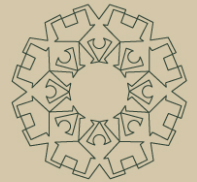


MAJOR PROJECT APPLICATION OYSTER LEASE DREDGING

PREPARED FOR
MR TREVOR DENT

DECEMBER 2005



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MAJOR PROJECT APPLICATION

OYSTER LEASE DREDGING

LEASE # 80 – 178,

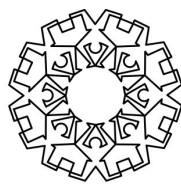
WALLIS LAKE

PRELIMINARY ASSESSMENT

PREPARED FOR:

MR TREVOR DENT

DECEMBER 2005

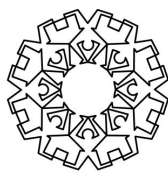


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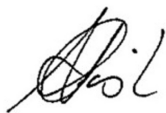
Report Title:	<i>Major Project Application – Preliminary Assessment</i>
Project:	Oyster Lease Dredging, Lease # 80 – 178, Wallis Lake
Client:	<i>Mr Trevor Dent</i>
Report No.:	<i>405062_REO_002</i>
Draft/Final:	Final


Geolyse Pty Ltd and the authors responsible for the preparation and compilation of this report declare that we do not have, nor expect to have a beneficial interest in the study area of this project and will not benefit from any of the recommendations outlined in this report.

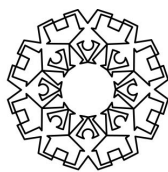
The preparation of this report has been in accordance with the project brief provided by the client and has relied upon the information, data and results provided or collected from the sources and under the conditions outlined in the report.

All maps, plans and cadastral information contained within this report are prepared for the exclusive use of Mr. Trevor Dent to accompany this report for the land described herein and are not to be used for any other purpose or by any other person or entity. No reliance should be placed on the information contained in this report for any purposes apart from those stated therein.

Geolyse Pty Ltd accepts no responsibility for any loss, damage suffered or inconveniences arising from, any person or entity using the plans or information in this study for purposes other than those stated above.

Reviewed By:	<i>Tony Fish</i>
Position:	<i>Project Director</i>
Signed:	
Date:	5 December 2005

Prepared By:	<i>Dr Justin Meleo</i>
Position:	<i>Project Manager</i>
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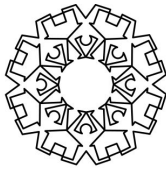
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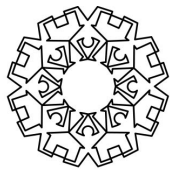
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APPENDIX A

DIPNR Advice of Part 3A Project Status

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Introduction

1.1 BACKGROUND

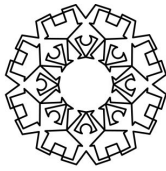
The production of oysters in the lower end of Wallis Lake estuary is a major component of the local economy in the Great Lakes area, and contributes approximately 30 % to the \$30 – 40M per annum industry in NSW. At present, there are numerous oyster leases in Wallis Lake that are non-productive, due to the accumulation of sands and fines of marine and fluvial origin over the lease areas, which has raised the bed to a height that exceeds the capacity for tidal inundation and therefore the ability to grow oysters. The lease that is the subject of this proposal is approximately 9 ha and has been, for the most part, non-operational for at least 50 years. Oyster spat has been grown sporadically on the outer edges since the lease was last dredged in 1981 (approximately 3,000 m³ removed).

The lease area was originally established approximately 100 years ago, at which time the bed of the lease was raised to an appropriate height for rack farming by local oyster farmers, through the infilling of the area with felled cabbage tree palms and the addition of marine sand overburden. Over time, however, the action of artificially raising the bed has had a positive feedback effect of encouraging the accumulation of flood tide-activated marine sands and fluvially-derived fines over the lease area. Consequently, due to the lack of maintenance dredging resulting from economic constraints on the lease owners, the bed of the lease has accreted to a height that prevents oyster farming, with large areas of the bed of the lease area being sub-aerial at low tide. Subsequently, the lease was abandoned for oyster farming.

It is proposed to re-establish the lease as a productive oyster growing area through the dredging of accumulated sands and fines. It is expected that the gross production value of the oyster lease area once operational would be on the order of \$150,000 p.a. One additional fulltime and one casual staff would be required for the operation.

Ancillary to the dredging operation is the disposal of dredge spoil. It is proposed to establish a stockpile site for the dredged sands and operate an extractive industry (*ie.* sell the sand to market). Assuming an annual turnover of 10,000 m³ of sand, it is estimated that the sale of material to market would have a gross value of up to \$200,000 p.a. (based on a resale value of \$20/m³), depending upon demand. One additional fulltime and one casual staff would be required for this part of the operation.

Director General's requirements were initially sought for the proposal under Part 4 of the *Environmental Planning and Assessment Act 1979*. Since then, the proposed development has been classified as a Major Project under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* (**Appendix A**), in accordance with Clauses 7(1)(c) and 7(2)(a) of Schedule 1 of SEPP Major Projects 2005. The next stage of the development requires the preparation of an Environmental Assessment under the provisions of Part 3A. A full project approval will be sought for both the dredging works and the operation of the stockpile site.



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1.2 THE PROJECT IN BRIEF

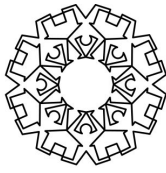
The proposed development will involve the dredging of marine sand and fluvial fines deposits that have accumulated over the oyster lease, to an average depth of approximately 1.4 m below present bed level, with maximum dredge depths of approximately 2 m. The area of the lease that is proposed to be dredged is approximately 7.5 ha. It is estimated that the dredging will yield approximately 100,000 – 110,000 m³ of marine sand. The dredged material will be pumped several kilometres upstream to a storage site, where it will be dewatered, undergo separation of fines and sands, stockpiled and sold to market. The stockpile working area, including settling ponds, will occupy a site area of approximately 4 ha. The site is currently used for low intensity cattle grazing and has access to sealed roads for transport of the material to market. Discharge waters will be treated on site via a series of settling ponds and pumped back to the Wallamba River.

The primary objective of the development will be the re-establishment of an existing non-productive oyster lease to a productive oyster lease. A secondary objective is utilisation of the dredge spoil to meet market demand for sand. The fines will be sold as a soil conditioner mix. The sale of dredge spoil to market is critical to the project, as it will provide funds for the dredging operation. These objectives will be facilitated by:

- Compliance with the provisions of the relevant legislation and policies that relate to the lease area and stockpile site, particularly: SEPP 71; SEPP 14; SEPP 11; SEPP 33; SEPP 44; SEPP 55; the NSW Coastal Policy; *Environmental Planning and Assessment Act 1979*; *National Parks and Wildlife Act 1974*; *Protection of the Environmental Operations Act 1997*; *Rivers and Foreshores Improvement Act 1948*; *Water Management Act 2000*; *Coastal Protection Act 1979*; *Fisheries Management Act 1994*; *Threatened Species Conservation Act 1995*; *Crown Lands Act 1989*; *Environment Protection and Biodiversity Conservation Act 1999*; *Commonwealth Native Title Act 1993*; Great Lakes Local Environmental Plan 1996; and Hunter Regional Environmental Plan 1989;
- The protection of areas of environmental significance, including the protection of water quality; and
- The retention of waterways access during the operation.

1.3 SCOPE OF THIS REPORT

This report has been prepared to support an application to the Minister for Planning. Following a previous request by the proponent under Part 4 of the *Environmental Planning and Assessment Act 1979* for Director General's requirements for preparation of an Environmental Impact Statement, the [then] DIPNR issued Director General's requirements. It is requested that these Director General's requirements be adopted for this project under the provisions of Section 8J (Transitional Provisions) of the *Environmental Planning and Assessment Amendment (Infrastructure and Other Planning Reform) Regulation 2005*.



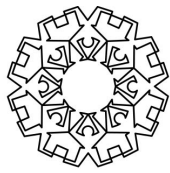
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The only difference in the project as previously advised to the Department was the estimate of the volume of dredged material (previously 50,000 m³) and the location of the stockpile site. Director General's requirements issued previously requested that details of the disposal facility/operations be provided.

It is submitted that the increase in the volume estimate (to 100,000 – 110,000 m³) and provision of stockpile site details provided in this report does not materially affect the issues (as advised for the Director General's requirements issued previously) that would need to be addressed in the Environmental Assessment for the project.

This report is structured as follows:

- *Chapter 2* describes the project and overviews the environment in which it is located;
- *Chapter 3* outlines the planning provisions that apply to the development;
- *Chapter 4* summaries the key environmental issue for the site; and
- *Chapter 5* concludes the report.



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The Project

2.1 OUTLINE

The proposed development will involve the dredging of approximately 7.5 ha of the bed of Wallis Lake within the area of oyster lease # 80 – 178, located 3.3 km upstream of Wallis Lake entrance (**Figure 2.1**). The dredged material will be disposed of to a stockpile site (Lot 101 DP 753207) located approximately 2 km north of the lease area (**Figure 2.1**), where the dredged material will be placed, undergo separation of sands and silts and stockpiled for sale to market.

The development will occur in three (3) stages. A description of each stage is provided below.

2.1.1 STAGE ONE – EXTRACTION

Extraction operation

This involves the removal of material from the bed using a 200 mm cutter suction dredger with an estimated production rate of 100 m³/hr (± 10 %) of sand (300 m³/hr slurry). Based on this rate, the expected duration of the dredging operation is approximately 5 months (**Table 2.1**). Delays arising from flood events, maintenance of equipment and extraction difficulties may extend this timeframe.

The dredged material will be pumped in a slurry form (30 % solids) via a flexible, butt-welded 200 mm poly pipe (rated to 630 kPa, around double the booster pump output), approximately 3.5 km to the onshore treatment facility, located 2 km north of the lease area. Given this distance, three booster pumps will be required to help transport the material. Booster pumps will be located at the foreshore and along the pipe route (**Figure 2.2**).

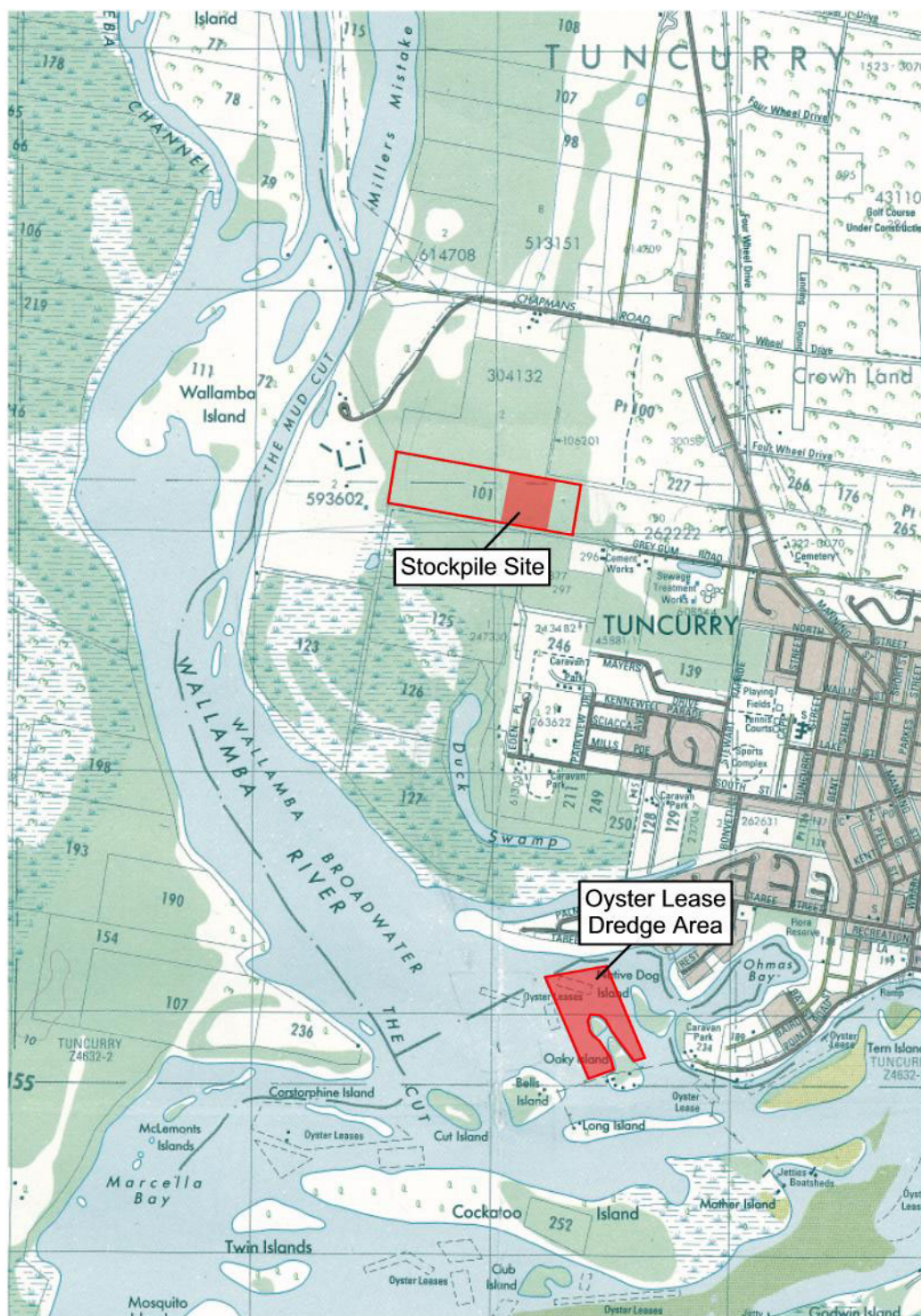
Extraction extents

Figure 2.3 shows the plan detail of the lease area extents. Detailed bathymetry is unavailable at the present time, however, it is estimated that an average depth of 1.4 m of material will need to be removed from the dredge footprint (lease area) to make it operational for oyster growing. Maximum dredge extents will be 2 m below present bed level. Based on this, it is estimated that between 100,000 – 110,000 m of material will be removed from the lease area.

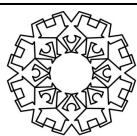
Rate of removal

The maximum production capacity of the dredger is around 150 m³/hr, however, allowing for delays caused by equipment maintenance and other down time, an average production rate of 100 m³/hr is considered reasonable.

It is proposed that the dredger would operate for 10 hours per day (07:00 – 17:00) per day, Monday to Friday and 5 hours per day (08:00 – 13:00) on Saturdays, with no work on Sundays and Public Holidays. An extra hour would be scheduled each day for maintenance activities. The expected production volumes are provided in **Table 2.1**.



Modified after: Topographic Maps (1:25 000) – Coolonglook 9333-I-S



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Project: Major Project Application, Oyster Lease Dredging, Lease 80-178, Wallis Lake
File Name: 405062_REO_002

Figure 2.1
Site Locality

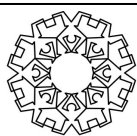


Legend

- Sepp 14 Wetland #590 Boundary
- Dredge Pipeline Option A
- Dredge Pipeline Option B
- Dredge Pipeline Option C
- ▨ Stockpile Site
- Oyster Lease Dredge Area
- Booster Pump

500m

Source: Modified after Google Earth (2005)



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Figure 2.2
Approximate Location of Dredge Pipeline Route Options

Project: Major Project Application, Oyster Lease Dredging, Lease 80-178, Wallis Lake
File Name: 405062_REO_002

Table 2.1 - Expected Dredge Production Volumes

Time Scale	Volume
Hourly	100 m ³
Weekly	5,500 m ³
Monthly	22,000 m ³
5 months	110,000 m ³

2.2 STAGE TWO– ONSHORE HANDLING OF SPOIL MATERIAL

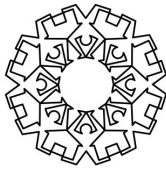
Dredged Materials Transport

The dredged material will be transported 3.5 km (max.) to the onshore facility via a flexible, butt-welded 200 mm poly pipe, rated to 630 kPa. The pipeline will be floated on the surface in the vicinity of the dredger and then be submerged (to maintain river navigability) until it emerges at the foreshore approximately 1.5 km upstream (**Figure 2.2**). From here, it will traverse existing cleared ground in a SEPP 14 wetland (# 590) for a distance of 2.1 km to the onshore facility. The pipe will be laid on the ground and ‘snake’ its way through existing open space areas within the wetland. No clearing of vegetation in the SEPP 14 wetland will be required for the placement of the pipe or for regular inspection activities.

The material will be pumped in a slurry form with a solids content of approximately 30 %. The maximum distance between the onshore facility and extremities of the dredge footprint is approximately 3.5 km. A series of three booster pumps will be required to transport the material through the pipeline. The booster pump closest to the stockpile site will be located on land, while the first and second booster pumps will be located in barges on the water. The pipeline will be assembled on shore and pulled through the wetland in 100 m sections using a winch and butt-welded on site.

Separation of Fines, Settlement and Dewatering

When it reaches the onshore facility, the hydraulic slurry will be pumped into a series of ponds, where the coarse fraction will settle out quickly. The suspended fines (or supernatant) will be diverted into a series of separate fines sediment basins. Once settled, the excess waters will be returned to the Wallamba River via a separate pipeline, after satisfying appropriate turbidity and pH requirements stipulated by the consent conditions. The dewatered sands and silts will then be stockpiled and sold to market on-demand. Management of the stockpile facility is addressed in Stage Three.



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Acid Sulfate Soils Treatment

While the sediment is composed primarily of clean marine sand, the northern extent of the proposed dredge area adjacent to the Wallamba River channel is draped by a thin (200 – 300 mm) layer of fine silt/mud. This material would be removed as part of the dredge operation and may have the potential for acid generation, once oxidised. Therefore, measures will need to be implemented to mitigate the potential for acid generation from these and other dredged sediments during the dewatering process. An Acid Sulfate Soils Management Plan would form part of the overall Environmental Management Strategy for the project, which would be adopted prior to commencement of the dredging activities. In general, the dewatered sediments would be tested for pH and if required, neutralised with Ag Lime in accordance with ASSMAC guidelines until satisfactory pH levels were achieved. Similarly, return waters would also be subject to a regular testing regime prior to their release, to ensure that pH was in accordance with accepted guideline values.

Discharge of Return Waters

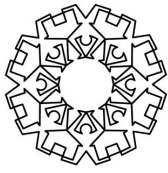
As approximately 70 % of the hydraulic slurry is composed of river water, timely management of return waters is critical to the continued operation of the dredging. Following dewatering of the sediment and passage through various sediment management ponds, water would be returned to the Wallamba River via a pipeline adjacent to the incoming slurry pipe. This pipe would deviate directly to the Wallamba River at about the halfway point, to reduce pipe length and return times. The waters would be returned to the river after sufficient sediment had been removed and meeting agreed water quality criteria for pH and NFR. In this regard, the pipe would be regulated by valves to allow controlled release of return waters.

Fuels, Chemicals and Waste

The dredger and booster pumps require diesel fuel for operation. Both the dredger and booster pumps can store sufficient fuel for 5 days of operation (approximately 5000 L for the dredger and 1500 L for the booster pumps). Refuelling of the dredger would be undertaken using a refuelling barge, with the volume of the barge (26 m³) acting as secondary containment for spills. The barge will be equipped with all the necessary safety equipment. The land-based booster pump would be refuelled from a mobile tank on shore, while the booster pumps located nearest the dredger and further upstream would be refuelled by the refuelling barge.

Chemicals would be required at the stockpile site for neutralising acid soil material (Agricultural Lime) and discharge waters (Hydrated Lime). Specific quantities are unknown at this stage, though are estimated to be 5 and 1 tonne respectively. These materials would be stored in a shipping container located on the site.

Refuelling of machinery (eg. front end loaders) at the stockpile site would be undertaken using a mobile tanker.



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2.2.1 STAGE THREE – STOCKPILING AND SALE OF SAND TO MARKET

Following the separation of fines and dewatering, the remaining material will be stockpiled and undergo further dewatering, when the dried sand and fines material will then be ready for sale to market. Stockpiling and sale of material to market will necessitate the operation of an extractive industry. Front end loaders and trucks will be the principle source of machinery for moving and loading sand for hauling to market in accordance with demand.

The sand material will be suitable for a variety of uses including general fill and bedding sand, landscaping and various other construction and land development works. Recovered fines will be suitable for use as a topsoil mix and soil conditioner. The reuse of this sand and fines resource is consistent with ESD principles of resource reuse and improved valuation and pricing, through the application of appropriate market value to the sale of the resource, as well as the contribution through royalty payments to the State for the resource.

The operation of the stockpile yard will necessitate the movement of trucks into and out of the yard. The site has ready access to Grey Gum Rd in the industrial area of Tuncurry. The number of truck movements has not been quantified at this stage, though is likely to be in the order of up to 10 outward truck movements per day, dependant upon market demand.

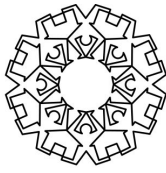
The land proposed for the stockpile site and yard is currently used for low intensity cattle grazing. It is anticipated that an area of approximately 4 ha will be required for the on-land operation, which will include:

- Settlement ponds;
- Stockpile area;
- Site office/staff facilities; and
- Machinery sheds.

All services including town water, sewer and communications are available to the site.

It is anticipated that this component of the project will require the following supporting documentation, which would be included as part of the Environmental Assessment for the project:

- Traffic assessment;
- Noise and vibration assessment;
- Air quality impact assessment;
- Cultural heritage assessment; and
- Flora and fauna assessment, including a Section 5A assessment.



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2.3 ZONING

The land that is the site of the proposed on-land processing and stockpile is partially zoned 1(c) Future Urban Investigation and 7(a) Wetlands and Littoral Rainforest under the provisions of Great Lakes Local Environmental Plan 1996 (LEP 1996). The part of the site that is designated SEPP 14 Wetland #590 (Figure 2.2) is zoned 7(a), while the area proposed for the stockpile facility is zoned 1(c). The oyster lease is unzoned. Details of the zoning provisions are provided in **Section 3.1**.

The project has been developed taking into account the local planning provisions while also aiming to achieve the most sustainable land use outcome. A sustainability-led planning process was followed to develop the land use outcomes for which approval will be sought.

2.4 SITE DETAILS

2.4.1 LOCAL AND REGIONAL CONTEXT

Oyster Lease

The subject oyster lease is identified as *Oyster Lease 80 – 178* (**Figure 2.3**) and is located approximately 3.3 km upstream of the entrance to Wallis Lake, in the vicinity of where the Wallamba River enters the lake. The lease area is in the region of the estuary that is dominated by the flood-tide delta. A small area in the northern portion of the lease adjacent to the Wallamba River channel is draped with fluvially-derived silts and muds to a depth of 200 – 300 mm, deposited during flood events.

Stockpile Site

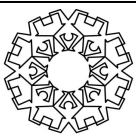
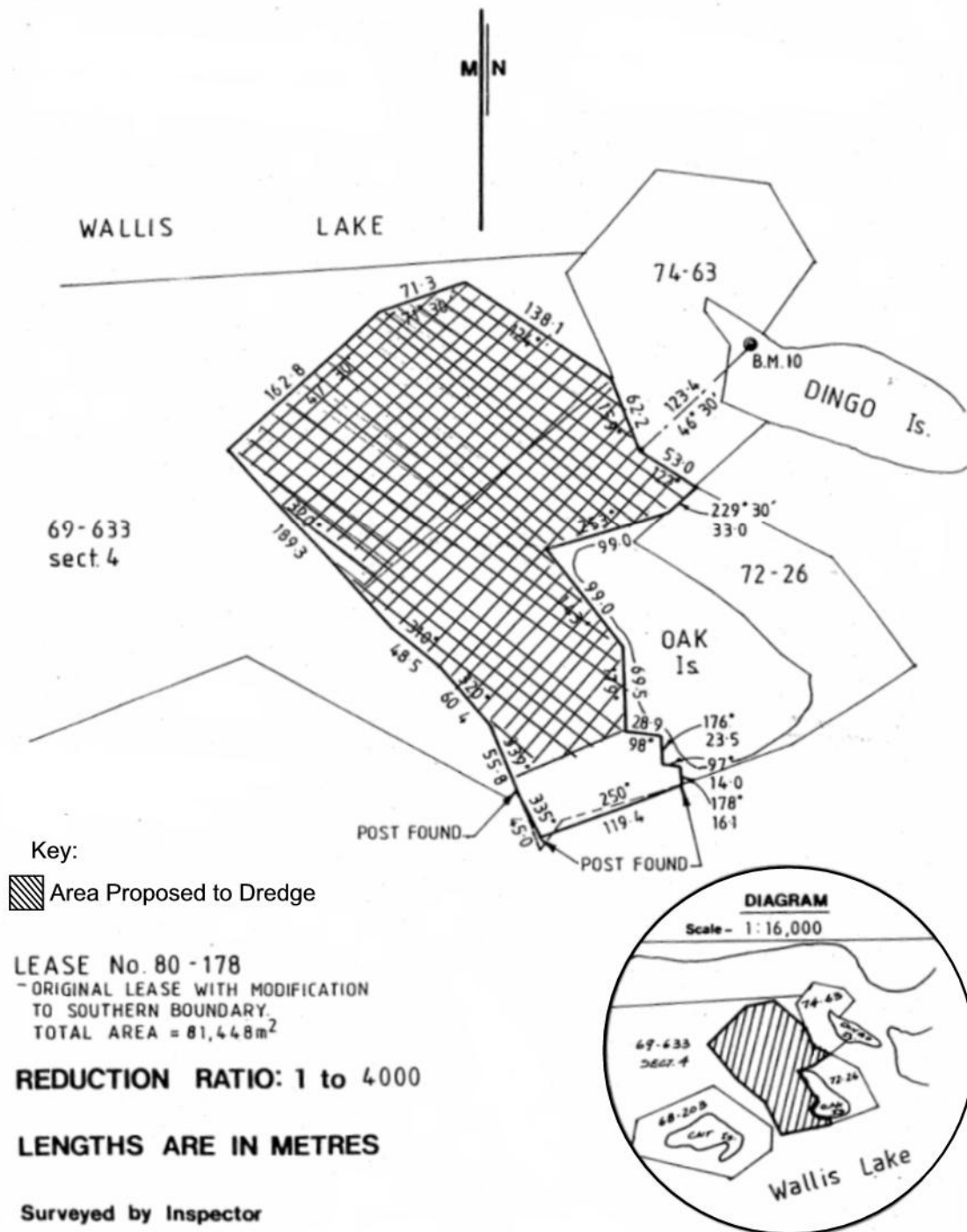
The land that is proposed for the stockpile site is located approximately 2 km north of the oyster lease and 2 km north-west of the Tuncurry Central Business District. The site is predominantly cleared and currently used for low intensity cattle grazing.

The site is identified as Lot 101 DP 753207, Grey Gum Rd, Tuncurry. The site occupies an area of approximately 18 ha and it is proposed to use 4 ha for the onshore processing operations. The northern boundary of the site is adjacent to privately-owned, partially cleared undeveloped land, while the southern and western boundaries adjoin privately-owned vegetated lands. To the east, the site boundary adjoins a residential estate. The south eastern corner of the site has a frontage to Grey Gum Road in the Tuncurry industrial estate, opposite the entrance to Great Lakes Council works depot.

In summary, the boundaries of the site for the stockpile operations are as follows:

- Northern Boundary – cleared private land;
- Southern Boundary – vegetated private land;
- North eastern Boundary – residential area;
- Western Boundary – vegetated private land.

PLAN OF **OYSTER FARM No. 80 - 178**
 PARISH OF FORSTER COUNTY OF GLOUCESTER
 SHIRE OF GREAT LAKES AT WALLIS LAKE



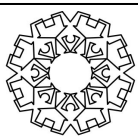
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Figure 2.3
 Oyster Lease Cadastre Showing Approximate Dredge Extents

Project: Major Project Application, Oyster Lease Dredging, Lease 80-178, Wallis Lake
 File Name: 405062_REO_002



Source: Modified after Google Earth (2005)



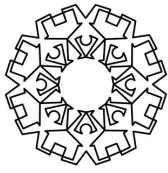
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Figure 2.4

Proposed Stockpile Site Schematic Layout (not to scale).

Project: Major Project Application, Oyster Lease Dredging, Lease 80-178, Wallis Lake

File Name: 405062_REO_002

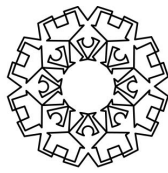


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The site specific details are shown in **Figure 2.4**.

2.4.2 BATHYMETRY AND SITE TOPOGRAPHY

The majority of the lease area is sub-aerial at low tide, with the level of tidal inundation dependant on the stage of lunar tidal cycle. The bathymetry is in general, however, flat, grading slightly to the Wallamba River channel in the north of the lease. The south western edge of the lease grades into a previously dredged oyster lease of approximately 2 m depth. The ground surface of the lot on which it is proposed to operate the stockpile it relatively flat, which is typical of a back-barrier dune environment, with an elevation of approximately 1 m AHD. Specific elevations of the oyster lease are not available to date. Detailed bathymetry and topographic survey will be provided with the Environmental Assessment.



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Planning Provisions

3.1 LOCAL PLANNING

3.1.1 GREAT LAKES LOCAL ENVIRONMENTAL PLAN 1996 – GENERAL PROVISIONS

The oyster lease is unzoned, while the area for the proposed stockpile site is zoned 1(c) Future Urban Investigation under the provisions of Great Lakes Local Environmental Plan 1996 (LEP 1996). The area of the site zoned 7(a) is outside of the proposed stockpiling area, though the pipelines would traverse this area.

The objectives of Zone No. 1(c) Future Urban Investigation relate to restricting development to that which is unlikely to prejudice the future urban potential of the land or compromise significant environmental attributes of the land. In addition, the zoning seeks to regulate development so that ribbon development is prevented and traffic impacts are restricted to the carrying capacity of the existing road network.

Based on preliminary investigations reported here, the stockpiling and sale of sand from the site is consistent with the objectives of the zone and therefore permissible with Council consent.

3.1.2 SPECIAL PROVISIONS APPLICABLE

The following special provisions within the *Great Lakes Local Environmental Plan 1996* guide and regulate plan making and development control with respect to the proposed development.

Clause 25 Waterways

Maintenance Dredging

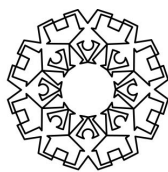
“(1A) Notwithstanding subclause (1), the consent of Council is required for development for the purpose of dredging, for maintenance of oyster leases or otherwise, of the bed of any river or lake where more than 1000 m³ of material is to be removed.”

Clause 26 Development of Unzoned Land

Development of unzoned land

“A person must not carry out development on land (including land formed by reclamation or natural accretion in waterways or formerly the bed of a harbour, bay, lake, river, lagoon or natural watercourse) shown uncoloured on the map without the consent of Council.”

The proposed development is permissible under the provisions of Council's LEP 1996.



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3.1.3 GREAT LAKES COUNCIL DEVELOPMENT CONTROL PLANS

The following Great Lakes Council Development Control Plan is relevant to the project.

DCP No. 33 Acid Sulfate Soils

DCP No. 33 outlines Council's policy regarding management of acid sulfate soils. The DCP outlines the requirements of acid sulfate soil management plans and provides a code of practice for the Great Lakes LGA. As potential acid sulfate soils may be present in the slurry pumped to the stockpile site, and some excavation will be required for the sedimentation ponds, PASS will need to be managed in accordance with relevant local and State guidelines.

3.2 STATE PLANNING

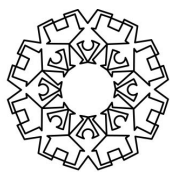
3.2.1 NSW COASTAL POLICY

As the site is located in the NSW Coastal Zone, the goals of this policy and their relevance to the site must be considered.

There are nine goals that give expression to the vision of the NSW Coastal Policy (1997). The relevance of each goal to the proposed development is addressed in **Table 3.1**.

Table 3.1 – Relevance of NSW Coastal Policy goals to the proposed development

Goal	Relevance to proposed development
Goal 1 - Protecting, rehabilitating and improving the natural environment of the coastal zone.	Measures to protect receiving waters and the SEPP 14 wetland will be outlined in the Environmental Assessment.
Goal 2 - Recognizing and accommodating the natural processes of the coastal zone.	The project takes these processes into account through the management of the dredged sediments and return waters to ensure that existing water quality in Wallis Lake and the Wallamba River is maintained. Further, hydraulic and sediment transport modelling will ensure that the dredge operation does not adversely impact on morphodynamic processes and surrounding benthic environments.
Goal 3 - Protecting and enhancing the aesthetic qualities of the coastal zone.	The proposal will not impact adversely upon the aesthetic qualities of the area. The proposal is consistent with the utilisation of this part of Wallis Lake for oyster farming.
Goal 4 - Protecting and conserving the cultural heritage of the coastal zone.	European cultural heritage in the area and in the lower reaches of Wallis Lake is strongly associated with the growing of oysters. The proposal will assist to continue this tradition.



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Table 3.1 – Relevance of NSW Coastal Policy goals to the proposed development

Goal	Relevance to proposed development
Goal 5 - Providing for ecologically sustainable use of resources.	The growing of oysters is an ecologically sustainable use of the resources of Wallis Lake. The reuse of dredged sand material and recovery of costs through its sale to market is a sustainable reuse of the resource. Revenue raised from royalty payments to the Crown could be allocated back to the State's Estuaries Program.
Goal 6 - Providing for ecologically sustainable human settlement in the coastal zone.	Not relevant. The proposal is not related to the provision of housing stock or land.
Goal 7 - Providing for appropriate public access and use.	Public access to existing navigable channels in the Wallamba River will be maintained through the submerging of the dredge pipeline. This will maintain the existing navigable waterway (channels adjacent to the lease area).
Goal 8 - Providing information to enable effective management of the coastal zone.	Data collected from the project (ecological, physical, chemical) can be accessed and will be utilised in the monitoring of environmental impacts of the project.
Goal 9 - Providing for integrated planning and management of the coastal zone.	The project will require input from a range of statutory stakeholders that will ensure and integrated approach is taken to the management of the project.

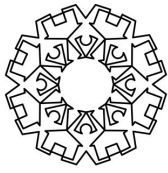
3.2.2 STATE ENVIRONMENTAL PLANNING POLICIES

The following provides an outline of the State Environmental Planning Policies (SEPP) applicable to the proposed development, and provides comments on matters required for consideration under these policies.

SEPP Major Projects 2005

The project is an extractive industry in a 'sensitive coastal location', as defined under SEPP 71. Therefore, the dredging component of the project is classified as 'State significant development' in accordance with Clauses 7(1)(c) of Schedule 1 of SEPP Major Projects 2005, being located in an environmentally sensitive area of State significance ('sensitive coastal location' as defined in SEPP 71).

Further, the operation of the stockpile is ancillary to the previously defined State significant development and therefore, in accordance with Clauses 7(1)(c) and 7(2)(a) of Schedule 1 of SEPP (State Significant Development) 2005, this component of the project is also classified as 'State significant development'. Therefore the project is classified as a Major Project under the provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* (**Appendix A**).



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SEPP No. 71 Coastal Protection

The NSW Coastal Policy (NSW Government, 1997) sets the direction for coastal zone management, planning and conservation in NSW. This policy is also supported by the introduction of *State Environmental Planning Policy No 71-Coastal Protection (SEPP 71)*. The site is located within the coastal zone and accordingly SEPP 71 is applicable to the proposed development.

The processing of extractive materials including sand, is listed as an 'extractive industry' and is therefore defined as State significant development' in accordance with Clauses 7(1)(c) of Schedule 1 of SEPP Major Projects 2005. Consequently, Part 2 of SEPP 71 – Matters for Consideration' should be taken into account by the Consent Authority when determining the application.

SEPP No. 14 Coastal Wetlands

The aims and objectives of this policy are to ensure that "coastal wetlands are preserved and protected in the environmental and economic interests of the State". SEPP 14 applies to part of the land through which it is proposed to place the pipelines for the dredged materials and return waters. Clause 7 of the Policy, however, does not apply to the project, as it is not proposed to clear land, construct a levee, drain or fill the land.

Notwithstanding, the impacts of the pipeline on the wetland will be considered in the Environmental Assessment Report.

SEPP No. 44 Koala Habitat Protection

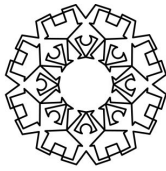
The site is situated within the Great Lakes LGA, which is listed on Schedule 1 of SEPP 44, therefore a Koala assessment must be undertaken in accordance with this policy. A Koala assessment in accordance with SEPP will be included in the terrestrial fauna assessment for the proposed stockpile site.

SEPP No. 11 Traffic Generating Developments

The aims and objectives of this policy are to ensure that the Traffic Authority (RTA) is made aware of and is given an opportunity to make representations in respect of developments listed under Schedule 1 of this policy. 'Extractive Industry' is listed as a development under Schedule 1 of the policy.

SEPP No. 33 Hazardous and Offensive Development

The aims and objectives of this policy are to ensure that when determining hazardous or offensive developments or potentially hazardous or offensive developments, the consent authority imposes conditions to minimise any potentially adverse impact. Operation of the stockpile site would be considered a "potentially offensive industry" in accordance with Clause 3 of the policy. Consequently Part 3 – Clause 13 "Matters for consideration by consent authorities" should be taken into account by the Consent Authority when determining the application.



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SEPP No. 55 Remediation of Land

The objective of this policy is to encourage a consistent State-wide approach to the remediation of contaminated land. Clause 6 of the policy is applicable to the consideration of contamination and remediation in relation to proposed developments. The consent authority is required to consider whether there is the possibility that the land may be contaminated due to past land uses, and if so, whether the land is suitable for its proposed use in its current or remediated state.

The property proposed to be used for the stockpile site is has historically been, and is currently used, for agricultural purposes, which is listed as a potentially contaminating activity, as identified in State Environmental Planning Policy No. 55. Therefore a preliminary contamination assessment will be undertaken in accordance with the policy.

3.2.3 RELEVANT STATE LEGISLATION AND REGULATIONS

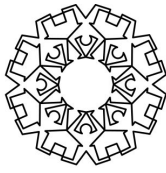
The provisions of relevant legislation listed in Section 1.3 will be addressed in the Environmental Assessment. This will include, but not necessarily be limited to the following: *Environmental Planning and Assessment Act 1979*; *National Parks and Wildlife Act 1974*; *Protection of the Environmental Operations Act 1997*; *Rivers and Foreshores Improvement Act 1948*; *Water Management Act 2000*; *Coastal Protection Act 1979*; *Fisheries Management Act 1994*; *Threatened Species Conservation Act 1995*; *Crown Lands Act 1989*; *Environment Protection and Biodiversity Conservation Act 1999*; *Commonwealth Native Title Act 1993*.

3.3 REGIONAL PLANNING

3.3.1 HUNTER REGIONAL ENVIRONMENTAL PLAN 1989

The aims and objectives of Hunter Regional Environmental Plan 1989 are:

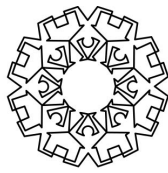
- To promote the balanced development of the region, the improvement of its urban and rural environments and the orderly and economic development and optimum use of its land and other resources, consistent with conservation of natural and man made features and so as to meet the needs and aspirations of the community;
- To co-ordinate activities related to development in the region so there is optimum social and economic benefit to the community; and
- To continue a regional planning process that will serve as a framework for identifying priorities for further investigations to be carried out by the department and other agencies.



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The proposed development is consistent with the provisions of the Hunter REP 1989, in particular the objectives outlined in Part 6 Division 1 Clause 39, such that:

- Adverse impacts of the environment and population will be minimised;
- The transportation of the extractive materials will have minimal impact on the community; and
- The development proposal will address the potential problem of rendering the extractive resources unavailable.



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Key Environmental Issues

4.1 ECOLOGY

Issues relating to ecology are grouped into marine impacts associated with the dredging operation and terrestrial impacts associated with that part of the pipeline on land and the stockpiling operations.

4.1.1 MARINE

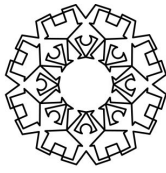
Issues relating to marine ecology include:

- Impacts on habitats for Threatened species likely to occur in the study area;
- Potential for the creation of barriers to fish movement;
- Potential impacts of water quality on all aquatic species (including terrestrial vegetation) in the vicinity of the dredge site;
- Potential impacts on commercial and recreational fishing grounds;
- Indirect effects of the proposal on species and habitats in the area surrounding the dredge site; and
- Potential for disruption to the lifecycle of aquatic species.

A detailed assessment of impacts on aquatic habitats and flora and fauna of the proposed dredge operation will be included in the Environmental Assessment report. The report will include the identification of mitigation and management measures that reduce the impact of the proposed development on Threatened species and provide detail of mitigation measures.

4.1.2 TERRESTRIAL

The proposed stockpile site and SEPP 14 wetland has specific ecological characteristics and values that will be outlined and addressed in the Environmental Assessment. While the area of the site that is proposed to be utilised for the stockpiling operations is predominantly cleared and zoned 1(c) Future Urban Investigation, the impact of the operations will be assessed in the context of Threatened species that may utilise the site for foraging or shelter resources. The site will also be assessed in accordance with the provisions of State Environmental Planning Policy 44 – Koala Habitat Protection. Further, the impact of the presence of the pipeline on Threatened species, populations and endangered ecological communities occurring in the SEPP 14 wetland will also be assessed. As indicated previously (**Section 2.2**), there will be no clearing required in the SEPP 14 Wetland area for the pipelines.



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A detailed flora and fauna assessment, including a Section 5A Assessment will be prepared for the stockpile site and that part of the SEPP 14 wetland area through which it is proposed to place the pipeline. This report will include the identification of mitigation and management measures that reduce the impact of the proposed development on Threatened species, populations and ecological communities and provide mitigation measures if deemed necessary.

4.2 MORPHODYNAMICS

The potential impact of the dredging on tidal and river flow velocities, associated sediment transport pathways and adjacent bed and banks, will be assessed through detailed modelling. Details are provided below.

4.2.1 HYDRAULICS AND RIVER FLOODING

Issues to be addressed relate to the effect of dredging on the current hydraulics through the site and determining the resulting characteristic hydraulic regime. Issues relating the effect of the dredging on river and tidal velocities will also be modelled, with particular emphasis placed on the effects on flood flows through the site for a typical 1 year ARI flooding event and regular dry weather spring-neap tidal cycle.

4.2.2 SEDIMENT TRANSPORT

The effect of the changed hydraulics on sediment transport through the site, potential for changes to erosion/accretion in adjacent areas and infilling of the dredge hole will be investigated, based on the results of the hydrodynamic modelling and if necessary, simulation modelling using either RMA-11 or the 3DRWALK model.

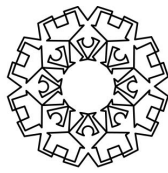
4.2.3 MORPHOLOGY

Results of the hydraulic and sediment transport investigations will be synthesised to determine the impacts of dredging on adjacent morphologies both upstream and downstream of the dredge site. Dependent on the results of the modelling, it may be necessary to develop mitigation strategies to ensure that no adverse impacts on the morphodynamics of the area eventuate.

4.3 WATER QUALITY

4.3.1 MARINE

The dredge operation has the potential to increase turbidity in the vicinity of the dredger in the event of an accident. Given that the dredge type proposed to be used is of a cutter-suction type, it is unlikely that turbid plumes would develop under normal operating circumstances.



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Notwithstanding, it will be necessary to monitor turbidity at the dredge site and along the pipeline route. It is proposed to undertake the dredging operation during the winter months, to minimise the potential for impacts on adjacent oyster lease areas.

Given the nature of flooding in the Wallamba River and the regularity of extended, turbidity events resulting from small scale flooding, it is unlikely that a short duration, low volume turbidity plume associated with the dredge operation would have any detrimental impacts on the ecology of the waterway. Notwithstanding, a manual monitoring and recording regime will be proposed for turbidity management, given the high costs of automated monitoring relevant to the quantity of material to be dredged, duration of dredging and overall project scale.

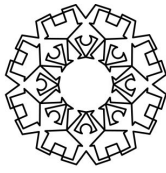
4.3.2 DISCHARGE/RETURN WATERS

As the dredged material will be pumped to the stockpile site in a slurry form, it will be necessary to return water to the Wallamba River. Physical and chemical characteristics of the return waters will need to meet criteria specified in the Environmental Management Strategy for the project. Return waters will be managed through a series of settling ponds, which will be used to stabilise pH and turbidity to specified levels prior to being released to the Wallamba River. Mitigation measures will be developed to ensure that specified criteria are met prior to discharge.

4.4 ACID SULFATE SOILS

While the sediment is composed primarily of clean marine sand, the northern extent of the proposed dredge area adjacent to the Wallamba River channel is draped by a thin (200 – 300 mm) layer of fine silt/mud. This material would be removed as part of the dredge operation and is likely to have the potential for acid generation, once oxidised. In addition, the clean marine sand may have enough traces of fines to also have the potential to generate acid once oxidised.

Therefore, measures will be implemented to mitigate the potential for acid generation from these sediments during the dewatering process. An Acid Sulfate Soils Management Plan would form part of the overall Environmental Management Strategy for the project, which would be adopted prior to commencement of the dredging activities. In general, the dewatered sediments would be tested for pH and if required, neutralised with Ag Lime in accordance with ASSMAC guidelines until satisfactory pH levels were achieved. Similarly, return waters would also be subject to a regular testing regime prior to their release and if required, neutralised with Hydrated Lime in accordance with ASSMAC guidelines, to ensure that pH was in accordance with accepted guideline values.



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4.5 TRAFFIC

The stockpile site has direct access to Grey Gum Road, a sealed access road within the Tuncurry industrial area with an approximately 6.5 m wide AC seal. Grey Gum Road has direct access (500 m) to The Lakes Way (Main Road 111), a major distributor road with direct access to the Pacific Highway at Rainbow Flat. This therefore provides for ready access to markets for the sand product.

The existing intersection design of Grey Gum Road and The Lakes Way is more than sufficient to cater for the estimated additional 10 outward truck movements per day. Further, Grey Gum Road provides direct access to a variety of industrial land uses within the industrial area of Tuncurry, including Council's works depot. A traffic assessment will be included in the Environmental Assessment that considers the impact of the additional projected truck movements on the local road network.

4.6 AIR QUALITY, NOISE, VISUAL

Noise impacts from operation of the dredge and the operation of the stockpile site will be assessed in the Environmental Assessment. At the closest point, dwellings would be located approximately 150 m from the dredge as it works across the northern extent of the oyster lease, while they would be a minimum of approximately 300 m from the stockpile site.

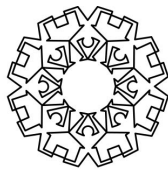
Air quality impacts arising from the operation of the stockpile site would also be assessed, as would any visual impacts arising from both the dredging and stockpiling operations.

4.7 CULTURAL HERITAGE

It is unlikely that there would be any Indigenous archaeology issues arising from the dredging operation. Minor excavation at the stockpiling site for sediment ponds will trigger the need for indigenous archaeological assessment. These issues would be addressed in the Environmental Assessment, as would the potential for any European cultural heritage issues.

4.8 SOCIAL AND ECONOMIC IMPACTS

The potential for the project to impact upon the local economy and social fabric of the Forster – Tuncurry area will be addressed in the Environmental Assessment. The project is likely to have positive social and economic impact, through the creation of over \$350,000 worth of investment in the local economy each year and the creation of several full time and casual employment opportunities.



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Conclusion

5.1 CONCLUSION

The primary objective of the project is to activate a presently under-utilised resource (oyster lease) and contribute to the growth of the oyster industry in Wallis Lake. Ancillary to this is the increase in the productive use of under-utilised cattle grazing land.

These objectives are proposed to be facilitated by the dredging of the oyster lease to an appropriate depth for oyster growing and the sale of the extracted resource. The economics of the operation are such that the sale of the extracted resource is critical to the project in that it will be used to fund the dredge operation.

The project is consistent with principles of Ecologically Sustainable Development, in that it will:

- Increase the productivity of an existing under-utilised resource, with minimal environmental impact;
- Promote resource recovery and reuse; and
- Contribute positively to the local economy.

The project is designed to have minimal environmental impact and have a positive benefit to the local oyster industry by increasing the productivity of Wallis Lake, as well as contributing to the local economy by injecting approximately \$350,000 per annum, through the operation of both the oyster lease and the sand stockpile.

Appendix A

DIPNR ADVICE OF PART 3A PROJECT STATUS



Department of
Infrastructure, Planning and Natural Resources

**Mining & Extractive Industries
Major Development Assessment**

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Email: david.kitto@dipnr.nsw.gov.au
Level 4 Western Gallery
23-33 Bridge Street
GPO Box 39
SYDNEY NSW 2001

Mr Trevor Dent
PO Box 163
TUNCURRY NSW 2428

Dear Mr Dent

Part 3A – Major Projects

I would like to advise you that the *Environmental Planning and Assessment Act 1979* (EP&A Act) was recently amended. These amendments changed the assessment and approval regime for major projects in NSW that require the Minister for Planning's approval: many projects that would previously have been assessed as State significant development under Part 4 of the EP&A Act will now be assessed under Part 3A of the EP&A Act, which commenced on 1 August 2005.

Information on Part 3A is available on the Department's website www.dipnr.nsw.gov.au/planningreform.html, and the amended legislation is available on the Government's website (www.legislation.nsw.gov.au). The Department has also set up an email enquiry line (assessments@dipnr.nsw.gov.au) to deal with any enquiries about Part 3A.

Prior to the commencement of Part 3A, the Department issued the Director-General's requirements on 2 May 2005 for the preparation of an environmental impact statement for the proposed dredging of an oyster lease on Wallis Lake, which was then classified as State significant development under Part 4. With the recent amendments to the EP&A Act, however, this proposal is now classified as a project to which Part 3A applies.

To enable a smooth transition from Part 4 to Part 3A, we would like to meet with you to discuss the implications of the recent amendments for your proposal. I would appreciate it if you would contact me as soon as possible to arrange such a meeting.

Yours sincerely

David Kitto 12.8.05

David Kitto
Manager
Mining & Extractive Industries

MEET 15/9. 10 AM.

FAX 6555 3599.