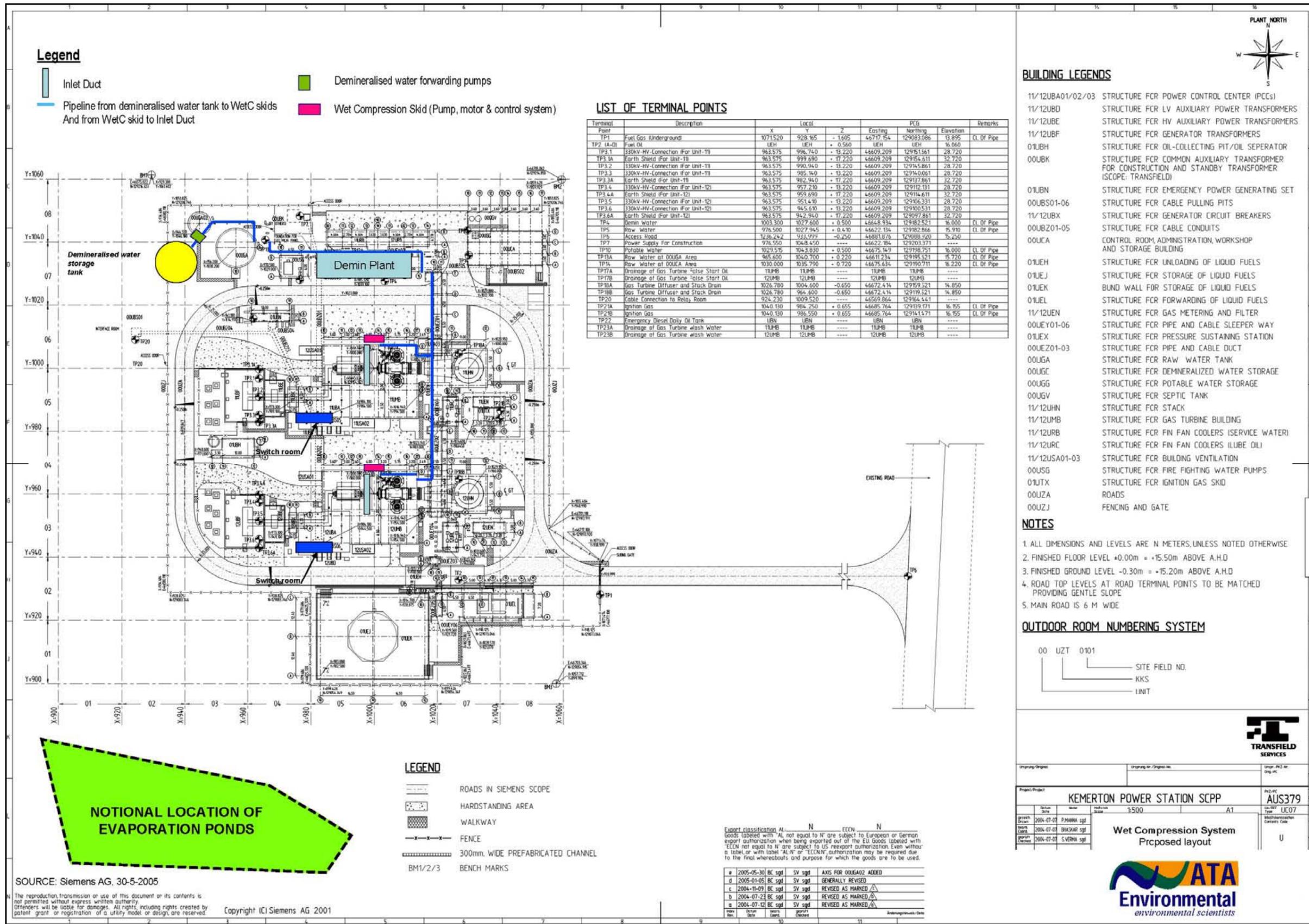


Figure 2 - Site plan

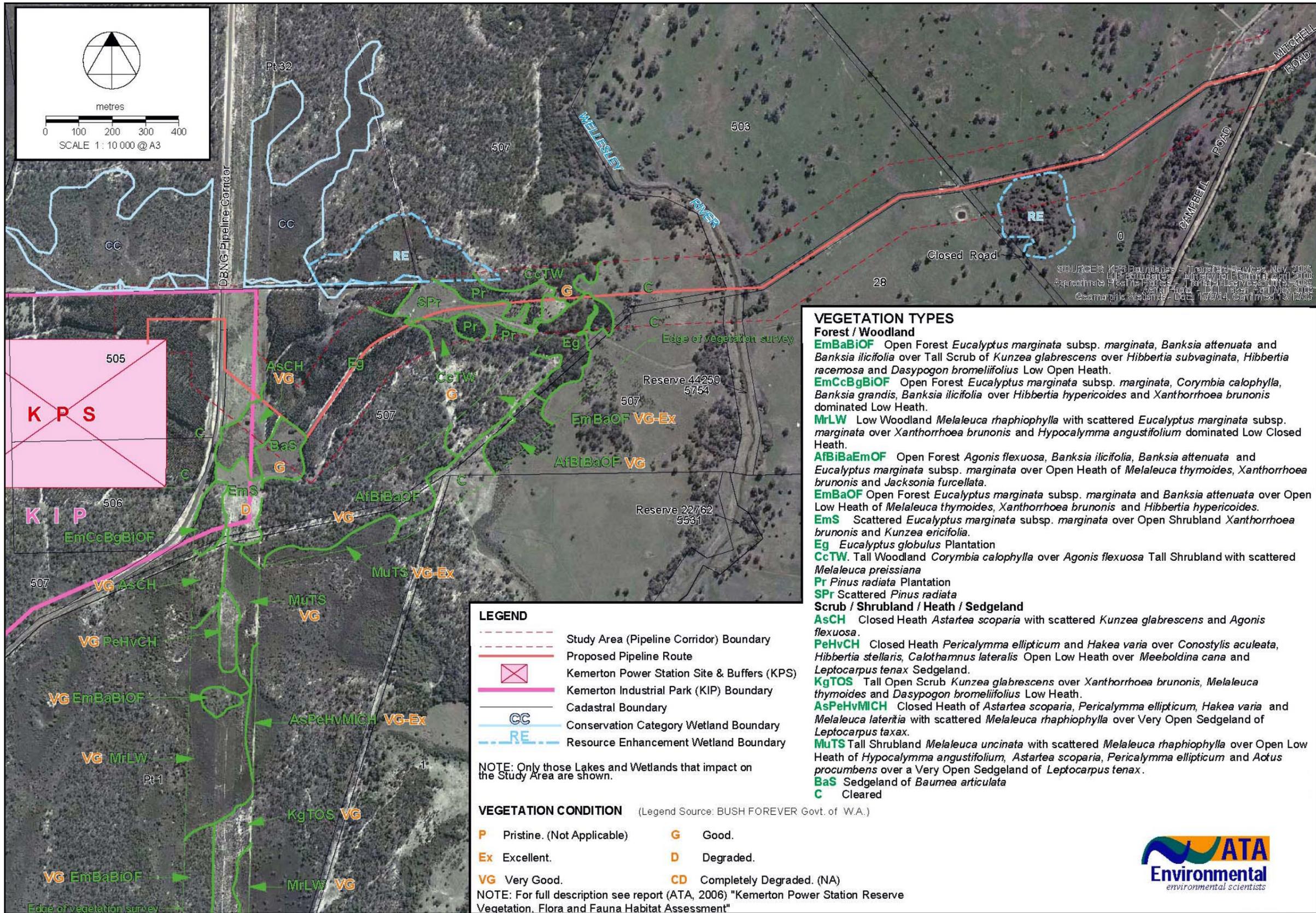


Figure 3 - Water pipeline route, wetlands, vegetation and condition

