



EIS 341

AA052418

Environmental impact statement for the establishment of a river
sand and gravel processing plant upon "Alabama", Rouchel
Road near Aberdeen within the "area defined by deed" being
part of lots 4, 9 & 10 in DP 220425 and part of lot 31 in DP
587897 in the

NSW DEPT PRIMARY INDUSTRIES



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ENVIRONMENTAL IMPACT STATEMENT
FOR THE ESTABLISHMENT OF A
RIVER SAND AND GRAVEL
PROCESSING PLANT
UPON "ALABAMA", ROUCHEL ROAD
NEAR ABERDEEN

E.H. & P.H. CLIFFORD PTY LIMITED

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ENVIRONMENTAL IMPACT STATEMENT
FOR THE ESTABLISHMENT OF A
RIVER SAND AND GRAVEL
PROCESSING PLANT
UPON "ALABAMA", ROUCHEL ROAD
NEAR ABERDEEN
WITHIN THE "AREA DEFINED BY DEED"
BEING PART OF LOTS 4, 9 & 10 IN DP 220425
AND PART OF LOT 31 IN DP 587897
IN THE PARISH OF RUSSELL
COUNTY OF DURHAM

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FEBRUARY, 1987

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LOCALITY SKETCH



1 OBJECTIVES

1.0

OBJECTIVES

1.1. PREAMBLE

E.H. & P.H. Clifford Pty Limited have been extracting sand and gravel material from the Hunter River at Aberdeen in excess of thirty years. They have provided stable employment for their employees over this period of time as they worked the Hunter River from Broad Crossing to south of the township of Aberdeen.

Originally, the sand and gravel was extracted from the deposits of material at the Lateral Bars and Terraces along the River's flood channel. Raw material extracted was firstly transported off site.

The demand for specific and uniform material made it necessary to acquire a washing and screening plant to service their clientele. As the demand increased for more material, a crushing plant was introduced to provide an economical and conservative processing of the raw material.

In the former years the processing plant was installed close to the excavation area, but as the components of the plant increased, it was not feasible to frequently move the plant. A central position was chosen for the washing, screening and crushing plant and the raw material was transported to it for processing.

Before 1976 the plant was established upon Mr James Bowcock's property near the confluence of the Hunter and Pages Rivers. The washing, screening and crushing plant was then driven by diesel motors.

In 1976 the whole plant was moved from Mr Bowcock's property and established upon J.T. Walker's property, "Marada", on the outskirts of Aberdeen (see Location Diagram). The washing, screening and crushing plants were converted from diesel to electrical-powered motors in 1981. E.H. & P.H. Clifford Pty Limited have been operating from this plant since then and have had no adverse reactions from adjoining residential dwellings, rural or urban at Aberdeen.

The Scone Shire Council has acknowledged the existing rights of E.H. & P.H. Clifford Pty Limited to extract sand and gravel from the abandoned river beds within Mr Bowcock's property. The main source of supply of sand and gravel being processed is excavated from this area of land adjoining the confluence of the Hunter and Pages Rivers.

The raw material presently excavated from this site is transported directly to the processing plant 3.5 kilometres along Rouchel Road towards Aberdeen. This material is thence crushed if necessary, washed and screened. The washed sand and graded aggregate is then transported directly to various clientele, stockpiled at the plant or back-loaded to be stockpiled at the extraction site within Mr Bowcock's property.

1.2 NEED FOR DEVELOPMENT

The existing method of operation for the production of washed sand and graded aggregate has become inefficient due to the fact that the processing plant is situated away from the source of supply of raw materials. If both operations were combined within the one site, operating costs would be conserved. These cost savings would, in turn, enable a considerable price reduction for the finished product.

In the present economic conditions being able to market a competitive product is a prerequisite of good business management. Also, under the prevailing circumstances it may well be a matter of survival for those engaged in the private business sector.

The major efficiencies acquired by the transfer of the plant to the extraction site would be in the haulage of materials along Rouchel Road, as follows:-

- (1) At present the raw material being excavated and transported to the plant contains silt, clay and debris. These materials are discarded by the processing plant and are transported back to the excavation to be used as fill. The haulage of this 'waste' material can be eliminated thus saving as much as one in five truck movements of finished material and eliminating any back loading of this 'waste' material.
- (2) At present graded material is being transported back from the plant to be stockpiled at the excavation site. Once this graded material is sold it is again transported back along Rouchel Road to the client. The law of supply and demand governs the quantity of this graded material stockpiled at any one time within the excavation site. Once the operations are combined, this haulage to and from the plant will be eliminated.
- (3) The combination of both operations at the one site will also reduce the vehicle movements of the water truck, fuel truck and other equipment which is used from time to time on each site.
- (4) It is estimated by this proponent, that a reduction of up to 50 per cent of the present truck movements along the Rouchel Road will occur. Also this will reduce the impact the present operation has upon the environment.
- (5) The encumburant costs to maintain the vehicles will also be reduced when less haulage of materials is required.

1.2 NEED FOR DEVELOPMENT cont.

Administration costs will also be reduced by the more efficient management of both operations at one site. Savings on capital outlay will also occur when both operations are combined as only rental payment for one site will need to be met.

The management of E.H. & P.H. Clifford Pty Limited have analysed the present cost structure of their operation and have concluded that this proposal is necessary for the continuation of their service and employment of personnel in this region.

1.3 EMPLOYMENT

E.H. & P.H. Clifford Pty Limited employ a basic group of nine persons for their present operation. These employees consist of:-

- 1 Operational Manager
- 1 Office Secretary
- 1 Mechanic for Plant and Equipment
- 3 Plant and Equipment Operators
- 3 Truck Drivers

This basic group is on occasions supplemented with casual day labour in times of peak demand. On such occasions, the bulldozer, scraper or grader is working in conjunction with the other machinery.

Also, in time of high demand for material, haulage trucks are subcontracted to transport material. The subcontractors are engaged from this locality whenever possible.

Up to three additional casual employees may be engaged and three to ten trucks subcontracted at any given time. The employment of this workforce is beneficial to the region. The acceptance of this proposal will ensure a continuation of this workforce.

1.4 MARKETS

E.H. & P.H. Clifford have created a large clientele for washed sand and graded aggregate over the past thirty years. It is imperative that cost-efficient practices are implemented to maintain their existing market.

Originally, Clifford's operated the only crushing plant in the Upper Hunter Region. Now other extraction sites have obtained similar plants. Hi-Quality Concrete (formerly Logan and Philp) south of Aberdeen, B.M.G. (country) Pty Limited at Muswellbrook and W.A. Collins and Sons at Denman, are now producing a similar product. Also the higher technology of vehicles used for haulage has opened this region to competitors from further afield.

1.4 MARKETS cont.

E.H. & P.H. Clifford can maintain their share of this market provided both excavation and processing operations are combined at the one site.

Their present clientele consists of the following:-

- (i) Department of Main Roads
- (ii) Scone Shire Council
- (iii) Muswellbrook Shire Council
- (iv) Murrurundi Shire Council
- (v) Water Resources Commission
- (vi) Civil Construction Companies
- (vii) Building Contractors

1.5 STATEMENT OF INTENT

E.H. & P.H. Clifford Pty Limited submit this Development Application to the Scone Shire Council for consent to transfer their washing, screening and crushing plant from its present location upon Mr. J.T. Walker's property to the Hunter and Pages River confluence within Mr. James Bowcock's property. The transfer of the processing plant will return it to the vicinity from which it operated prior to 1979.

Although the present location of the plant has provided a stable base for processing the raw material, it is felt that the relocation of the whole operation will provide a more economical and environmentally suitable base, as the plant will be adjacent to the major excavation site for the supply of raw material.

2 SITUATION

2.0

SITUATION

2.1 SCOPE OF THE DEVELOPMENT APPLICATION

The scope of this development application is related specifically to the establishment of the washing, screening and crushing plant together with associated office buildings and weigh bridge upon the property "Alabama". The proposed development will be located immediately south of the confluence of the Hunter and Pages River in the area of land between the Hunter River and the Rouchel Road. (See Plan No. 1)

This area of land was included in the Environmental Impact Statement prepared in December, 1981 by the Water Resources Commission for the "Glenbawn Dam Enlargement Proposal". The Scone Shire Council has given consent to E.H. & P.H. Clifford Pty Limited to extract sand and gravel from this land in accordance with that which was proposed by the Water Resources Commission. (See Plan No. 2)

E.H. & P.H. Clifford use this area at present as their major source of raw material. This Environmental Impact Statement does not encompass any part of the excavation sand and gravel from the abandoned river beds.

2.2 TITLE DESCRIPTION

The relocation of the washing, screening and crushing plant will be next to the excavation site within the rural property known as "Alabama". It will be established within the "Area Defined by Deed" as indicated in Plan No. 1.

The Real Property description of this area is as follows:-

Part of Lot	Deposited Plan	Certificate of Title	
		Volume	Folio
4	220425	9850	108
9	220425	15074	151
10	220425	15074	152
31	587897	13320	84

The property "Alabama" once formed part of the original Kelvinside Estate which has subsequently been subdivided over the past years. Part of Lot 9 & 10 in Deposited Plan 220425 contain the bed of the Hunter River as it existed prior to 1917. (See Plan No. 3)

2.3 LAND OWNERSHIP

E.H. & P.H. Clifford Pty Limited have a Licence Agreement with Mr. James Bowcock, Director of the Company owning "Alabama", for the area of land adjoining the Hunter and Pages Rivers confluence. It is intended to relocate the existing washing, screening and crushing plant within this area of land defined by deed.

2.4 ZONING

The current zoning of Mr. J. Bowcock's property, "Alabama",

2.4 ZONING cont.

at the Hunter and Pages Rivers confluence is Zone No. 1. (a) which was previously known as Rural A Zone. The objectives of this zone is to protect the use and efficiency of agricultural land while permitting appropriate development subject to suitable subdivision controls.

The proposed development is not a prohibited use under the provisions of the zoning instrument and development may take place with consent from the Scone Shire Council.

2.5 AUTHORITIES CONSULTED

The Government Authorities which have been notified of the proposed development and have been requested to identify any requirements that are to be taken into account in the preparation of this Environmental Impact Statement are:-

- (a) The Scone Shire Council
- (b) The Department of Environment and Planning
- (c) The State Pollution Control Commission
- (d) The Water Resources Commission

3 EXISTING ENVIRONMENT

3.0

EXISTING ENVIRONMENT

3.1 TOPOGRAPHY

The proposed development site is situated within a river valley formation as the purpose of the development application is to locate the processing plant adjacent to the source of supply of raw material. The excavation site exists at the confluence of the Hunter and Pages River.

The Hunter River is flowing in a westerly direction and the Pages River in a southerly direction when they meet. From their confluence the waters flow in a westerly direction thence south westerly to pass through Aberdeen.

The valley system of both rivers is narrow upstream from their confluence. The Hunter River flows through the valley between Page and Thunderbolt Mountains to the north, and Logans Mountain on the south whilst the Pages River flows through the valley between Page Mountain to the east and Segenhoe Mountain to the west. Once past the confluence, the Hunter River passes through open undulating land thence to the extensive alluvial river flats at Aberdeen. (See Plan No. 3)

There are large deposits of sand and gravel at the rivers' confluence. They exist from the toe of the high levee bank to the south of the abandoned bed and continue in a northerly direction following the traces of the river until it reached its present position.

Undulating land extends from the river banks south towards Logan Mountain and west towards Aberdeen. To the north, the undulating land soon meets the foothills of the Segenhoe and Page Mountains. Small alluvial flats exist to the east upstream along the Hunter River.

3.2 LANDSCAPE

The predominate landscape about the proposed development site is that common to the dairy and grazing properties of the Upper Hunter Valley. The proposed development is situated between the closer settled areas adjacent to Aberdeen and the relatively larger holdings of the upper reaches of the Hunter River.

A cattle feed lot exists about 1 kilometre south west of the proposed site and a horse stud at "Brooklyn Lodge", 0.9 kilometres south east. The land adjoining is mainly open grazing land with cultivated lucerne pastures to the east between the Hunter River and Rouchel Road.

The Water Resources Commission has carried out river bank stabilisation programmes along the river. Plantations of willow and oak trees line the existing banks and the high levee banks of the abandoned river beds south of the confluence.

3.3.0 CLIMATE

There has been no observations of climatic conditions at the proposed development site. An Environmental Impact Statement prepared by the Water Resources Commission in December, 1981, for the "Glenbawn Dam Enlargement Project" relates to this region. A resume of observations carried out by the Scone Research Station has been compiled and would indicate that no adverse effects would occur to or from the proposed development due to the prevailing climatic conditions.

3.3.1 RAINFALL

The average rainfall of the proposed development site is 650 millimetres with the catchment area of the Hunter being 950 millimetres and the Pages 750 millimetres. As shown in figure 1, however, considerable variation in rainfall exists from year to year and summer rainfall is more likely to have downpours of intensities of over 50 millimetres per hour.

The processing plant is to be established upon land above 1 in 100 year flood level whilst the office and buildings will be well above the 1 in 100 flood level.

3.3.2 TEMPERATURE

The temperature varies considerably throughout the year. Very warm to hot days are experienced in the summer with mild autumn and spring and cold winters.

The daily maximum temperature is 24°C with the daily minimum temperature 11°C. The highest maximum reading of 43.3°C and the lowest minimum of 2.7°C have been recorded.

3.3.3 WIND

Wind patterns vary with the direction of the main valley ranges along the Hunter River Valley. Figure 2 shows the wind rose prepared for the Scone District. This would indicate that the predominant winds for the first half of the year are southerly whilst the predominant wind for the latter part of the year are westerly.

3.4 SOCIAL

The existing extraction site was included in the Environmental Impact Statement prepared by the Water Resources Commission in December, 1981. The Scone Shire Council granted development consent to excavate sand and gravel from this area by recognising the existing rights acquired by E.H. & P.H. Clifford over the last thirty years.

The excavation of sand and gravel from the area has been continuous and has become part of the social aspect of the area. The extraction site employs three people whilst the associated processing plant employs six people.

3.4 SOCIAL cont.

As the proposed development will be located within this existing extraction site, it was found that an Archaeological Survey for Aboriginal sites and Relics would be unwarranted. However, the proponent is aware that any relics are the property of the Crown and according to the National Parks and Wildlife Act, 1974, it is illegal to damage, deface or destroy any such relics without written permission from the Director. Should any relics be found during the course of the development, the National Parks and Wildlife Service will be informed.

The property, "Alabama" and adjoining land was once part of "Kelvinside Estate" which has subsequently been divided into smaller holdings. These rural properties are sparsely populated with the residential dwellings of the owners and employees who work the land located along the roadways.

The adjoining properties have been cleared of most trees and the open grass land is used for the grazing of beef cattle. Some cultivated pastures are cultivated along the river flats to the east of the confluence and extensive cultivation exists further to the west near Aberdeen. A beef cattle feed-lot is situated to the south west and a horse stud at "Brooklyn Lodge" to the south east.

Although the predominate social aspect of this area is related to rural pursuits, E.H. & P.H. Clifford Pty Limited consider their operation as part of the social fabric of the region. They have worked in this region for over thirty years, have traded locally, and employed a stable workforce which is of overall benefit for the region.

3.5 ADJOINING RESIDENCES

The washing, screening and crushing plant has operated within Mr. J.T. Walker's property on the outskirts of Aberdeen since 1976. The plant has been converted from diesel to electric powered motors.

The existing plant stands about 0.25 kilometres from the residence upon the property "Maranda", 0.4 kilometres from the residence upon the property "Tangarang" and 0.5 kilometres from the residences upon "Riverview". (See Plan No. 4) The processing of raw material and the transportation of material to and from the plant has been continuous since 1976 and no objection have been received from these adjoining residences. Also no objections have been received from the residents of Aberdeen.

This same processing plant and equipment will be transferred to the proposed site at the confluence of the Hunter and Pages Rivers. The nearest residential dwelling will be the cottage within the property "Brooklyn Lodge". This is a single cottage screened by trees and 0.5 kilometres south from the position of the proposed processing plant.

The main residential dwellings upon "Brooklyn Lodge" are situated 0.9 kilometres south east of the proposed site. A

3.5 ADJOINING RESIDENCES cont.

grassy knoll exists between these dwellings and the proposed plant, and this forms a natural screen together with the vegetation about the buildings.

Another residence is situated 0.6 kilometres south west of the proposed site and is associated with the cattle feed-lot operation. It is adjacent to the Rouchel Road. The willow and oak trees about the high levee bank and abandoned river bed form a natural screen between this dwelling and the proposed site of the plant.

3.6 PLANT AND EQUIPMENT

The processing plant and extraction site are situated adjacent to the Rouchel Road about 3.5 kilometres apart. Thus the existing plant and equipment are divided to suit these respective areas.

The existing plant and equipment may then be grouped as follows:-

(a) EXTRACTION SITE

- 1 Caterpillar 950 Frontend Loader
Rubber Tyres and bucket capacity of 2.5m³
- 1 Wabco Scraper
Rubber Tyres with load capacity of 6m³
- 1 CIMA Dragline
Diesel motor and bucket capacity of 1m³
- 1 International Dump Truck
capacity of 9m³
- 1 Caterpillar D7F Bulldozer

(b) PROCESSING PLANT

- Washing, Screening and Crushing Plant
(See Note 1)
- 1 Kanazaki 580 Frontend Loader
Rubber Tyres and bucket capacity of 3.5m³
- 1 Caterpillar Frontend Loader
Rubber Tyres and bucket capacity of 1.5m³

(c) EXTRACTION SITE AND PROCESSING PLANT

- 1 Commer Water Cart
6 Tyre and capacity of 10,000 litres
- 1 Fuel Trailer
Rubber tyred and capacity of 10m³
- 1 6-tyred Caterpillar Grader
- 1 International Tip Truck
capacity of 11m³

3.6 PLANT AND EQUIPMENT cont.

(c) EXTRACTION SITE AND PROCESSING PLANT cont.

1 Louisville Tip Truck
capacity of 10m³

Note (1) There are two sections within the crushing stages of the existing plant. A Jakes Jaw crusher is situated in a 6 x 4.3 metre hopper. This crushing implement is used for oversize rocks up to 0.3 metres thick. The Jaw crusher can be by-passed when processing rocks of under 75 millimetres thick to an adjoining hopper bin in which two gyrotary crushers are located.

4 PROPOSED DEVELOPMENT

4.0

PROPOSED DEVELOPMENT

4.1 RELOCATION OF PLANT AND EQUIPMENT

All existing plant, office and related buildings will be transferred from its existing site within the property of Mr. J.T. Walker's to the present excavation site at the confluence of the Hunter and Pages Rivers. The washing, screening and crushing plant together with the associated office buildings and weigh bridge will be installed as shown in Plan No. 5.

The office buildings and weigh bridge will be established upon the high level ground adjacent to the Rouchel Road. The position of the processing plant and stockpiles have been located to achieve a site which will combine efficient management and conservation of energy resources whilst bearing in mind the need of visual and noise pollution control.

4.2 PROCESSING PROCEDURES

As shown in Plan No. 5 the raw material will be extracted from the present workings and directly transported by dump truck to the feed bin at the processing plant. The raw material will then be processed as described and shown in Diagram No. 1.

From the feed bin the raw material is lightly wetted and moved by conveyor to pass over an inclined grate. This grate separates the materials above 75 millimetres in thickness from the remaining silt, clay, sand, gravel and small stones which drop onto the main feed belt. The remaining material above 75 millimetres and below 300 millimetres in thickness travel down the inclined grate and are fed into the jaw crusher.

The jaw crusher is continually functioning while the plant is being operated but only crushes the oversized material as it becomes available via the inclined grate. It is estimated that the jaw crusher is actually processing material for 30 per cent of the time the plant is in operation. When this material has been through the jaw crusher, it is also placed onto the main feed belt.

The main feed belt conveys the material to a three-deck screen where it is heavily sprayed with water, pumped from the ponding dam. Here the silt and clay material is washed away to drain in the settlement pond. The washed sand is separated and placed in a storage bin from which a cyclone pump transports it to a stockpile.

From the three-deck screen the aggregate is conveyed to the classifying screen. Stones below 75 millimetres thickness which cannot pass through the three-deck screen are conveyed to be processed by the two gyrotary crushers.

Once this material passes through two gyrotary crushers it is then placed again onto the main feed belt. It then passes through the three-deck screen as described.

4.2 PROCESSING PROCEDURES cont.

The finished aggregate conveyed from the three-deck screen is then passed through the classifying screens. Four different grades of aggregate can be obtained from these screens and the grade sizes are dependent upon the screens used.

After classifying the aggregate is placed into its respective bin and from there the finished product is transported to stockpiles or moved directly off site. Transportation from the bins to stockpiles is carried out by front/end loader and tip trucks.

The material passing through the processing plant is wetted by sprays as described and the moist material does not generate dust from the plant. This system of processing is designed to regulate the crushing of material to a minimum and the conveyor belts and screens are serviced and maintained to keep noise emission as low as possible.

4.3.0 TRANSPORT OF MATERIAL

The movement of materials about the processing plant can be divided into three categories.

4.3.1 EXTRACTION SITE

With the establishment of the plant at the extraction site, the haulage of raw material will be a maximum of 0.5 kilometres. The material unable to be utilised will remain on site and used where needed for fill.

4.3.2 PROCESSING PLANT

The movement of material about the processing plant will be similar to that existing at the present site. Graded aggregate and sand will be removed from the bins about the plant and stockpiled in their respective heaps or transported off site.

At present some graded material is being back-loaded to the excavation site to be stockpiled. Once the plant is transferred to the excavation area, the back-loading of grade material will be eliminated thus improving the efficiency of the operation.

4.3.3 TRANSPORTATION FROM SITE

The haulage of washed sand and graded aggregate to the clientele of E.H. & P.H. Clifford Pty Limited will continue in the same quantities as those that currently exist. Only the finished material will be directly transported from the excavation site.

The two haulage trucks owned by Cliffords will be maintained for haulage and should demand increase for processed material from time to time, the excess haulage will be sub-contracted to other vehicles.

4.4 ENERGY CONSERVATION

As previously stated in Section 1.1 the processing plant operated from the proposed site prior to 1976 whence it was moved to its present site. Then it was powered by diesel motors and has since been converted to electricity-powered motors. When the processing plants are returned to the proposed site, they will be equipped with a quieter, more energy conservative power system.

Fuel will also be conserved as outlined in Sections 3.3.1, 2 and 3. When the plant is located at the extraction site as much as a 50 per cent reduction in the haulage of materials along Rouchel Road may be obtained. This part of the efficiency is to be achieved by management.

Another example is in the case of machinery break downs. The matter can be dealt with efficiently when the operations are combined and the work force, plant and equipment are not in separate establishments.

4.5 HOURS OF OPERATION

It is intended that the processing plant would operate within the daylight hours of between 6.30am and 6.00pm Monday to Friday with the exception of public holidays. It is to be noted that the plant will not be continuously working through these hours but only periodically as the need for material arises.

The haulage of raw material from the extraction site to the processing plant does not fall within the scope of this Environmental Impact Statement. Also the transport of finished material will be less than the existing haulage, "off site", presently transported from the excavation site.

4.6 LIFE OF OPERATION

The life of operation of the processing plant from this proposed site will be dependent upon the efficient supply of raw materials. The supply of raw material is also dependent upon the extent of deposits of sand and gravel and the rate at which it is extracted due to the demand.

Any estimate is therefore based on variable components and it is thought that the plant may be established upon the proposed site for about seven years.

5 SAFEGUARDS TO

ENVIRONMENT

5.0 SAFEGUARDS FOR ENVIRONMENT

5.1 GENERAL

As stated in Section 1.3 the proposed development is to establish a processing plant within an existing extraction area. The existing rights for developmental consent has been recognised by the Scone Shire Council.

The following safeguards for the environment are addressed to the establishment of the plant and associated buildings within this extraction area. It may become necessary to distinguish between the existing rights pertaining to the extraction of raw material and the additional protrusion of the proposed development upon the environment.

5.2 SOIL EROSION CONTROL

The office, weigh bridge and associated buildings will be situated on the high level ground adjoining the Rouchel Road. This land is well above the 1 in 100 year flood and the paved road and associated drainage works, will be constructed to carry storm water run-off to the lower level of ground and thence to ponding dams. (See Plan No. 5)

The processing plant will be situated upon land 1 metre above the 1 in 100 year flood level. The surface about the plant will be graded to drain all excess surface water. Note - Flood level heights were obtained from the Water Resources Commission's office at Muswellbrook.

Rows of trees are to be established along the top of the high levee bank to screen the processing plant from the adjoining residence and Rouchel Road. These rows of trees will help to stabilise this high levee bank.

A 20 metre berm exists at the toe of the high levee and part of the consent to extract material from this area.

5.3 NOISE CONTROL

The noise generated from the proposed development will emanate mainly from the processing plant. The haulage of material will also be another source of noise generation, but this procedure already exists from the extraction site when material is transported off site. This proposal will create a reduction in haulage of material as an essential form of efficiency for the operation.

As stated in Section 3.7, the washing, screening and crushing plant to be erected upon the proposed site, is at present in operation on the outskirts of Aberdeen. It has been operated in its present site since 1976 with no objections from the adjoining residence.

At the proposed site only two residential dwellings will be directly affected by noise emanating from the plant. Both

5.3 NOISE CONTROL cont.

dwellings are at a greater distance away from the proposed site than the closest dwelling to the existing plant. All precautions have been taken to keep the noise level radiated from the plant to a minimum.

Noise level readings taken in the past at the plant upon Mr. J.T. Walker's property would indicate that the noise level generated by the same plant at Mr. James Bowcock's property will not exceed the State Pollution Control Commission's requirements at the property boundaries.

The plant will only be in operation through the daylight hours and does not function constantly. The jaw crusher is only used for below 30 per cent of the material passing through the plant whilst the plant is being operated.

The existing extraction site is at present radiating an acoustic power level from the plant and equipment associated with the excavation of sand and gravel. This noise emission combines and is accepted along with the background noise generated by traffic along Rouchel Road, a beef cattle feed lot and everyday working of farm machinery.

Noise will also emanate from equipment working about the processing plant. This equipment is rubber tyred and the manufacturer's exhaust systems will be serviced and maintained to keep noise emission to a minimum.

The proposed processing plant has been located in the north east corner of the extraction site. Although the location of it at the toe of the high levee bank would provide a more efficient management and a better visual control for the plant. The proposed site places it at the maximum distance from adjoining residences.

5.4 VISUAL CONTROL

Although the proposed site of the processing plant is situated below the high levee bank, the positioning of the plant in the north-eastern corner of the excavation area will mean that the plant can be observed from the cottage directly south and from vehicles travelling along Rouchel Road. The willow trees to the north of the excavation area will obscure the plant from view in that direction while the existing vegetation along the abandoned river bed and high levee bank will obscure viewing from the residence and road to the south west. The undulating land obscures viewing for Rouchel Road and "Brooklyn Lodge" to the east.

The cottage directly south from the proposed site has an existing screen of trees between it and Rouchel Road. It is intended to establish a plantation of selected trees adjacent to the high levee bank within the excavation area. On

5.4 VISUAL CONTROL cont.

establishment of this plantation, a direct view of the processing plant from Rouchel Road and the cottage, would be dispersed. (See Appendix)

The office buildings and weigh bridge will be erected on the level land between the high levee bank and Rouchel Road. The plantation of trees will be behind those buildings and they will be viewed directly from the road. These buildings can not be screened, nor need not, as any screening established close to Rouchel Road would obscure the view of vehicles entering or leaving the proposed development site.

5.5 DUST CONTROL

In dry, windy weather conditions the exposed surface of the working area about the processing plant and stockpiles will be dampened by the water truck to prevent dust pollution. The access road will be maintained and will be constantly dampened in a similar manner.

It is necessary to prevent dust pollution as the prevailing winds could carry dust to the cultivated pastures to the east or to the river in the north. The access road will be paved with bitumen from its intersection with Rouchel Road to the top of the high levee bank. This will alleviate dust pollution to the adjacent cottage, Rouchel Road and the proposed office buildings.

The trucks used to haul raw material to the plant and washed sand and graded aggregate from the plant to the stockpile area, will not be loaded above the top of their bins. As this haulage of material will be for only short distances and the material loaded will not be in a dry state, the loads will not be covered.

When the washed sand or graded aggregate is transported from site, the haulage trucks will also be loaded with material below the top of their bins. The loads, where applicable, will also be covered by tarpaulin or similar material before leaving the site to prevent dust emanating during haulage.

5.6 WASTE CONTROL

This area containing the plant and stockpiles will be cleared of all foreign materials before the commencement of the proposed development. Debris will be burnt whenever permissible and the topsoil removed will be stockpiled for future uses or spread directly within the excavation area as part of the on-going rehabilitation.

Waste water emanating from the washing plant, associated sprays and dust control procedures will be drained directly back to the existing pond in the excavation area. From these ponds the water will filter back to the river system. No waste material will be allowed to directly enter the Hunter River.

5.6 WASTE CONTROL cont.

An amenities block for employees will be provided and garbage will be collected and disposed of in an appropriate manner. Septic toilet facilities will be provided to the standard required by the Scone Shire Council.

The servicing of all machinery will be carried out on site. All waste oil, grease, used filters and disregarded machine parts will be collected and stored until disposal off site. No petroleum-base substance will be allowed to contaminate the ponds or river.

All material which is disgarded in the processing procedures, will be stockpiled for a short duration and then used as back fill in the excavation area.

5.7 WEED CONTROL

The majority of seeds of the noxious weeds will be washed or screened from the sand and gravel by the processing plant. As the finished product of washed sand and graded aggregate is not to contain any foreign material.

It is not envisaged that weeds will not be of a pollutant nature from this plant, as the washing and screening process will directly remove most seed. The excess water from the plant will be drained to the excavation ponds where germination of the seeds will be minimal.

The haulage vehicles will be loaded below the top of their bins and will be covered once transportation is off site. This will eliminate the spread of weeds along the roadways used.

A weed control programme is at present carried out at regular intervals about the plant and equipment.

5.8 FUME CONTROL

The processing plant is powered by electrical motors and the only fumes to be generated in this proposal will be those emitted by the machinery working about the plant and haulage vehicles. All of the machinery and haulage vehicles are powered by diesel motors.

Fumes generating from these engines are not generally of a pollutant nature. The site is isolated in comparison to an industrial area and any minor fallout from this source will be negligible.

5.9 REHABILITATION

The establishment of a processing plant at the extraction site will not have an everlasting impact on the existing environment. On completion of operations after an estimate of seven years, the plant and associated buildings will be removed and sold or transferred to another site.

The areas of land where the plant, stockpiles and office buildings were situated will be returned to their existing natural states. The access roads will be ripped to a depth of 0.3 metres and sown to natural pastures.

Only the bitumen paved section of the access road will remain. This section of road adjoins the Rouchel Road and will be beneficial to the future pastoral use of the land.

6 SUMMARY

6.0

SUMMARY

6.1.0 ALTERNATIVES

As with any development proposal there are alternatives to any one given project. The management of E.H. & P.H. Clifford Pty Limited have considered most of the reasonable options available. The basic options are:-

6.1.1 ALTERNATIVE SITE

To operate from an alternative site would mean establishing another source of sand and gravel where the processing plant could operate efficiently. The Water Resources Commission is endeavouring to place all extraction sites "off river". Similar sites to that which is presently worked are not readily available. Also the impact of commencing an extraction site and processing plant in an area where neither have existed, would be greater upon the environment than is envisaged by this proposal.

6.1.2 ALTERNATIVE MATERIAL

The establishment of a hard-rock quarry would have similar environmental impact as described above. The finished product is more costly than that being produced at the present plant. Also there is a greater demand for crushed river gravel than material from the hard-rock quarries.

6.1.3 MAINTAIN STATUS QUO

This development proposal is submitted to the Scone Shire Council for development consent to combine both operations as the present procedures have become too costly. If the status quo is maintained, the projected trading figures would indicate that closure of both operations would be a substantial possibility, if the status quo is maintained.

6.2 JUSTIFICATION

This development application is to acquire consent to erect a processing plant and associated buildings upon a working extraction site. The environment in this area encompasses this existing development which is at present worked under the provision of consents from the relative Government Authorities.

The proposed plant, haulage, stockpiles and equipment have been previously worked from this site. At present the processing plant operates 3.5 kilometres to the west of the proposed site, so this development application is not introducing a proposal which is alien to this area.

Since 1976 the plant has operated on the outskirts of Aberdeen with no objections from occupants of the nearby residences. The concentration of the operation of both excavation and processing of the sand and gravel combined at the one site will reduce traffic movements related to the haulage along the

6.2 JUSTIFICATION cont.

Rouchel Road. This reduction of haulage movement being an essential part of the efficient management of operations.

Environmental controls have been intergrated within the proposed development application. These procedures will minimise the impact of this development in this area.

It is only the economical efficiency of the operation that has instigated its current proposal. Economically, E.H. & P.H. Clifford are part of the Aberdeen social structure through business, employment of labour and subcontractation of work. They have dealt in this area for the past thirty years and will continue to do so if allowed to create the cost-cutting measures this proposal envisages.

APPENDICES

APPENDICES

APPENDIX 'A'

PLANS

FIGURES

DIAGRAM

APPENDIX 'B'

SELECTION OF TREES FOR PLANTATION AREA

APPENDIX 'A'

PLAN No 1 - Plan of Area Defined by Deed

PLAN No 2 - Glenbawn Dam Enlargement
Sand - Gravel Borrow Area

PLAN No 3 - Plan of old River Beds

PLAN No 4 - Adjoining Residences

PLAN No 5 - Proposed Development

FIGURE No 1 - Rainfall Contours

FIGURE No 2 - Wind Rose for Scone

DIAGRAM No 1 - Working of Processing Plant

APPENDIX 'B'

SELECTION OF TREES FOR PLANTATION AREA

SELECTION OF TREES FOR PLANTATION AREA

B.1 SELECTION OF TREE SPECIES

The trees to be established in the plantation areas have been recommended by the Water Resources and Forestry Commission branch offices at Muswellbrook. The seedlings can be purchased from stock available at the Forestry Commission and therefore the choice of trees will be dependent upon the availability of species.

Trees selected for the upper mantle will reach a height of over seven metres when mature and the lower mantle will reach a height of five metres. The lower mantle will be planted at 2.5 to 3.0 metres spacings between seedlings and the upper mantle will have five metre spacings between seedlings.

A selection of the following species of trees will be planted at random with the taller species located in the middle row and the smaller species either side.

B.2 UPPER MANTLE

Tree over fifteen high at maturity are:-

Eucalyptus Dawsonii	-	Goulburn River Box
Eucalyptus Camacdulensis	-	Blunt Budded Murray
	-	River Red Gum
Eucalyptus Melliodora	-	Yellow Box
Eucalyptus Tergikornis	-	Forest Red Gum
Melaleuca Styphelioides	-	Prickly Tea Tree

Trees between seven and fourteen metres high at maturity are:-

Acacia Decurrens	-	Green Wattle
Eucalyptus Scoparia	-	Willow Gum
Casuarina Cunninghamialia	-	River She Oak

B.3 LOWER MANTLE

Acacia Adunca	-	Wallangarra Wattle
Casuarina Stricta	-	Drooping She Oak
Glievillea Robusta	-	Silky Oak
Melaleuca Armillaris	-	Bracelet Honey Myrtle

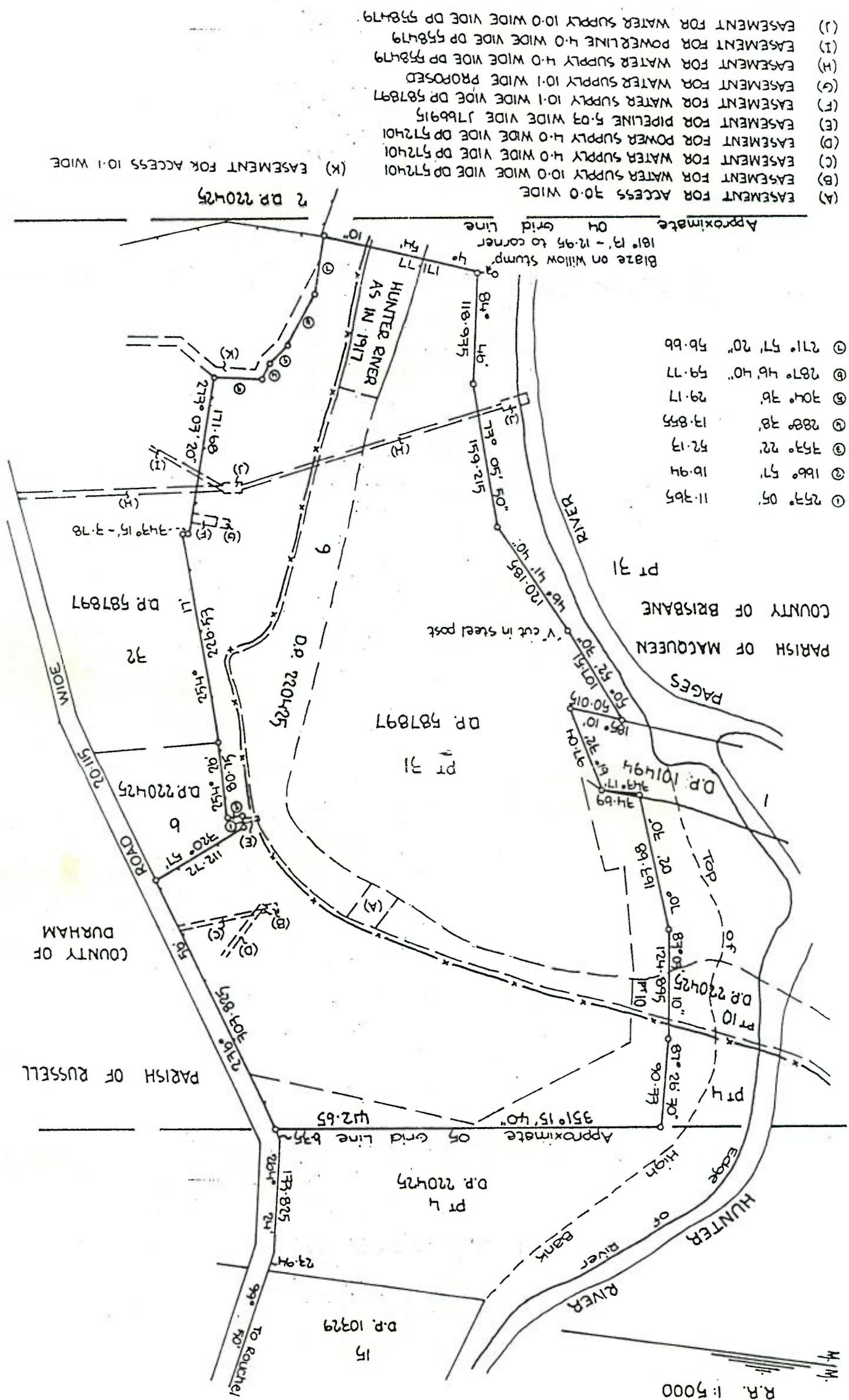
B.4 PLANTING

The recommended time to plant is in the March/April period. Planting should commence after the autumn rains and this will give the seedlings the cooler winter months to establish.

The soil will have been ripped, tilled, fertilised and the weeds controlled. The trees are to be obtained in seedling form or tube stock from the nursery of the Forestry Commission of New South Wales at Muswellbrook.

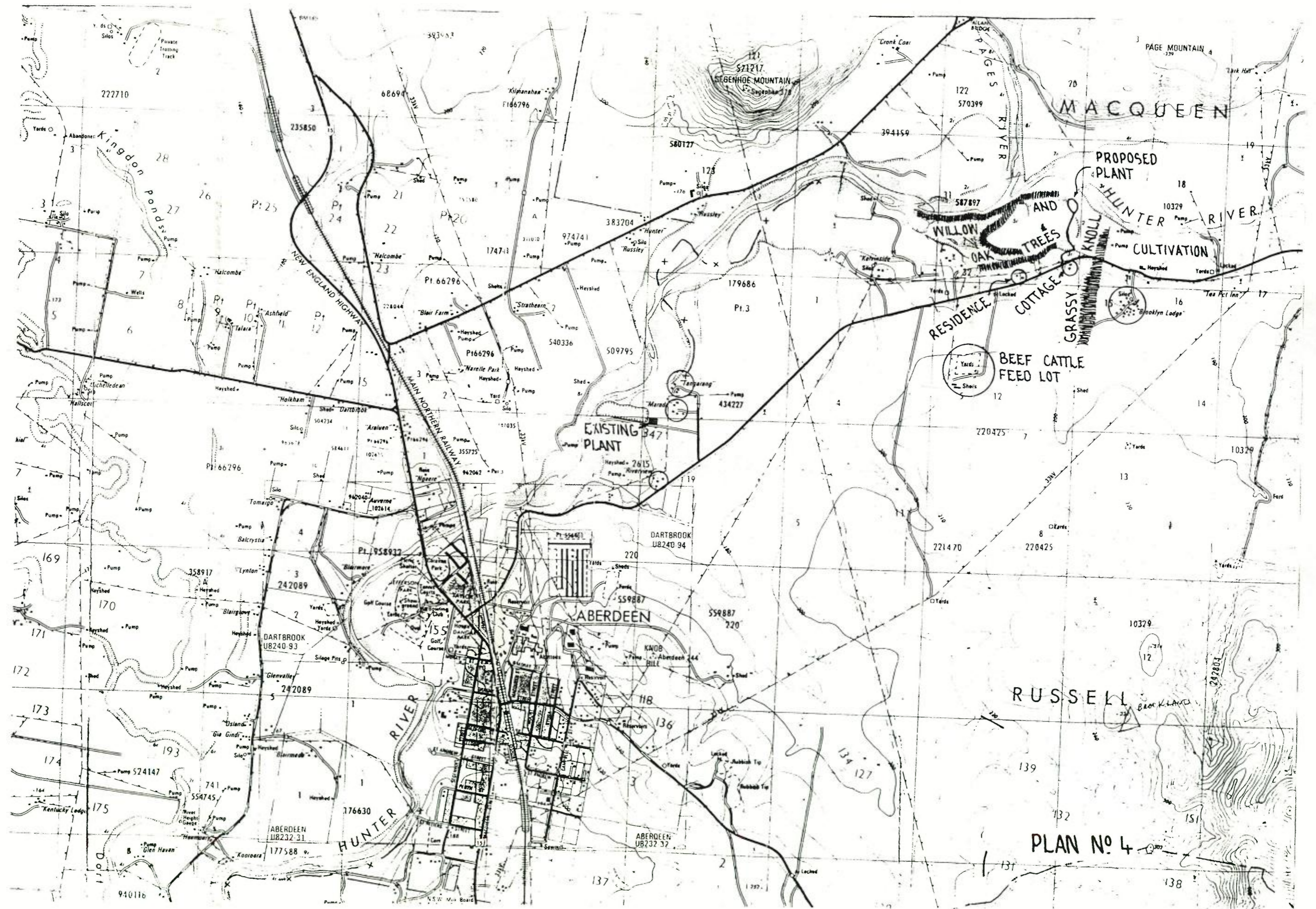
PLAN OF AREA DEFINED BY DEED
 DATED 15TH JUNE, 1983 BETWEEN JAMES BOWCOCK
 AND E.H. & R.H. CLIFFORD PTY. LTD.

R.R. 1:5000



- (A) EASEMENT FOR ACCESS 30.0 WIDE
- (B) EASEMENT FOR WATER SUPPLY 10.0 WIDE DP 572401
- (C) EASEMENT FOR WATER SUPPLY 4.0 WIDE DP 572401
- (D) EASEMENT FOR POWER SUPPLY 4.0 WIDE DP 572401
- (E) EASEMENT FOR PIPELINE 5.03 WIDE DP 572401
- (F) EASEMENT FOR WATER SUPPLY 10.1 WIDE DP 587897
- (G) EASEMENT FOR WATER SUPPLY 10.1 WIDE PROPOSED
- (H) EASEMENT FOR WATER SUPPLY 4.0 WIDE DP 587897
- (I) EASEMENT FOR POWERLINE 4.0 WIDE DP 587897
- (J) EASEMENT FOR WATER SUPPLY 10.0 WIDE DP 587897
- (K) EASEMENT FOR ACCESS 10.1 WIDE

PLAN No 1



PLAN No 4

FIG. 1

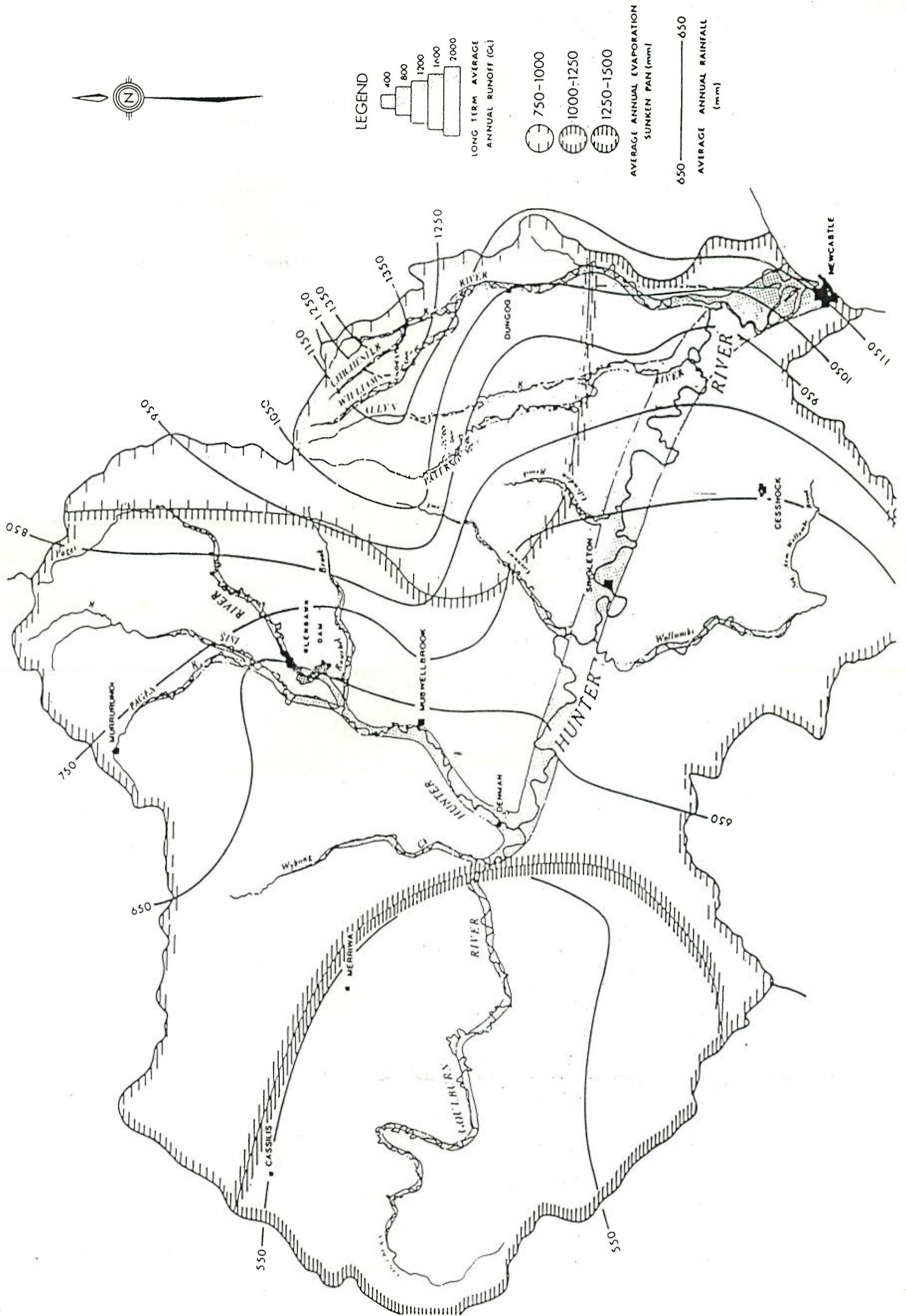
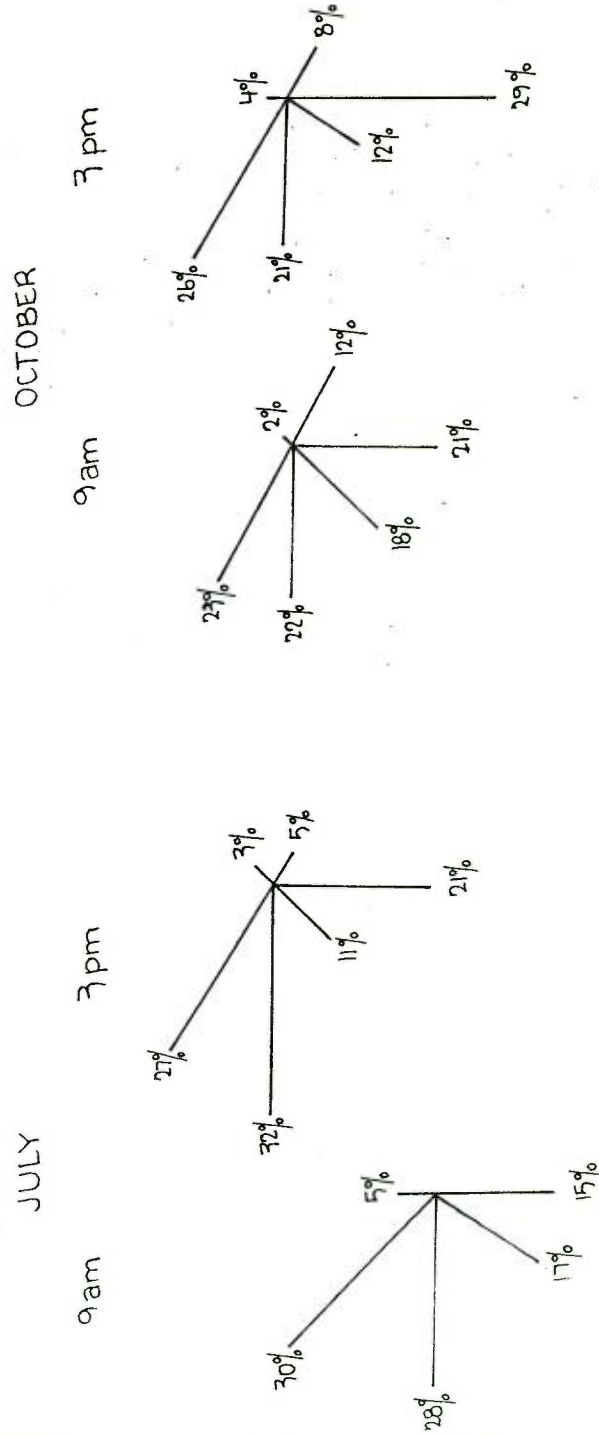
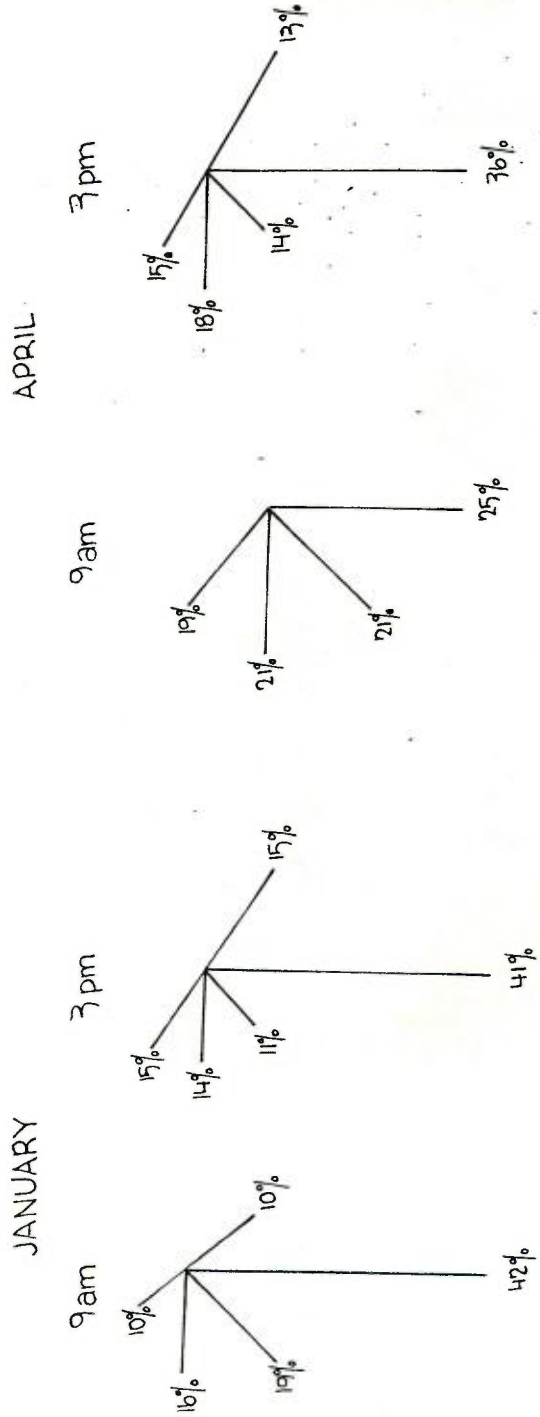
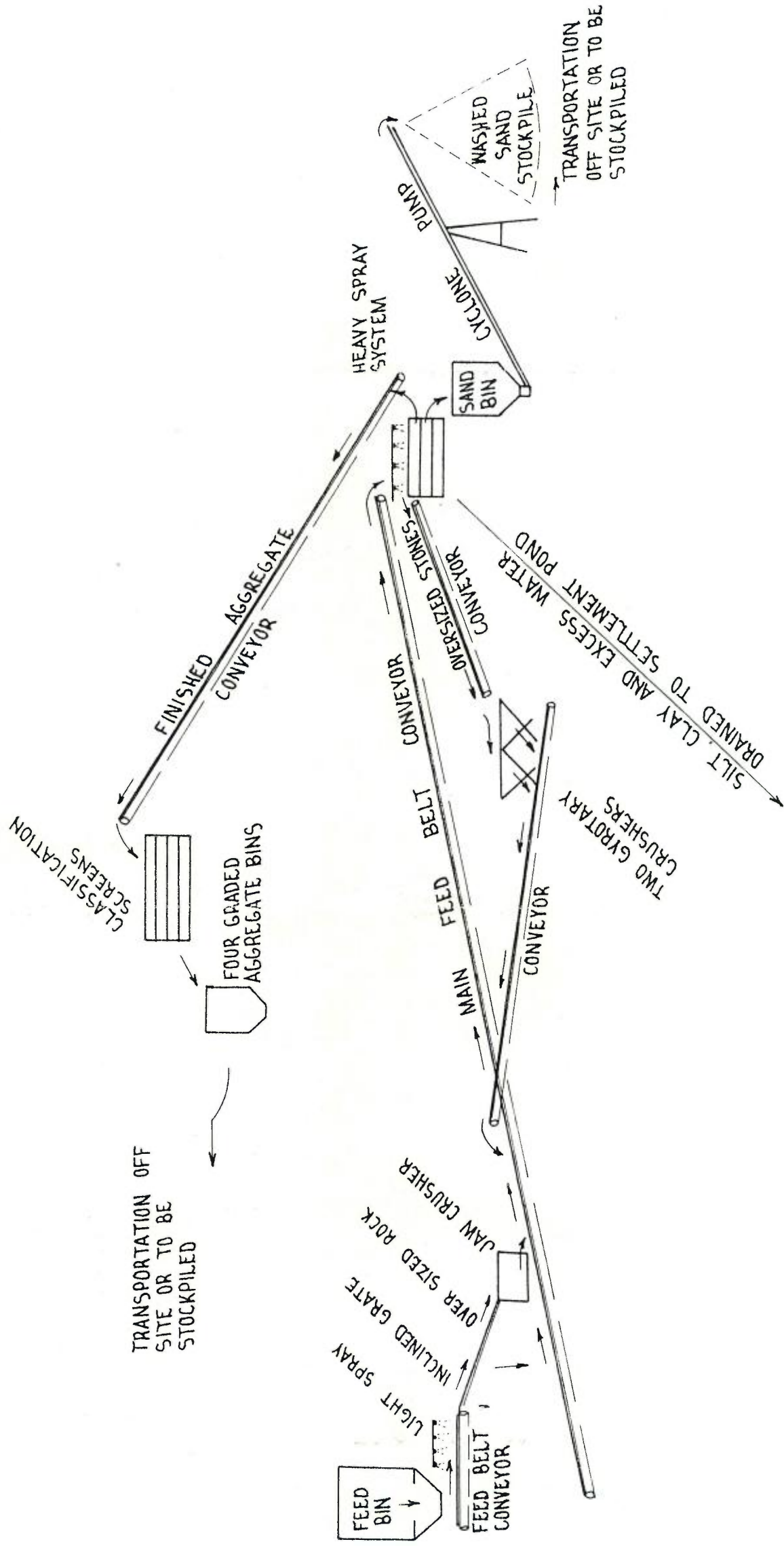


FIGURE 2
WIND ROSES
SCORE



WORKING DIAGRAM ONLY

NOT TO SCALE



E.H. & P.H. CLIFFORD PTY LIMITED

EIS
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The establishment of a river sand
and gravel processing plant upon
"Alabama", Rouchel Road near

