

EIS 795

AB019579

Ashford Quarry rehabilitation proposal

ENVIRONMENTAL GEOLOGY
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NSW DEPT PRIMARY INDUSTRIES

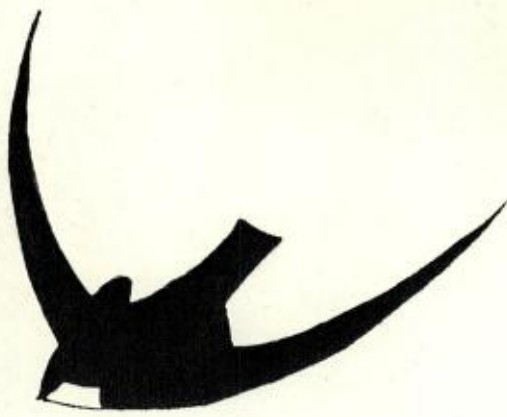


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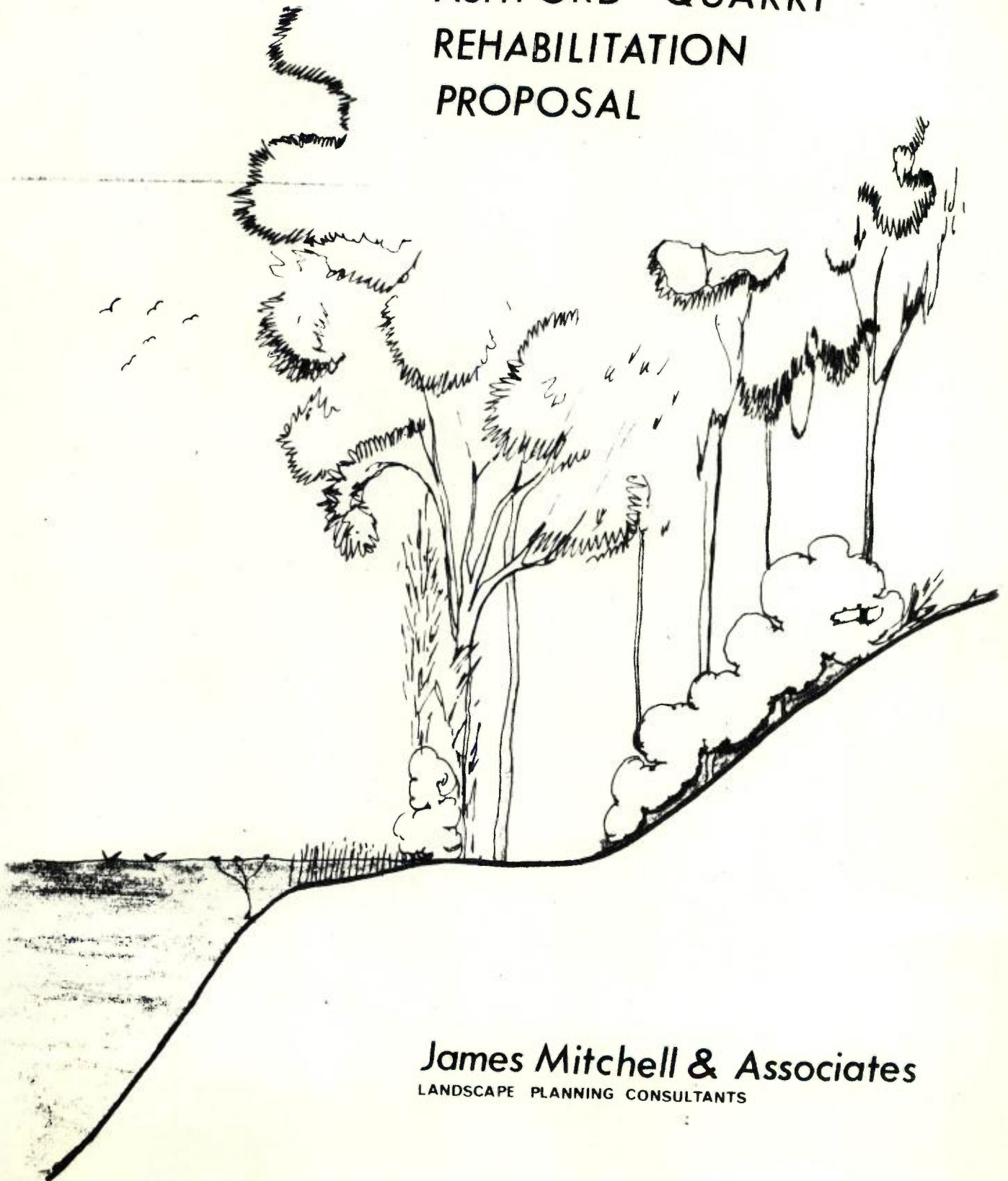
NSW DEPARTMENT OF
MINERALS AND ENERGY

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ASHFORD QUARRY REHABILITATION PROPOSAL



James Mitchell & Associates
LANDSCAPE PLANNING CONSULTANTS

ASHFORD QUARRY - REHABILITATION PROPOSAL

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PLANS

REMOVED

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ASHFORD QUARRY - REHABILITATION PROPOSALS

THE CONCEPT

Coal has been extracted from Ashford Quarry for many years to supply fuel to the adjoining power station. During this period overburden has been removed to gain access to the coal seams and deposited in a number of locations around the site. Three large open cuts approximately 550M. long x 85M. wide x 30M. deep remain as well as stockpiles of similar proportions.

Ashford Quarry



Reinstatement of the mine has already begun by White Industries in an endeavour to reduce its impact on the environment. Cuts have been filled and overburden piles have been reshaped and revegetated. The success of this operation is fully illustrated by this photograph.

Completed site
shaping at
Ashford Quarry



The total mining area is in excess of 160ha. and the attached drawings indicate the proposed concept for the rehabilitation of the site.

Generally it is intended to make the site fit and useful for wildlife habitation by creating an open woodland landscape and a system of diverse wetlands.

It is considered that this will be the best immediate land use for the site enabling future mining options to remain open, as a larger coal deposit still remains but at the present stage extensive extraction is not feasible.

LANDFORMS

The stockpile of overburden will be graded to a shape to blend into the landscape. Some of this work has already been undertaken at Ashford.



Grading of stockpile and protection of existing trees.

During this grading process a greater diversity of habitats can be created to suit a wide range of vegetation. Swales and sheltered pockets of various aspects can also be achieved.

In certain locations when gentle slopes are impracticable to produce stabilization with the use of on site boulders would be used and a scree type landform created. These screes would provide shelter for smaller reptiles.

Existing haulage roads provide access around the site. Some climb the new hillocks and provide views to the surrounding countryside. It is therefore proposed that these will be retained.

Haulage roads
and overburdens
piles still to
be graded



Generally the new landform will consist of gentle undulating hills and vales to the eastern side with steeper contours internally adjoining the wetlands. These mounds will provide shelter and seclusion to the habitats surrounding the lagoons.

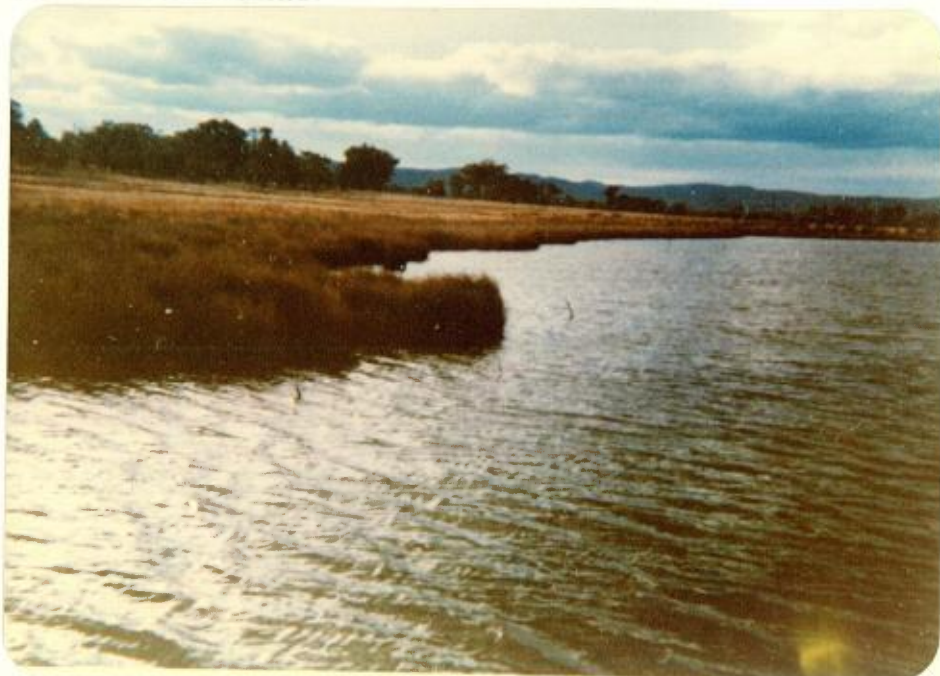
THE LAGOONS

The three quarries remaining after completing the open cut operation will be filled with water to create lagoons and a useful wetland habitat.

Waterbirds have three major requirements, water, food and shelter and the concept allows for the development of these essential ingredients.

Shallow water areas will be constructed where light and warmth can penetrate to encourage the growth of aquatic plants.

The existing dam on the site has all these features and the photographs illustrates the potential of the proposed lagoons. Reeds have quickly colonised the water edges and created a semi natural environment.



Existing site
dam

The edges to the quarries will be trimmed and flattened where possible and shaped irregularly to encourage colonization by aquatic life. The two southern "cuts" will be joined by forming a large marshland between the water bodies.

Islands will be created where practicable such as on the haulage ramps, roads and between the two cuts. Some quarry edges will also be stabilised with boulders again to create diversity and protection.

At the present time the quarries are being kept dry by a system of diversion drains and the use of a pump. It is intended that this process will be reversed and a system of catch drains developed over the area to direct as much of the water falling on the upper catchment as possible into the quarries. Additional water may be required initially and permission is to be sought from the Water Resources Commission to obtain water from the adjoining Severn River. This is already undertaken by White Industries to fill the dam maintaining water supply for the Power Station.



Open cut prior to pumping dry.











Exposed coal seams will be covered and sealed to prevent leaking of any toxic sulphur which could cause the water to become extremely acid and be detrimental to plant life.

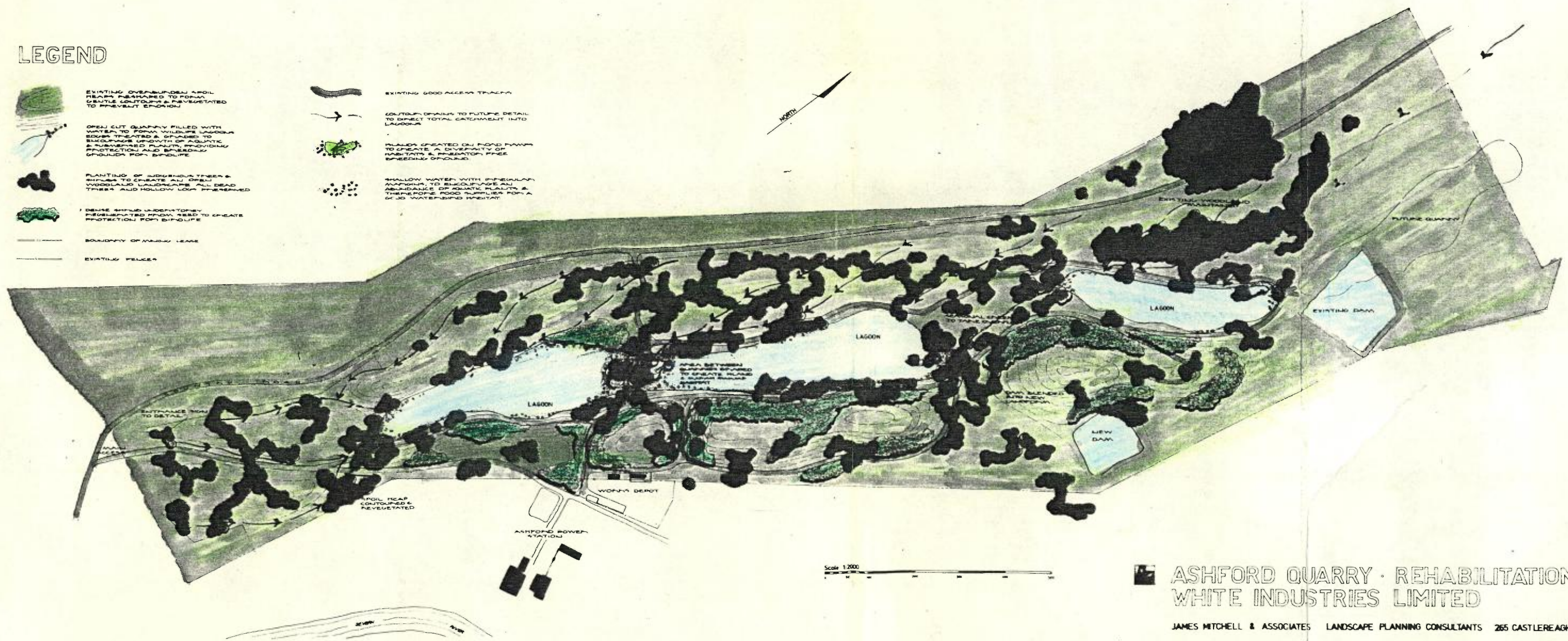
REVEGETATION

Vegetation will be established using indigenous species to create a diversity of habitats from open woodlands to dense understorey, for erosion control and for scenic protection. Existing pockets of woodland will be maintained as these already provide considerable habitats for a wide range of parrots and other birds as well as kangaroos. They will also provide a seed source for natural regeneration of the site.

After reshaping the spoil heaps to acceptable slopes, topsoil will be spread over the area to a minimum depth of 50mm. The entire area to be revegetated will then be chisel ploughed and fertilised and sown with a mixture of grasses and clovers to future specifications. Steeper slopes will be revegetated using tree and shrub species sown by the hydroseeding process.

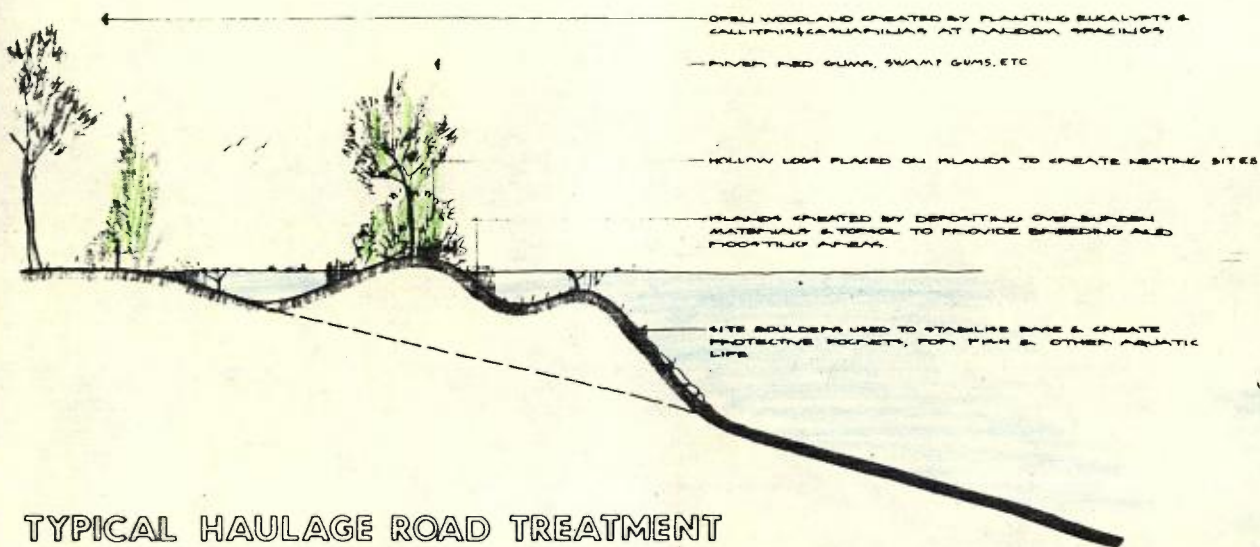
LEGEND

-  EXISTING OVERBURDEN POOL REARS PREPARED TO FORM GENTLE SLOPES & REVEGETATED TO PREVENT EROSION
-  OPEN CUT QUARRY FILLED WITH WATER TO FORM WILDLIFE LAAGOON SOILS TREATED & GRADED TO ENCOURAGE GROWTH OF AQUATIC & SUBMERGED PLANTS, PROVIDING PROTECTION AND BREEDING GROUNDS FOR BIRDS
-  PLANTING OF SUBDOMINANT TREES & SHRUBS TO CREATE AN OPEN WOODLAND LANDSCAPE ALL DEAD TREES AND HOLLOW LOGS PRESERVED
-  DENSE SHrub UNDERSTORY PRESERVED FROM ROAD TO CREATE PROTECTION FOR BIRDS
-  BOUNDARY OF MANGY LEASE
-  EXISTING FENCES
-  EXISTING GOOD ACCESS TRACKS
-  CONTOUR DRAINING TO FUTURE DETAIL TO DIRECT TOTAL CATCHMENT INTO LAAGOON
-  ISLANDS CREATED ON FOND PAPER TO CREATE A DIVERSITY OF HABITATS & PROTECTION FROM SPEEDING BOATS
-  SHALLOW WATER WITH IRREGULAR ANSHOES TO ENCOURAGE AN ABUNDANCE OF AQUATIC PLANTS & THEREFORE FOOD SUPPLIES FOR A WILD WATERBIRD HABITAT

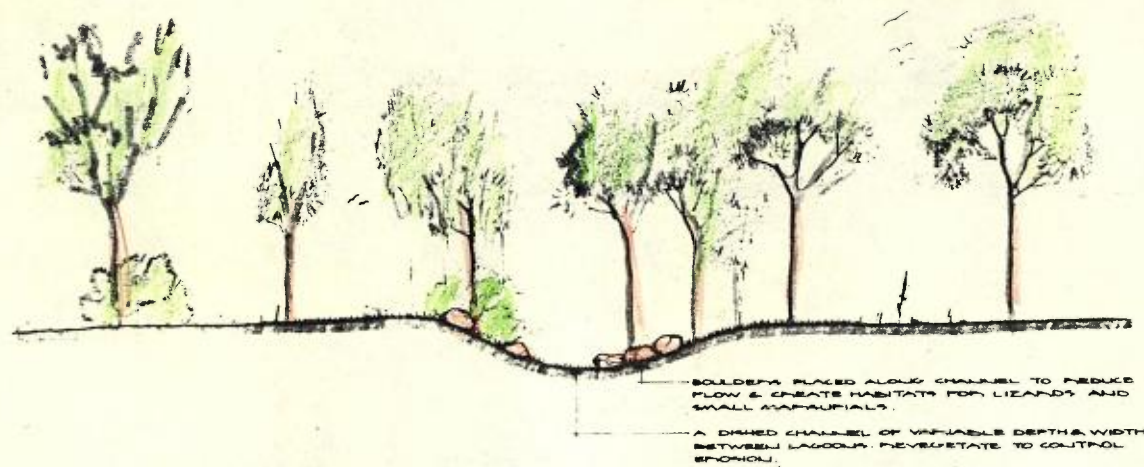


ASHFORD QUARRY · REHABILITATION PROPOSAL
WHITE INDUSTRIES LIMITED : PLAN

JAMES MITCHELL & ASSOCIATES LANDSCAPE PLANNING CONSULTANTS 265 CASTLEREAGH STREET, SYDNEY NSW 2000



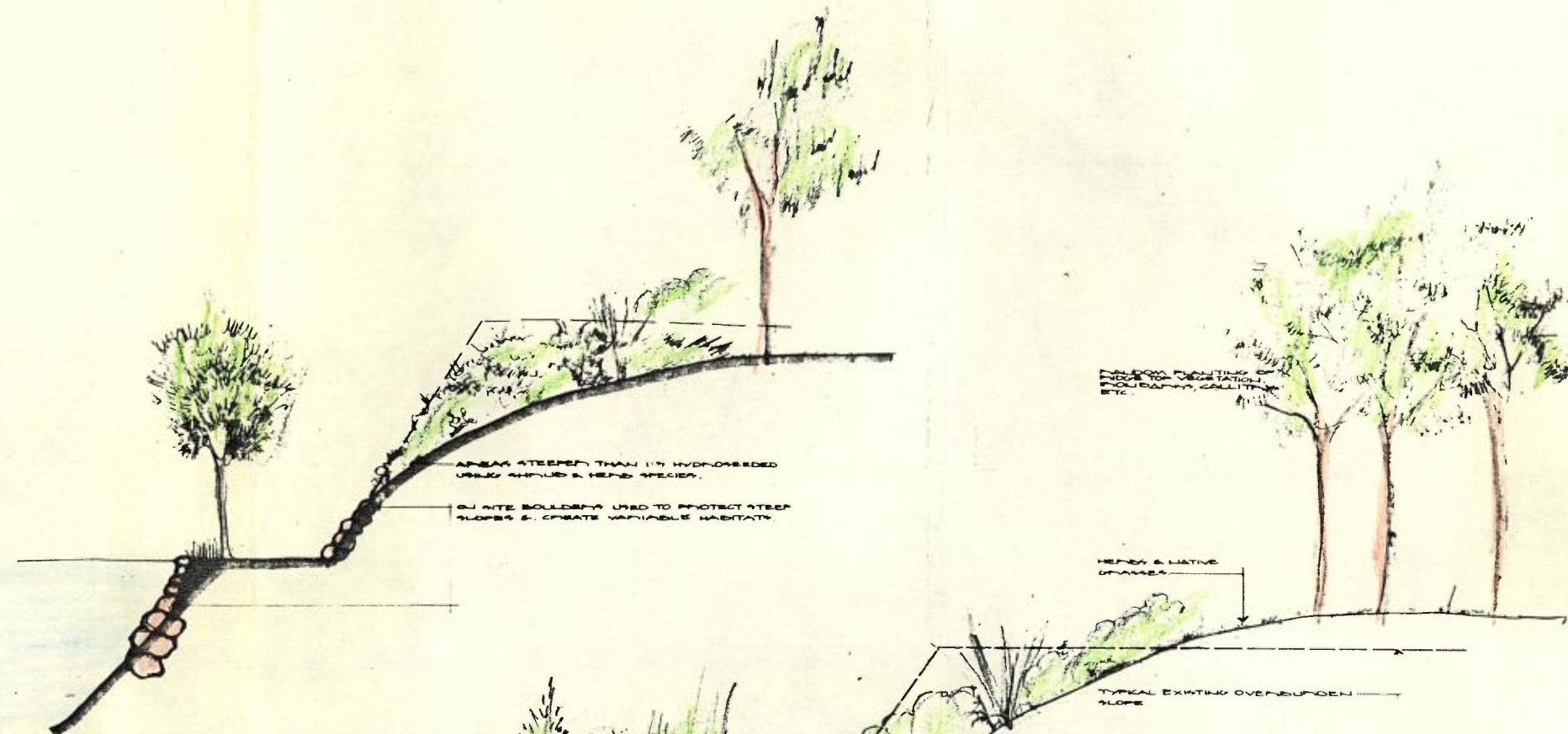
TYPICAL HAULAGE ROAD TREATMENT



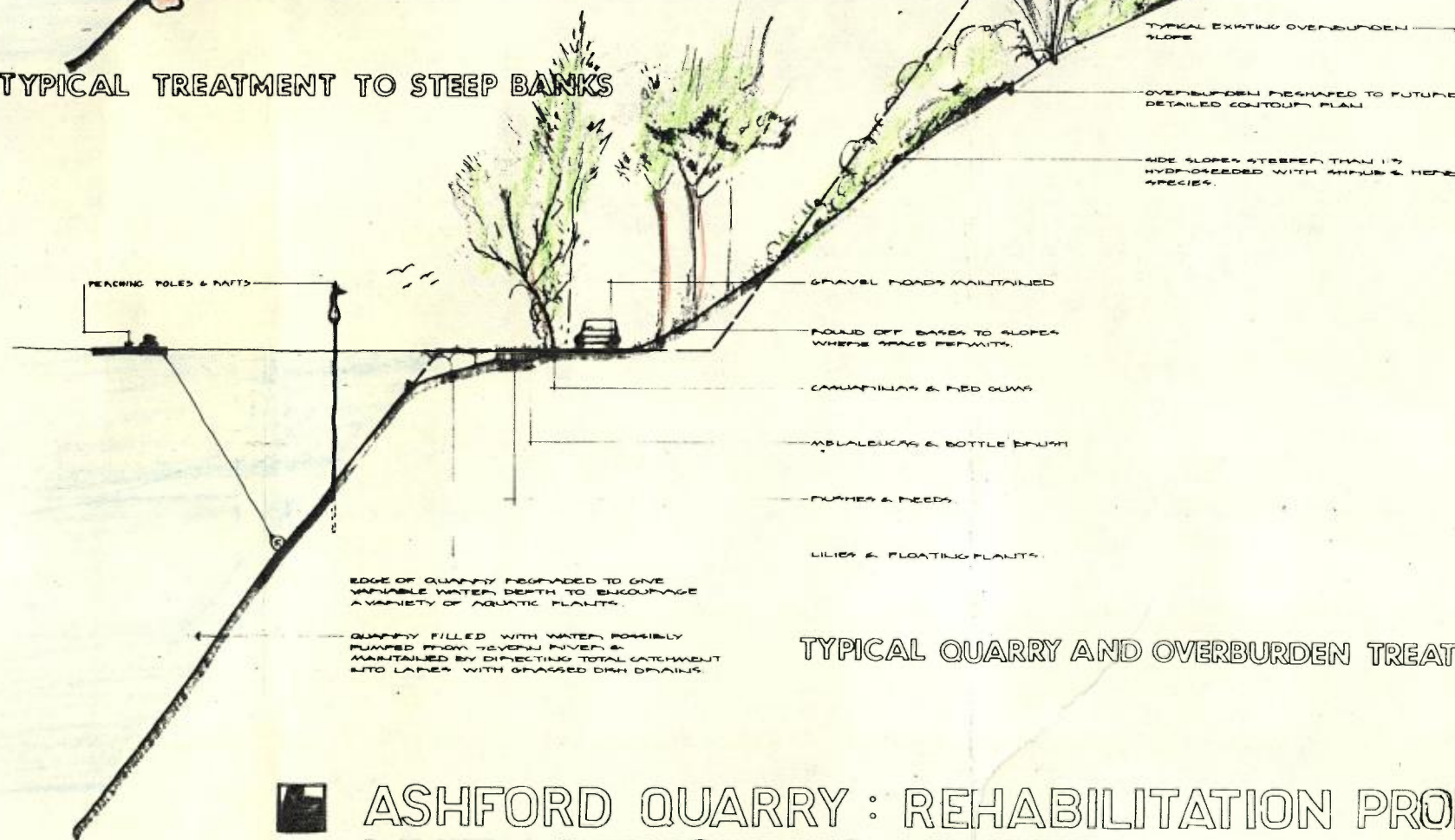
TYPICAL OVERFLOW CHANNEL DETAIL



SIMPLE RUSTIC BRIDGE CROSSING



TYPICAL TREATMENT TO STEEP BANKS



TYPICAL QUARRY AND OVERBURDEN TREATMENT

ASHFORD QUARRY : REHABILITATION PROPOSAL WHITE INDUSTRIES LIMITED : DETAILS

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