

21st February 2014

OUR REF: 212434-L001004

YOUR REF: SSD14/6395

The Department of Planning & Infrastructure
23-33 Bridge Street
SYDNEY NSW 2000

Attention: Carl Dumpleton, Senior Planner, Mining Projects

Dear Carl,

RE: REQUEST FOR DIRECTOR-GENERAL'S REQUIREMENTS – SUPPORTING DOCUMENTATION PROPOSED SAND MINE, NELSON BAY ROAD, BOBS FARM PORT STEPHENS LOCAL GOVERNMENT AREA

Further to your email of the 11TH February 2014, and in addition to the already supplied plans and aerial photographs, please find attached the following supporting documentation:-

1. Site details

- a. **Local and Regional Context** – refer attached annotated aerial photographs. Specifically, the following contextual features should be noted:-
 - i. The site is located adjacent to Nelson Bay Road which is a divided 4 lane road. Nelson Bay Road is proposed to be utilised to access the site.
 - ii. The proposed exit arrangements are to utilise Lots 10 & 11 DP1071458 onto Marsh Road. This access route is currently a bitumen sealed access route for the sand stockpiling that is undertaken on Lot 10. The Lot 10 sand operations currently use the exit route for all of its truck movements including the accessing back onto Nelson Bay Road.
 - iii. The site has direct road access to the Port of Newcastle and to train loading facilities within Kooragang Island.
- b. **Surrounding Development and Potentially Affected Properties** – refer attached annotated aerial photograph that indicates the location of the proposed mining operations to surrounding residential development.
- c. **Location of Key Infrastructure and Environmental Features** – refer attached annotated aerial photographs. Specifically, the only notable environmental issues that adjoin the proposed operations is a small area of Swamp Mahogany Paperbark Forest at the north-western corner of Lot 10 DP 1071458. This Swamp Mahogany Paperbark Forest is indicated on the annotated aerial photographs as well as being noted within an initial environmental assessment that has been undertaken by Wildthing Environmental Consultants and is attached to this document.

2. Development Description – The proposed sand mining operations will have several stages of development and operations. These stages are likely to be:-

- a. Development Stage – installation of Nelson Bay Road access location, initial clearing of the mining site, settling up of screening operations, loading ramp and storage shed and the construction of the main exit road onto the existing bitumen sealed road within Lot 10 DP1071458.

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- b. Operational Stage 1 – Clearing and stockpiling of topsoil and production of initial sand material that is likely to be processed into landscape soil base and sports field top-dress material.
- c. Operational Stage 2 – Processing of the blonde sand material for all products range.
- d. Operational Stage 3 – Setting up of dredge operations and winning of sand material for the processing of all products range.

Within all operational stages the main activities will be the bulk handling of sand material, utilising front end loaders and trucks, general trucks and dogs for the transport of the material to the required markets.

Operational hours for both extraction, loading of vehicles and transportation of materials out of the site are requested to be:-

6:00am – 6:00pm Monday to Saturday
No work on Sundays or Public Holidays

As regards the processing of the site material for the various applications that could be commercially supplied, the following process are expected to be undertaken:-

1. **Vegetation Clearing** - logging and mulching. This process would be undertaken in a staged or incremental fashion that would be tailed to specific commercial markets. Large scale clearing would not be undertaken.
2. **Screening** – This process involves the separating of the sand into certified material and would be undertaken throughout the whole mining process and the extent of the activity will be dependent on the product specification that will be required.
3. **Washing** – It is expected that some of the sand material will require washing to either clean the material for a certification specification or as an interim process for the supply of a qualified product.
4. **Sizing** – sand material will need to be sized and this process is essential for the production of fracking sand, glass, construction sand and high end sports field top dress materials.
5. **Separating of non-silica material** – process undertaken generally for the production of glass sand specification.
6. **Dredging** – process is for the recovery of material that is below the economic reach of mechanical equipment. Approximately 50% of the recoverable resource would be dredged.

Wastes from these processes are expected to be:-

1. All **organic material** processed on the site would be either used for rehabilitation of the land or sold to local garden suppliers. It would also be expected that some of the trees would be processed for saw logs. Tub ground mulch would also be stockpiled and used in local rehabilitation projects.
2. **Heavy Metals** – this product has been identified in very low concentrations of 0.18 to 2% within the 5 boreholes that have been undertaken. It would be

initially proposed that this material would be stockpiled and then relocated to a heavy earth processor.

3. **Water** – sourced from site bores, this water would be returned to the groundwater via infiltration and settlement ponds.
4. **Organic soils** – the current boreholes have indicated that organic soils are banded at layers of around 1-2m and located around the current site water table. It would be expected that these materials would be processed as landscaping supplies.

3. Permissibility and Strategic Planning -

The relevant planning documents are the Port Stephens LEP 2013, State Environmental Planning Policy (State and Regional Development) 2011 – Schedule 1, State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, Schedule 1 of the Protection of the Environment Operations Act 1997, Section 5A Environmental Planning and Assessment Act 1979, Relevant Schedules, Threatened Species Conservation Act 1995 and the Water Management Act 2000.

Port Stephens LEP 2013 will come into force on the 22nd February 2014 and the land will be zoned RU2. Extractive industries are a permitted activity.

Port Stephens Local Environmental Plan 2013

Land Use Table > Zone RU2

<< page >>

Zone RU2 Rural Landscape

1 Objectives of zone

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To maintain the rural landscape character of the land.*
- *To provide for a range of compatible land uses, including extensive agriculture.*

2 Permitted without consent

Extensive agriculture; Home occupations; Intensive plant agriculture

3 Permitted with consent

*Agriculture; Airstrips; Animal boarding or training establishments; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Camping grounds; Cellar door premises; Cemeteries; Community facilities; Correctional centres; Crematoria; Dual occupancies; Dwelling houses; Eco-tourist facilities; Environmental facilities; Environmental protection works; **Extractive industries**; Farm buildings; Flood mitigation works; Forestry; Group homes; Helipads; Home-based child care; Home businesses; Home industries; Information and education facilities; Jetties; Landscaping material supplies; Plant nurseries; Recreation areas; Roads; Roadside stalls; Rural industries; Tourist and visitor accommodation; Turf farming; Veterinary hospitals; Water recreation structures; Water supply systems*

4 Prohibited

Backpackers' accommodation; Hotel or motel accommodation; Serviced apartments; Any other development not specified in item 2 or 3

State Environmental Planning Policy (State and Regional Development) 2011

Schedule 1 State significant development—general

7 Extractive industries

- (1) Development for the purpose of extractive industry that:
 - (a) **extracts more than 500,000 tonnes of extractive materials per year, or**
 - (b) **extracts from a total resource (the subject of the development application) of more than 5 million tonnes, or**
 - (c) *extracts from an environmentally sensitive area of State significance.*
- (2) Subclause (1) (c) does not apply to extraction:
 - (a) *by a public authority in maintenance dredging of a tidal waterway, or*
 - (b) *in maintenance dredging of oyster lease areas, or adjacent areas, in Wallis Lake.*
- (3) Development for the purpose of extractive industry related works (including processing plants, water management systems, or facilities for storage, loading or transporting any construction material or waste material) that:
 - (a) *is ancillary to or an extension of another State significant development project, or*
 - (b) *has a capital investment value of more than \$30 million.*
- (4) *This clause does not apply to development for the purpose of extractive industry or extractive industry related works that is part of a single proposed development if any other part of the development is State significant infrastructure.*

The relevant development standards relate to the scale of the proposed operations and as the Application is seeking the potential to win 750,000 tonnes/year and would disturb >2ha of land, the required trigger values for a SSD have been met. It is not intended that any development standard will not be met.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

7 Development permissible with consent

(3) Extractive industry

Development for any of the following purposes may be carried out with development consent:

- (a) *extractive industry on land on which development for the purposes of agriculture or industry may be carried out (with or without development consent),*
- (b) *extractive industry in any part of a waterway, an estuary in the coastal zone or coastal waters of the State that is not in an environmental conservation zone.*

Part 3 Development applications—matters for consideration

12AA Significance of resource

- (1) *In determining an application for consent for development for the purposes of mining, the consent authority must consider the significance of the resource that is the subject of the application, having regard to:*
- (a) *the economic benefits, both to the State and the region in which the development is proposed to be carried out, of developing the resource, and*
 - (b) *any advice by the Director-General of the Department of Trade and Investment, Regional Infrastructure and Services as to the relative significance of the resource in comparison with other mineral resources across the State.*
- (2) *The following matters are (without limitation) taken to be relevant for the purposes of subclause (1) (a):*
- (a) *employment generation,*
 - (b) *expenditure, including capital investment,*
 - (c) *the payment of royalties to the State.*
- (3) *The Director-General of the Department of Trade and Investment, Regional Infrastructure and Services is, in providing advice under subclause (1) (b), to have regard to such matters as that Director-General considers relevant, including (without limitation):*
- (a) *the size, quality and availability of the resource that is the subject of the application, and*
 - (b) *the proximity and access of the land to which the application relates to existing or proposed infrastructure, and*
 - (c) *the relationship of the resource to any existing mine, and*
 - (d) *whether other industries or projects are dependent on the development of the resource.*
- (4) *In determining whether to grant consent to the proposed development, the significance of the resource is to be the consent authority's principal consideration under this Part.*
- (5) *Accordingly, the weight to be given by the consent authority to any other matter for consideration under this Part is to be proportionate to the importance of that other matter in comparison with the significance of the resource.*
- (6) *To avoid doubt, the obligations of a consent authority under this clause extend to any application to modify a development consent.*

12AB Non-discretionary development standards for mining

- (1) *The object of this clause is to identify development standards on particular matters relating to mining that, if complied with, prevents the consent authority from requiring more onerous standards for those matters (but that does not prevent the consent authority granting consent even though any such standard is not complied with).*
- (2) *The matters set out in this clause are identified as non-discretionary development standards for the purposes of section 79C (2) and (3) of the Act in relation to the carrying out of development for the purposes of mining.*
- Note.** *The development standards do not prevent a consent authority from imposing conditions to regulate project-related noise, air quality, blasting or ground vibration impacts that are not the subject of the development standards.*

(3) Cumulative noise level

The development does not result in a cumulative amenity noise level greater than the acceptable noise levels, as determined in accordance with Table 2.1 of the Industrial Noise Policy, for residences that are private dwellings.

(4) Cumulative air quality level

The development does not result in a cumulative annual average level greater than 30 µg/m³ of PM₁₀ for private dwellings.

(5) Airblast overpressure

Airblast overpressure caused by the development does not exceed:

- (a) 120 dB (Lin Peak) at any time, and
- (b) 115 dB (Lin Peak) for more than 5% of the total number of blasts over any period of 12 months, measured at any private dwelling or sensitive receiver.

(6) Ground vibration

Ground vibration caused by the development does not exceed:

- (a) 10 mm/sec (peak particle velocity) at any time, and
- (b) 5 mm/sec (peak particle velocity) for more than 5% of the total number of blasts over any period of 12 months, measured at any private dwelling or sensitive receiver.

(7) Aquifer interference

Any interference with an aquifer caused by the development does not exceed the respective water table, water pressure and water quality requirements specified for item 1 in columns 2, 3 and 4 of Table 1 of the Aquifer Interference Policy for each relevant water source listed in column 1 of that Table.

Note. The taking of water from all water sources must be authorised by way of licences or exemptions under the relevant water legislation.

(8) The Minister is to review a non-discretionary development standard under this clause if a government policy on which the standard is based is changed.

(9) In this clause:

Aquifer Interference Policy means the document entitled NSW Aquifer Interference Policy published by the NSW Office of Water, Department of Primary Industries and in force as at the commencement of this clause.

Industrial Noise Policy means the document entitled NSW Industrial Noise Policy published by the Environment Protection Authority and in force as at the commencement of this clause.

PM₁₀ means particulate matter less than 10 µm in aerodynamic equivalent diameter.

private dwelling means residential accommodation owned by a person other than a public authority or a company operating a mine.

sensitive receiver means a hospital, school classroom, child care centre or place of public worship.

12 Compatibility of proposed mine, petroleum production or extractive industry with other land uses

Before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:

- (a) consider:
 - (i) the existing uses and approved uses of land in the vicinity of the development, and
 - (ii) whether or not the development is likely to have a significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and
 - (iii) any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and
- (b) evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and
- (c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).

13 Compatibility of proposed development with mining, petroleum production or extractive industry

- (1) This clause applies to an application for consent for development on land that is, immediately before the application is determined:
 - (a) in the vicinity of an existing mine, petroleum production facility or extractive industry, or
 - (b) identified on a map (being a map that is approved and signed by the Minister and copies of which are deposited in the head office of the Department and publicly available on the Department's website) as being the location of State or regionally significant resources of minerals, petroleum or extractive materials, or

Note. At the commencement of this Policy, no land was identified as referred to in paragraph (b).
 - (c) identified by an environmental planning instrument as being the location of significant resources of minerals, petroleum or extractive materials.

Note. [Sydney Regional Environmental Plan No 9—Extractive Industry \(No 2—1995\)](#) is an example of an environmental planning instrument that identifies land as containing significant deposits of extractive materials.
- (2) Before determining an application to which this clause applies, the consent authority must:
 - (a) consider:
 - (i) the existing uses and approved uses of land in the vicinity of the development, and
 - (ii) whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources), and
 - (iii) any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery, and
 - (b) evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to in paragraph (a) (i) and (ii), and
 - (c) evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).

14 Natural resource management and environmental management

(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:

- (a) that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,
- (b) that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,
- (c) that greenhouse gas emissions are minimised to the greatest extent practicable.

(2) Without limiting subclause (1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.

(3) Without limiting subclause (1), in determining a development application for development for the purposes of mining, the consent authority must consider any certification by the Chief Executive of the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.

15 Resource recovery

(1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider the efficiency or otherwise of the development in terms of resource recovery.

(2) Before granting consent for the development, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at optimising the efficiency of resource recovery and the reuse or recycling of material.

(3) The consent authority may refuse to grant consent to development if it is not satisfied that the development will be carried out in such a way as to optimise the efficiency of recovery of minerals, petroleum or extractive materials and to minimise the creation of waste in association with the extraction, recovery or processing of minerals, petroleum or extractive materials.

16 Transport

(1) Before granting consent for development for the purposes of mining or extractive industry that involves the transport of materials, the consent authority must consider whether or not the consent should be issued subject to conditions that do any one or more of the following:

- (a) require that some or all of the transport of materials in connection with the development is not to be by public road,

- (b) limit or preclude truck movements, in connection with the development, that occur on roads in residential areas or on roads near to schools,
- (c) require the preparation and implementation, in relation to the development, of a code of conduct relating to the transport of materials on public roads.
- (2) If the consent authority considers that the development involves the transport of materials on a public road, the consent authority must, within 7 days after receiving the development application, provide a copy of the application to:
 - (a) each roads authority for the road, and
 - (b) the Roads and Traffic Authority (if it is not a roads authority for the road).

Note. Section 7 of the [Roads Act 1993](#) specifies who the roads authority is for different types of roads. Some roads have more than one roads authority.
- (3) The consent authority:
 - (a) must not determine the application until it has taken into consideration any submissions that it receives in response from any roads authority or the Roads and Traffic Authority within 21 days after they were provided with a copy of the application, and
 - (b) must provide them with a copy of the determination.
- (4) In circumstances where the consent authority is a roads authority for a public road to which subclause (2) applies, the references in subclauses (2) and (3) to a roads authority for that road do not include the consent authority.

17 Rehabilitation

- (1) Before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.
- (2) In particular, the consent authority must consider whether conditions of the consent should:
 - (a) require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or
 - (b) require waste generated by the development or the rehabilitation to be dealt with appropriately, or
 - (c) require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the [Contaminated Land Management Act 1997](#)), or
 - (d) require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.

Protection of the Environment Operations Act 1997 No 156

Licences will be required to be issued for the following Scheduled Activities.

Schedule 1 Scheduled activities

16 Crushing, grinding or separating

- (1) This clause applies to **crushing, grinding or separating**, meaning the processing of materials (including sand, gravel, rock or minerals, but not including waste of any description) by crushing, grinding or separating them into different sizes.
- (2) The activity to which this clause applies is declared to be a scheduled activity if it has a capacity to process more than 150 tonnes of materials per day or 30,000 tonnes of materials per year.

19 Extractive activities

- (1) This clause applies to the following activities:

land-based extractive activity, meaning the extraction, processing or storage of extractive materials, either for sale or re-use, by means of excavation, blasting, tunnelling, quarrying or other such land-based methods.

water-based extractive activity, meaning the extraction of extractive materials, either for sale or re-use, by means of dredging or other such water-based methods.

- (2) In this clause, **extractive materials** means clay, sand, soil, stone, gravel, rock, sandstone or similar substances that are not minerals within the meaning of the [Mining Act 1992](#).
- (3) Each activity referred to in Column 1 of the Table to this clause is declared to be a scheduled activity if it meets the criteria set out in Column 2 of that Table.

Table

Column 1

Activity

land-based extractive activity

water-based extractive activity

Column 2

Criteria

involves the extraction, processing or storage of more than 30,000 tonnes per year of extractive materials

involves the extraction of more than 30,000 cubic metres per year of extractive materials

Environmental Planning and Assessment Act 1979 No 203

5A Significant effect on threatened species, populations or ecological communities, or their habitats

- (1) For the purposes of this Act and, in particular, in the administration of sections 78A, 79B, 79C, 111 and 112, the following must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats:

- (a) each of the factors listed in subsection (2),
- (b) any assessment guidelines.

- (2) The following factors must be taken into account in making a determination under this section:

- (a) *in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,*
 - (b) *in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,*
 - (c) *in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:*
 - (i) *is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or*
 - (ii) *is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,*
 - (d) *in relation to the habitat of a threatened species, population or ecological community:*
 - (i) *the extent to which habitat is likely to be removed or modified as a result of the action proposed, and*
 - (ii) *whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and*
 - (iii) *the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,*
 - (e) *whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),*
 - (f) *whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,*
 - (g) *whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.*
- (3) *In this section:*

***assessment guidelines** means assessment guidelines issued and in force under section 94A of the [Threatened Species Conservation Act 1995](#) or, subject to section 5C, section 220ZZA of the [Fisheries Management Act 1994](#).*

***key threatening process** has the same meaning as in the [Threatened Species Conservation Act 1995](#) or, subject to section 5C, Part 7A of the [Fisheries Management Act 1994](#).*

Water Management Act 2000 No 92

There will be the requirement to seek approval for a water and an aquifer interference licence as part of this Integrated Development Application.

- 4. Impact Identification and Assessment** – Attached to this submission is the initial Ecological Assessment that has been undertaken by Wildthing Environmental Consultants. This report highlights that whilst there are endangered and threatened species within the proximity of the proposed development, further studies, currently being undertaken in anticipation of the requirements of the EPA, will determine the extent of any impact.

Expected environmental impacts from the operations will include:-

- a. Swamp Mahogany Paperbark Forest within Lot 10 DP 1071458 – minimal impact expected as the access road is already constructed and off-site impacts from the operations is expected to be minimal.
- b. The Tall Alluvial Moist Forest to the north of the main Lot 254 DP753204 has been generally identified and included within the proposed buffer zones of the sand extraction operation. Future groundwater modelling will be undertaken to assess what measures are going to be required, if any, to mitigate impacts on this Groundwater Dependent Ecosystem.
- c. Ground water – future operations will require a licence to access sand material from below the water table. It is expected that the quality of the ground water will not be impacted. The ground water in this location is outside of the Hunter Water Corporation Tomago Sandbed Aquifer and preliminary advice from Martens & Associates has indicated that impacts on the quality of this groundwater are unlikely and operational issues containable.

Currently there are 5 water monitoring bores approved by the NSW Office of Water (NoW), located within the site and continuous monitoring is being undertaken in anticipation of NoW requirements. Washing of the sand that will be required for some of the expected products, will involve the establishment and operation of infiltration basins within the site. It is expected that water quality within the ground water aquifer will not be degraded and the majority of the water used in the processing of the activities will be returned to the groundwater aquifer.

- d. Additionally, noise, traffic and other off-site impacts are expected to be of minimal impact to adjoining residences and within normal industrial noise criteria. Initially the mining operation will be established within the current fig farm and depending on client demand for particular products, will extend into the surrounding vegetated dunal system. Depending on the approved status of the mining operations it is expected that sufficient mitigation measures will be arranged to minimise any adjoining impacts caused by the proposed activity.

Other impacts that would be expected will include Aboriginal Cultural Heritage. No initial assessment has been undertaken on the ACH on this site but given the underlying stratum and the current internal tracks it would be expected that if middens are in existence, they are likely to be detected.

Impacts on Endangered or Threatened Species is currently undergoing some investigations in anticipation of the expected requirements of the DGR's.

As part of State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, the rehabilitation of the land post mining will need to be accommodated. Whilst the possibility of creating a water based tourist facility would be the preferred activity post development, given that it has direct access to Nelson Bay Road and

it adjoins other like tourist activities within the area and region, a future rezoning may be required to facilitate this option. Full rehabilitation possibilities will be a matter for detailed discussion within the Application documentation and a functional part of the mining plan.

- 5. Justification** – The site is currently being operated as a production fig farm that has limited commercial capacity. The physical attributes of the site have been preliminarily investigated and it has been determined that the sand resource exists to depths of 26m below the water table and that the physical attributes of the product is of sufficient quality that would sustain a significant sand mine operation.

The site is ideally located for a sand mine with readily available markets in construction activities in Sydney, Newcastle and the Hunter Region. The mine would also potentially provide some product for mining operations, specifically coal seam gas, glass production and some high end recreational uses.

The proposed sand mine will provide an added resource to the availability of construction sand products for both the local Hunter Region but also as a potential export resource for glass manufacturing.

Identification of operational Newcastle Port facilities has already determined that supply of sand products into the Sydney region via ship are also a possibility.

- 6. Consultation** – Some informal discussion have been undertaken with the Mayor of Port Stephens Council. The Mayor has indicated strong support for the proposed operations.

Applications for 5xtest bores have been obtained from the NSW Office of Water and in those Applications we have indicated the intention to investigate ground water for the purposed of a sand mine.

- 7. Capital Investment Value** – as previously stated should the full proposed operations of the sand mine be approved, and that would mean the opportunity to dredge the below water sand resource, to a level of -15mAHD, the CIV would be \$2.9M. If however, should the sand mine be limited to be within 1m of the current water table, the CIV would only be \$1.7M.

Should you require further clarification on any of the issues detailed in this advice, or have any further requirements, please do not hesitate to contact this office.

Kind regards

TATTERSALL LANDER PTY LTD



Bob Lander
Director

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