



WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

Ass # 664
Bull # 650
State # 291

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

**DUPLICATION OF SYNTHETIC RUTILE PLANT CAPACITY
CAPEL (664)**

WESTRALIAN SANDS LIMITED

This proposal may be implemented subject to the following conditions:

1 Proponent Commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review and in response to issues raised following public submissions. These commitments are consolidated in Environmental Protection Authority Bulletin 650 as Appendix 1. (A copy of the commitments is attached.)

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3 Sulphur Dioxide Emissions

The sulphur dioxide emissions generated by the duplication of the synthetic rutile plant should be kept within environmentally acceptable limits.

- 3-1 The proponent shall never allow the sulphur dioxide level of 700 micrograms per cubic metre (1 hour average) to be exceeded, and shall ensure that for 99.9% of the time the sulphur dioxide level of 350 micrograms per cubic metre (1 hour average) is not exceeded, at the plant boundary.

4 Noise Limits

The proponent should conduct operations so that combined noise emissions do not unreasonably impact on the surroundings.

- 4-1 The proponent shall ensure that noise emissions do not exceed:

- 40 dB L_{A10} , 1 hour slow and 50 dB $L_{A \max}$ slow between 2200 hours and 0700 hours on any day when measured on any noise-sensitive premises;

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- 45 dB L_{A10}, 1 hour slow and 55 dB L_{A max} slow between 1900 hours and 2200 hours on any day, and between 0700 hours and 1900 hours on Sundays and gazetted public holidays, when measured on any noise-sensitive premises;
- 50 dB L_{A10}, 1 hour slow and 70 dB L_{A max} slow between 0700 hours and 1900 hours on Monday to Saturday inclusive, when measured on any noise-sensitive premises; and
- 65 dB L_A slow when measured at or near the boundary of premises that are not noise-sensitive premises (other industries);

where such emissions would result in the noise level present at the affected premises exceeding the ambient noise level present at any time by more than 5 dB L_A slow.

- 4-2 The proponent shall ensure that noise emissions from those activities which are of concern to occupiers of noise-sensitive premises do not exhibit tones, amplitude and frequency modulation, and impulsiveness of a nature which increases the intrusiveness of the noise.
- 4-3 The proponent shall conduct noise surveys and assessments in consultation with the Environmental Protection Authority.

5 Quantified Risk Analysis

- 5-1 If the proponent decides to incorporate the alternative modified Becher technology, the proponent shall conduct a quantified risk assessment, prior to commissioning such technology, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 5-2 Subsequent to any quantified risk assessment required by condition 5-1, the proponent shall ensure that the individual risk levels are maintained within the guidelines established by the Environmental Protection Authority in EPA Bulletin 611 (Criteria for the Assessment of Risk from Industry, EPA Guidelines, 1992).

6 Decommissioning

The satisfactory decommissioning of the project, removal of the plant and installations and rehabilitation of the site and its environs is the responsibility of the proponent.

- 6-1 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and rehabilitation plan.
- 6-2 The proponent shall implement the plan required by condition 6-1.

7 Proponent

These conditions legally apply to the nominated proponent.

- 7-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

8 Time Limit on Approval

The environmental approval for the proposal is limited.

- 8-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement

shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced. Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

9 Compliance Auditing

In order to ensure that environmental conditions and commitments are met, an audit system is required.

- 9-1 The proponent shall prepare periodic "Progress and Compliance Reports", to help verify the environmental performance of this project, in consultation with the Environmental Protection Authority.

Procedure

The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

Note: The proponent will be required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.

Jim McGinty, MLA
MINISTER FOR THE ENVIRONMENT

11 NOV 1992

PROPONENT'S COMMITMENTS

DUPLICATION OF SYNTHETIC RUTILE PLANT

CAPACITY (664)

WESTRALIAN SANDS LIMITED

The proponent has made the following environmental commitments:

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DUPLICATION OF SYNTHETIC RUTILE PLANT

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The proponent has made the following environmental commitments:

LIST OF COMMITMENTS

No.	COMMITMENT
1.	IMPACT DURING CONSTRUCTION The generation of dust as a result of construction activities will be managed by: <ul style="list-style-type: none"> • ensuring areas disturbed and left bare are kept to a minimum. • keeping unsurfaced roads dampened.
	IMPACT ON WATER RESOURCES Ground Water Consumption 2. After consultation with EPA and WAWA, the existing monitoring programmes will be expanded to collect data for a regular review of aquifer performance. 3. The company will maintain ongoing liaison and consultation with the EPA and Water Authority of WA with respect to aquifer performance. 4. Water consumption will be minimised through recycling, dry scrubbing of gases and re-using saline water at appropriate locations. 5. Should other demands on the aquifer compound to have a detrimental impact, the company will review with WAWA ways to reduce its impact on ground water supply. Surface Water Discharge 6. A controlled monitoring point consistent with WAWA standards will be established prior to discharge into the Elgin Drain. 7. The surface water discharge will be maintained at the licensed quality and quantity specified by the WAWA. 8. Monitoring will be conducted as in Table 8.1. Results will be collated and submitted to the WAWA on a regular basis as requested. 9. The company will ensure that ongoing discussions are maintained with WAWA to develop improvements in the surface water discharge. 10. Should monitoring detect breaches of the discharge criteria set by WAWA then the source of the deviation will be identified and corrective action promptly taken. If this requires operations to be shut down, then that action will be taken. Site Run-off 11. To avoid contamination of surface run-off, the company will: <ul style="list-style-type: none"> • maintain the physical integrity of all bunded and contained areas • regularly clean all roadways and open plant areas; and • regularly clean plant drainage ways.

No.	COMMITMENT
	<p>IMPACT ON WATER RESOURCES (Cont.)</p>
	<p>Ground Water Quality</p>
	<p><i>Dam Leakage</i></p>
12.	<p>The company will construct double membrane containment dams to contain acidic and ammonium chloride liquors. The secondary membrane will have the facility to direct leaked material to detection and collection systems.</p>
13.	<p>The company will maintain strict procedures to check the integrity of primary membranes in dams before being placed in use or returned to use.</p>
	<p><i>Process Liquor Transport</i></p>
14.	<p>Overland pipelines of saline or acidic liquor will be run in lined troughs draining to instrumented recovery sumps.</p>
15.	<p>Where pipelines cannot be treated to secondary containment the pipe will be continuous and will be of a high integrity material.</p>
16.	<p>Prompt action will be taken to prevent leaks or spills reporting to ground water. Action will include plant shutdown if necessary.</p>
	<p><i>Solid Waste Disposal Pit</i></p>
17.	<p>Ground water monitoring as agreed with WAWA around the North Capel disposal pit will continue. Action will be taken to identify the source of any quality deterioration. Ground water recovery and clay capping are alternatives which may be employed if required.</p>
	<p><i>Material Spillage and Storage</i></p>
18.	<p>All materials spilled during transport or transfer will be promptly disposed of in a manner acceptable to the EPA.</p>
19.	<p>Sulphuric acid will be transported in steel road tankers and transferred to a steel storage vessel in a secondary containment bunded enclosure. The transfer point will be designed to contain spillage during transfer.</p>
20.	<p>Sulphur and ammonium chloride will be transported in conventional road transport and will be stored under cover on concrete flooring.</p>
21.	<p>Lime will be transported in a steel road tanker and transferred to a steel storage silo. The transfer point will drain to local effluent pondage.</p>
	<p><i>Equipment Failure</i></p>
22.	<p>Processing equipment and plant pipe runs handling liquids, other than water, will be bunded and serviced by automatically activated recovery sumps.</p>
23.	<p>In the event of a spill escaping the bunding, soil and ground water will be tested and recovery initiated if required.</p>

No.	COMMITMENT
	<p>IMPACT ON WATER RESOURCES Ground Water Quality (Cont.) <i>Monitoring and Recovery</i></p> <p>24. The company will revise its ground water monitoring programme in consultation with WAWA to service the expanded operating site.</p> <p>25. Water quality will be reviewed with WAWA on a regular basis. Water that is adversely affected will be recovered and treated in a manner acceptable to WAWA.</p>
	<p>IMPACT ON AIR QUALITY Sulphur Dioxide</p> <p>26. The North Capel site will conform with the proposed EPA limits for SO₂ of 700 µg/m³ never to be exceeded and the 350 µg/m³ 99.9% compliance at the site boundaries.</p> <p>27. The company will install instrumentation for continuous SO₂ monitoring on the main waste gas stack to the satisfaction of the EPA.</p> <p>28. Ambient monitoring will be maintained but the sample monitoring site will be moved to a location approximately 1km from the stack and in the arc from west to southwest. (This location indicates the most likely impact during major inversions.)</p> <p>29. The company will establish control procedures to ensure EPA licensed emission levels are not exceeded.</p> <p>30. The company will prepare a management strategy, involving emission reduction during adverse meteorological conditions as predicted by the Bureau of Meteorology. This strategy will be prepared and agreed with the EPA prior to commissioning of the expansion. The strategy will be supported with data of stack emissions, ambient monitoring, meteorological data and model predictions for a period covering not less than one year's operation on the existing plant.</p> <p>Particulate and Dust Emissions <i>Controlled Emissions</i></p> <p>31. The company will treat kiln process gas and ventilation air streams to remove particulate to levels which ensure compliance with EPA licence conditions.</p> <p>32. The company will monitor stacks to ensure compliance with EPA licence limit.</p> <p>33. The company will maintain dust containment and dust removal systems in good working order to the satisfaction of the EPA.</p>

No.	COMMITMENT
	<p>IMPACT ON AIR QUALITY</p>
	<p>Particulate and Dust Emissions (Cont.)</p>
	<p><i>Fugitive Dust Emissions</i></p>
34.	<p>The company will ensure that all conveyors are covered and that all transfer points in the plant are enclosed and ventilated to prevent escape of generated dust.</p>
35.	<p>The company will provide a large enclosed area for the storage of dry kiln product.</p>
36.	<p>All trucks transporting dry material to, from and around the plant site will be required to cover potentially dusty loads to minimise wind disturbance of materials carried.</p>
37.	<p>Roads within the plant and disposal site will be swept and/or watered to minimise generation of airborne dust by vehicle movements.</p>
38.	<p>Stockpiles of materials will be located and managed to prevent fugitive emissions creating a nuisance outside the company's boundaries.</p>
39.	<p>The company will monitor plant and plant boundary dust loadings in air to maintain effectiveness of dust control measures.</p>
	<p><i>Odour Control</i></p>
40.	<p>Extracted ground water will be treated to remove or kill bacteria and algae which may lead to the generation of mercaptan.</p>
41.	<p>All sources of hydrogen sulphide will be ventilated to the kiln afterburning chamber where the hydrogen sulphide will be destroyed by combustion with excess air.</p>
42.	<p>Coal combustion systems will be operated to maintain complete combustion.</p>
43.	<p>The company will investigate any odour which may originate from the plant and will take action to manage the making or release of odorous materials.</p>
	<p>IMPACT OF SOLID DISPOSAL</p>
44.	<p>The company will develop detailed procedures for controlling solid waste disposal in the North Capel pit:</p>
	<ul style="list-style-type: none"> - All waste material will be placed at least 1 metre above the winter water table.
	<ul style="list-style-type: none"> - Material will be compacted to minimise leachate generation.
	<ul style="list-style-type: none"> - The pit profile will be maintained to maximise rain water run-off.
	<ul style="list-style-type: none"> - Solid wastes will be covered by a minimum of 1 metre of clean sand prior to rehabilitation.

No.	COMMITMENT
<p>IMPACT OF SOLID DISPOSAL (Cont.)</p>	
45.	Dust generation in the active solids disposal area will be minimised by sprinkler systems and water trucks to dampen the surface and prevent nuisance outside the company's boundary.
46.	Records of disposed materials will be maintained and will be available to future land users on purchasing.
47.	Surface surveys will be annually carried out to determine stability of the ground.
48.	Trials will be undertaken to determine the best species for rehabilitation and to determine beneficial short and medium term land use.
<p>IMPACT OF PLANT NOISE</p>	
49.	Noise emissions will be regularly monitored to ensure compliance with EPA standards.
50.	Engineering modifications to the existing plant will be undertaken in order to reduce impact in the worst case scenario.
51.	A budget allocation will be committed for noise suppression work on the expanded plant after start up. Monitoring will determine if work is required or not. The company will undertake to progress modifications with priorities as agreed with the EPA.
<p>SOCIO-ECONOMIC IMPACT</p>	
52.	The company will maintain a local priority policy in terms of employment and supply of goods and services.
53.	Should a construction camp be decided upon, a management plan will be drawn up in consultation with the Shire of Capel and to the satisfaction of the EPA.
<p><i>Transport</i></p>	
54.	The company will require road transport contractor to supply and maintain the appropriate fleet to minimise spillage, noise and dust on the roads.

No.	COMMITMENT
55.	<p>EMERGENCY PLANS</p> <p>The company will have in place drills designed to handle the following emergency situations:</p> <ul style="list-style-type: none"> Spillage of sulphuric acid. Spillage of quicklime. Fire. Injury. <p>These drills will be set up as part of the employees' regular training and updated as and when required.</p>
56.	<p>RISK ANALYSIS</p> <p>Should the company select the alternative technology for inclusion into the proposed plant expansion, then that portion of the plant and process not associated with the traditional Becher process will be subjected to a full risk analysis.</p>
57.	<p>MANAGEMENT AND ADMINISTRATION</p> <p>The company will produce an Area Management Plan which clearly defines short, medium and long term objectives, management and monitoring procedures. It will incorporate commitments, communication and licensing conditions and will identify responsibilities and accountabilities.</p>
58.	<p>The company will include environmental responsibilities in the job descriptions of all employees.</p>
59.	<p>The company will ensure that all employees receive sufficient training in environmental management procedures and practices to carry out their duties.</p>
60.	<p>The company will maintain a reporting procedure to promptly identify non compliance or potential non compliance to senior management and government authorities.</p>
61.	<p>The company will conduct audits on environmental performance and practices at intervals not exceeding two years.</p>
62.	<p>MONITORING PROGRAMME</p> <p>The company will maintain a programme of monitoring to support the management of environmental impacts.</p>
63.	<p>The company will review the monitoring programme to ensure that it is appropriate to the needs of good environmental management.</p>

Attachment to Statement 291 – Change to Description of Proposal.

Proposal: Duplication of Synthetic Rutile Plant Capacity, Capel

Proponent: Iluka Resources Limited

Change: to description in Consultative Environmental Review, 1992.

From:

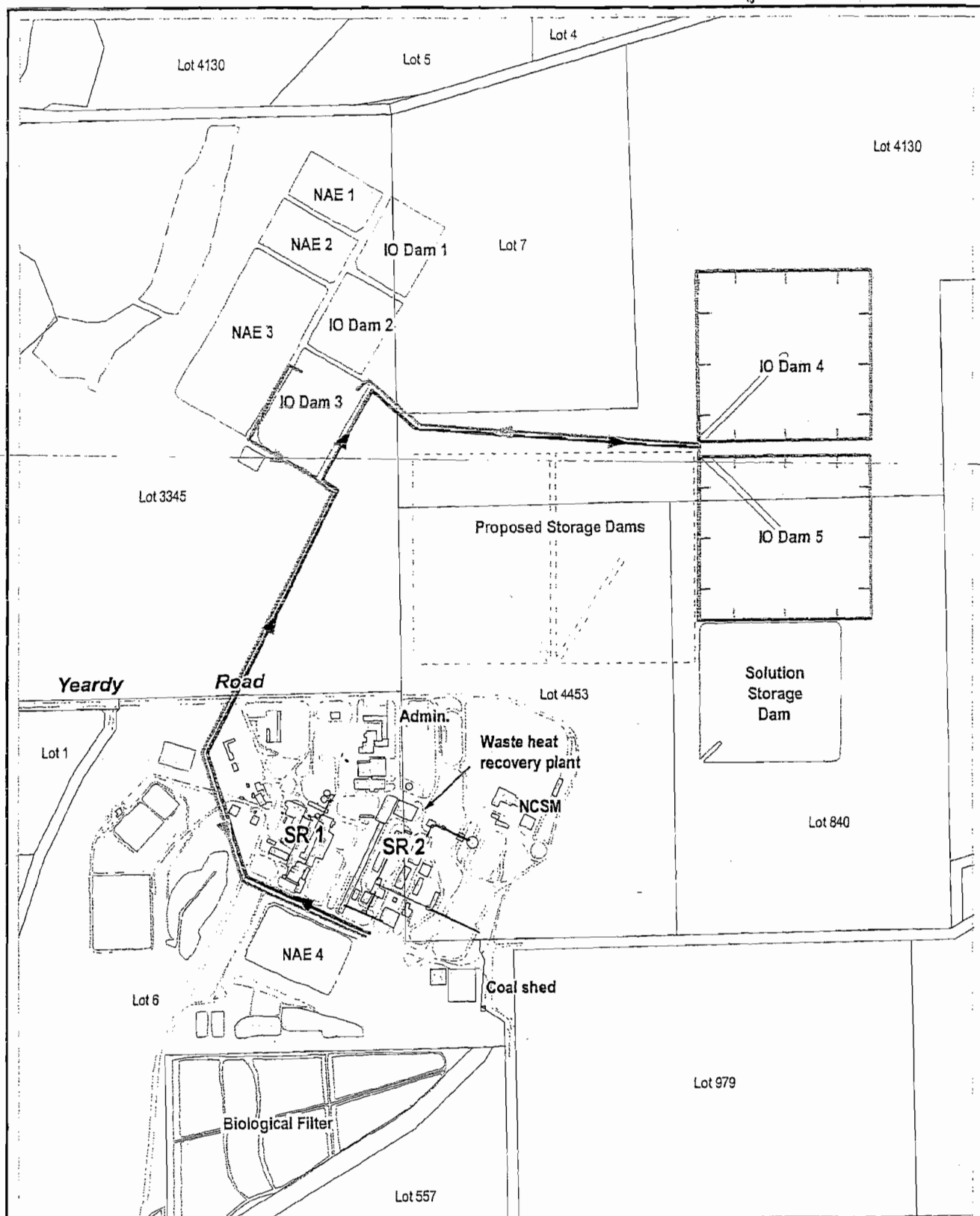
Element	Quantities/Description
Site operations infrastructure	Existing infrastructure shown on Figure 1

To:



Element	Quantities/Description
Site operations infrastructure	Shed and access roads at location shown on Figure 2

Approval Date: *18 August, 2005*

Figure 1




Legend:

-  IO process liquor
-  Return process water



0 250 500m




ILUKA

ORIG: M. Harwood

DRAWN: D.G.S.

SCALE: 1:10 000

DATE: 26 March 2005

DWG No: 150062 ver.00

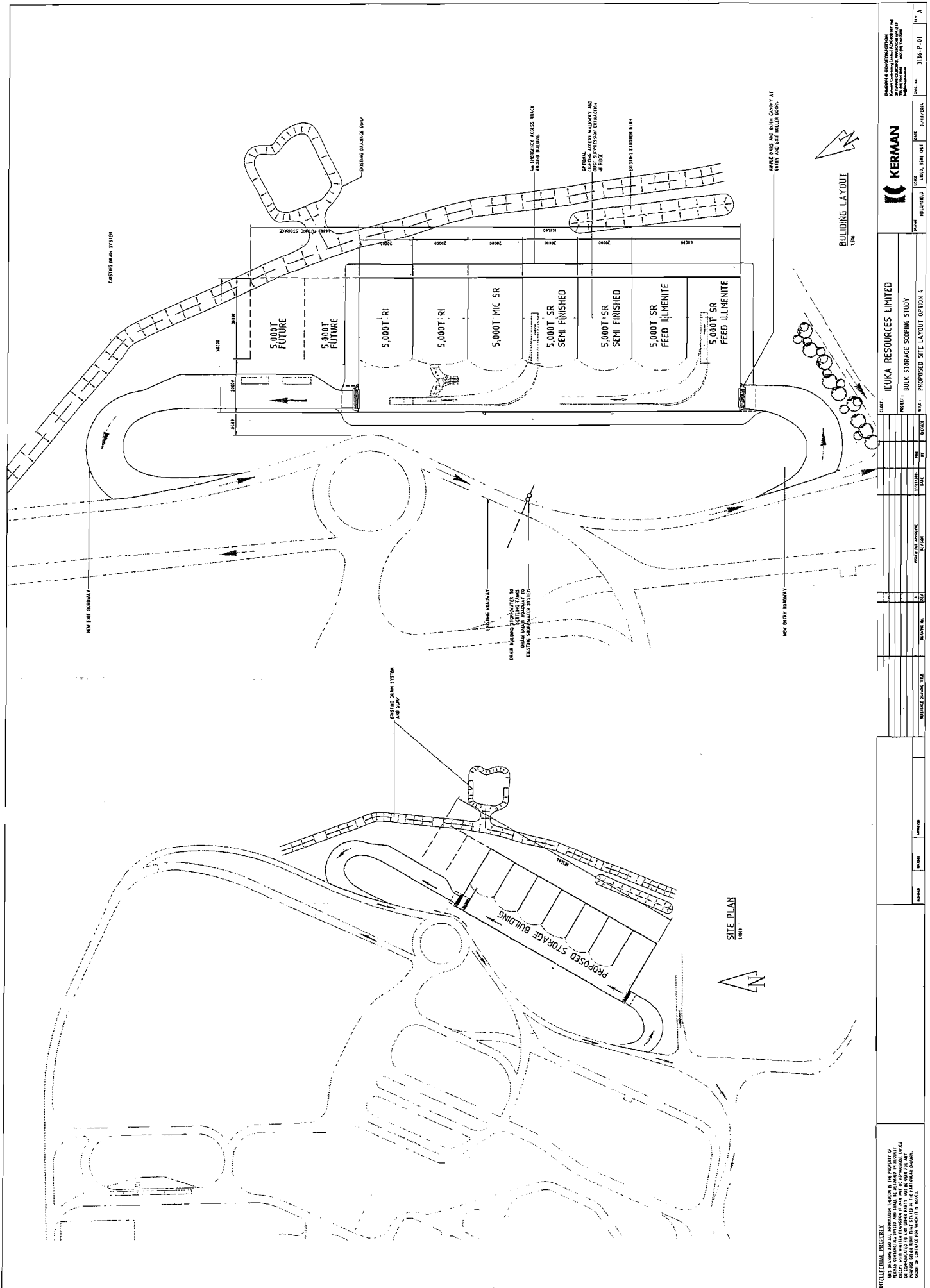
NORTH CAPEL

SR PLANT

**EXISTING
OPERATIONS**

FIGURE: 1

Figure 2



Attachment to Statement 291 – Change to Description of Proposal.

Proposal: Construction of internal wall lift on existing Iron Oxide Dams No 4 and No 5I

Proponent: Iluka Resources Limited

Change: to description in Consultative Environmental Review, 1992.

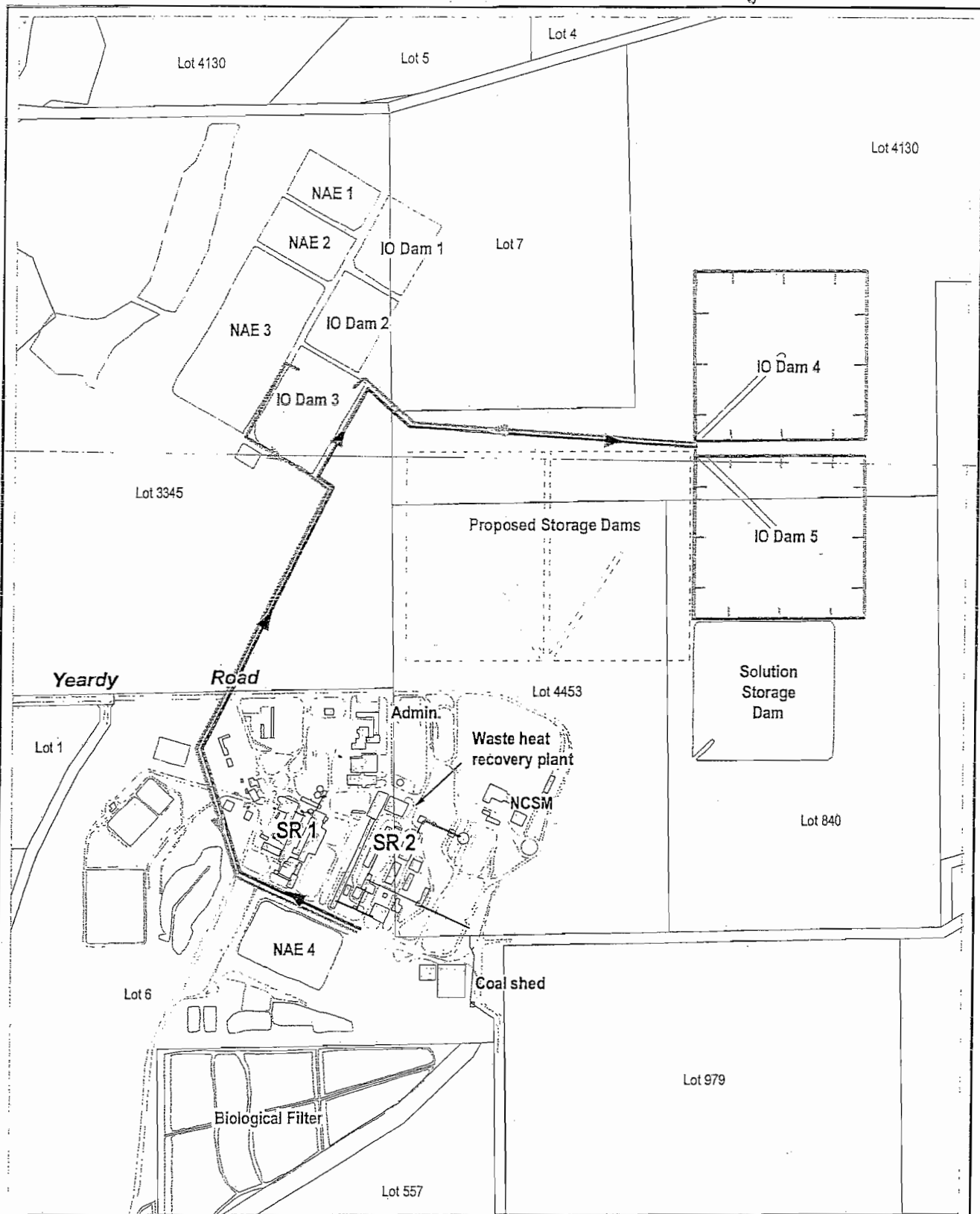
From:

Element	Quantities/Description
Site operations infrastructure	Existing infrastructure shown on Figure 3 of the Notice of Intent

To:

Element	Quantities/Description
Site operations infrastructure	To proposed infrastructure shown in Figure Six Option One of the Notice of Intent

Approval Date: 3 October, 2005



Legend:

- IO process liquor
- Return process water



0 250 500m



ILUKA

ORIG: M.Harwood

DRAWN: D.G.S.

SCALE: 1:10 000.

DATE: 26 March 2005

DWG No: 150062 ver.00

**NORTH CAPEL
SR PLANT
EXISTING
OPERATIONS**

FIGURE: 43

Figure Six: Options for Construction of the Lift on IO#4 and IO#5

