PROJECT PROFILE ANALYSIS

STATE ENVIRONMENTAL PLANNING POLICY NO. 62- SUSTAINABLE AQUACULTURE

*Note- each assessment table begins on a new page.

Tier 1- Site Evaluation (Pond and Tank Aquaculture)

Criteria	Level of Assessment	Comment
1. Water Supply Information		
a) *Saline ground water availability*	N/A	Saline water will not be sourced from groundwater.
b) *Fresh- water availability*	N/A	The farm will not utilise freshwater for aquaculture.
c) *Freshwater projects that plan to pump water from a river- Environmental flows*	N/A	The farm will rely on marine water from Port Stephens.
2. Acid Sulphate Soils		
If site is less than 2m AHD based on survey data, ASS soil profile based on ASS Risk Maps[1]	Level 2: *ASS Landform Process Classes A, W, B, E, L, S with other Landform Element than b, l, t, p, y or w*	The potential for ASS, and appropriate management measures, are addressed at **Section 5.5** of the EA.
3. Heritage Issues		
a) *Heritage sites based on LEP or REP maps and State Heritage Inventory*	Level 1: *No listings on the proposed site*	N/A
b) *Aboriginal heritage based on DECCW Aboriginal Heritage Information Management System and Local Aboriginal Land Council*	Level 2: *Sites or places recorded on the land and/or DECCW advises that a cultural and/or archaeological assessment is required*	A likely Aboriginal midden has been identified (see **Section 5.10** of the EA). However the farm has been designed to avoid any impacts on Aboriginal heritage.
4. Native Title Issues		
Status of native title interests	Level 1: *Crown land, previous determination. Native title extinguished*	The site is owned privately (freehold).
5. Flooding		
a) *Consistency with Council and/or DECCW Floodplain Management Plans*	Level 2: *Development of the site is consistent with the management plan but will be*	Proposed stormwater management measures are addressed at **Section 5.16** of the EA.

Criteria	Level of Assessment	Comment
	restricted or controlled	
b) Floodway area	Level 1: *Development is not proposed in a floodway*	N/A

1- Sourced from the *Acid Sulphate Soil (ASS) Risk Maps*

Tier 2 Site Evaluation (Pond and Tank Aquaculture)

Criteria	Level of Assessment	Comment
6. Water Supply Quality		
a) *Water quality risks from nearby land uses*	Level 1: *Grow-out water quality is consistently suitable for aquaculture and has low risk of contamination*	Water quality in the source location within Port Stephens (i.e. below 5m depth) consistently meets ANZECC guidelines (i.e. *Australia & New Zealand Environment Conservation Council*).
b) *Potable water for processing etc*	Level 1: • *Mains water; or* • *Reliable supply of potable water onsite*	Potable water will be supplied via rainwater tanks, which will be filled via watertruck during drought. Note- no post-harvest processing will take place on site.
7. Water Supply Access		
a) *Saline groundwater supply access*	N/A	Saline water will not be sourced from groundwater.
b) *Location of inlet/outlet pipe for estuarine or marine farms*	Level 1: • *Existing infrastructure suitable to carry inlet/outlet pipe, or* • *Sump/ pit or any deepening of bed of estuary or waterway is not required*	The Inflow/ Outflow pipes will be raised across the bed of the Port, with the exception of pipe burial in the intertidal zone.
c) *Fresh water pump station site*	N/A	No freshwater pump station is proposed.
8. Stock Security		
a) *Proposed species consistent with Table 3 (species culture methods and constraints) in Species Selection Chapter*	Level 1: *Pond or tank site above the PMF level in the eastern drainage or above 1:100 ARI flood level in the western drainage*	The main farm precinct will be above the Flood Planning Level (see **Section 5.16** of the EA).
9. Hydrology Issues		
a) *Catchment Drainage including Stormwater*	Level 1: • *No catchment drainage across site, or* • *Provision to manage flows not likely to affect surrounding area*	Stormwater management is addressed at **Section 5.6** of the EA.
b) *Excess water (effluent) storage pond/ dam*	Level 1: *No stormwater catchment drainage into excess water (effluent) storage pond/ dam*	N/A

Criteria	Level of Assessment	Comment
10. Mean Site Elevation		
Mean elevation of the area occupied by ponds or tanks	Level 1: *>1 metre AHD*	The farm site is at approximately 2-14m AHD.
11. Ecology		
a) *Vegetation type on the actual development site (flora survey required)*	Level 2: *Predominantly native vegetation- trees, shrubs, grasslands OR clearing vegetation requires consent under* Native Vegetation Conservation Act *or* Water Management Act. l	Consent for clearing is not required under the *Native Vegetation Act* as approval under Part 3A of the Act supersedes this requirement. Similarly, approvals under Section 89, 90 or 91 of the *Water Management Act* are also superseded by the Part 3A process.
b) *Occurrence of threatened species, populations or ecological communities or their habitats (for a and fauna survey required)*	Level 2: *Threatened species, populations or ecological communities or their habitats known or likely to occur- Test of significance required*	Threatened species and Endangered Ecological Communities have been identified on site, however with the implementation of recommended mitigation measures, no significant impacts will occur.
c) *Likely impact on aquatic habitats and mangroves*	Level 2: *Disturbance or impact on aquatic habitat or mangroves- approval or permit needed to disturb mangroves or seagrasses, reclamation or dredging works or impeding fish passages*	Impacts on small areas of seagrasses and some trimming of mangrove individuals will be required to accommodate pipelines (see **Section 5.9** of the EA).
12. Aboriginal Heritage		
a) *Consultation with Aboriginal community (call DECCW for appropriate contacts)*	Level 2: *Values of cultural significance to the Aboriginal community identified. Agreement reached between Aboriginal community, DECCW and proponent on the management of these values.*	The Karuah and Worimi LALCs and other Aboriginal stakeholders have been consulted throughout the design and assessment phase. Aboriginal stakeholders have no objection to the Project on cultural heritage grounds. DECCW (i.e. now OEH) has previously granted General Terms of Approval with regard to the previous DA in relation to Aboriginal heritage, and it is anticipated that such approval will again be granted.
b) *Location of Aboriginal sites*	Level 2: *Recorded Aboriginal site/ place and/or DECCW advises that a cultural and/or archaeological assessment is required.*	An *Aboriginal Heritage Assessment* has been prepared, and is discussed in **Section 5.10** of the EA.

Criteria	Level of Assessment	Comment
c) *Likely impact on Aboriginal heritage*	Level 1: *No impact on Aboriginal sites/ places or values of cultural significance to Aboriginal community*	The lack of impact is confirmed within the *Aboriginal Heritage Assessment.*
13. Provision of Riparian Buffer		
Riparian buffer distance from the edge of the culture or effluent pond	Level 1: >50 metres	There are no watercourses within close proximity to the farm area (i.e. ponds and culture area).
14. Excess Water Disposal		
a) *Management of excess freshwater from closed systems*	N/A	The farm will not utilise freshwater for aquaculture.
b) *Management of excess saline groundwater*	N/A	Saline water will not be sourced from groundwater.
15. Adjacent Land Use		
Potential for conflict with neighbours	Level 1: *Neighbouring land zoning compatible e.g agriculture/ industrial development*	Land adjacent to the site is zoned 1(a) Rural. The closest dwelling house is 300m from the farm area, separated by dense vegetation.
16. Flooding		
Impacts of development on flooding	Level 1: *Development not likely to adversely impact flood behaviour*	See **Section 5.16** of the EA.

Tier 3 Operational Evaluation- (Pond and Tank Aquaculture)

Criteria	Level of Assessment	Comment
17. Health Management		
Identification and treatment of disease	Level 1: • *On site trained staff with appropriate facilities, or* • *Demonstrated arrangement with accredited laboratory or veterinary practice*	The farm will have an on-site Farm Manager with expertise in Abalone health management, and an arrangement has been made with an expert aquatic health veterinarian (see **Section 5.3** of the EA).
18. Feed Management		
Feed storage	Level 1: *Vermin proof facilities to store feed (e.g. enclosed shed, cool, low humidity)*	Feed will be kept enclosed within the Facility Shed.
19. Water Monitoring for Intensive Aquaculture		
a) *Capacity to monitor water quality*	Level 1: *Provision of high quality water quality meters or test kits to monitor DO, temperature, ammonia, salinity and pH*	Details of the water quality monitoring regime are provided at **Section 5.4** of the EA.
20. Organic Waste Management (e.g mortalities)		
a) *Temporary storage of organic waste*	Level 1: • *Daily disposal; or* • *Held prior to disposal so no odour generated (e.g. frozen or chilled)*	Abalone mortalities will generally be kept chilled until disposal, with the exception of those samples fixed in formalin and temporarily stored until dispatch to laboratories.
b) *Disposal of organic waste on-site or off-site*	Level 1: • *Disposed of at an approved off-site recycling or landfill facility; or* • *Buried (with lime) or composted in an area which is >100m from a waterway and where the groundwater is >3m and the soil has low permeability.*	Organic waste will be disposed of at an off-site licensed composting or landfill (e.g. Bedminster Advanced Resource Recovery Facility).
c) *Disposal of stock in the event of a mass mortality, on-site or off-site*	Level 1: *Arrangements in place for disposal at an approved off-site recycling or landfill facility.*	Mass mortalities are anticipated to be disposed of at a facility such as the Bedminster facility mentioned above.

Criteria	Level of Assessment	Comment
21. Recirculating Water Management for Intensive Culture		
Storage capacity for recycling water in semi-closed and closed intensive culture systems	Level 1: *>2 times the volume of the largest growout pond or tank*	N/A
22. Discharge Water Management for Open (flow through) freshwater or estuarine, marine or saline ground water systems		
a) POEO Act license	Level 2: *POEO Act license required.*	
b) In stream water quality objectives	N/A	The farm will not utilise freshwater for aquaculture.
c) Discharge water treatment	Level 1: *Discharge water screened to avoid escape of stock and a water treatment system*	Details are provided in **Section 5.4** of the EA.
d) Daily discharge limits for species approved for freshwater open systems e.g salmonids	N/A	No freshwater species are proposed.
e) Total discharge load limits for species approved for freshwater open systems e.g salmonids	N/A	No freshwater species are proposed.

Additional Criteria for Pond Aquaculture (Tiers 1, 2 and 3)

Criteria	Level of Assessment	Comment
TIER 1		
1. Water Supply Information		
Estuarine- Tidal amplitude	Level 1: *>600mm*	Maximum tidal amplitude is approximately 1.96m.
TIER 2		
2. Topography		
a) *Estuarine ponds- slope of land*	Level 2: *>2% slope*	The Settlement Pond area has an average slope of approximately 2.9% (from 2.06 to 4.21 AHD, over a 'run' of approximately 75m).
b) *Freshwater ponds- slope of land*	N/A	No freshwater ponds are proposed.
3. Soils		
a) *Soil characteristics- suitability for pond/ dam construction*	Level 2: *Sandy/ gravelly with erosion potential and/ or limited water holding capacity- may need to import most pond clay for lining material or an artificial liner*	The Settlement Ponds are proposed to be excavated into the soil and the excavation lined with a suitable polypropylene pond liner.
b) *Soil contamination based on SEPP 55 criteria for the area occupied by any pond*	Level 1: *Suitable for residential use or for animal occupation*	There is no indication of contamination within the site.
4. Hydrology Issues		
Potential to affect groundwater below any pond	Level 2: *Underlying groundwater within 3m of the surface*	While no specific site data is available, it is assumed that groundwater is within 3m of the surface. However no impacts on groundwater are anticipated due to lining of Settlement Ponds with an impermeable liner.
5. Saline Groundwater Pond Design		
a) *Saline groundwater ponds including excess water storage ponds*	N/A	Saline water will not be sourced from groundwater.
TIER 3		
6. Health Management for Intensive Culture		
a) *Period of total farm dryout after every production cycle for prawns*	N/A	Prawn production is not proposed.

Criteria	Level of Assessment	Comment
b) Predators management of fingerling or growout ponds	N/A	No Abalone will be kept in ponds (i.e. only in tanks).
7. Pond Water Management for Intensive Culture		
a) Supply pipe or channel capacity	N/A	Settlement Ponds will not be used to accommodate Abalone, and are for the temporary retention of marine water before discharge only.
b) Intensive Pond Outlet system	N/A	No aquaculture (i.e. keeping of Abalone) will occur within Settlement Ponds.

Additional Criteria for Tank Aquaculture (Tiers 1, 2 and 3)

Criteria	Level of Assessment	Comment
TIER 1		
1. Water Supply Information		
Estuarine- Tidal amplitude	Level 1: *>300mm*	Maximum tidal amplitude is approximately 1.96m.
TIER 2		
2. Health Management		
Disinfection of tank aquaculture system	Level 1: *Systems capable of disinfection and dry-out to break pathogen cycle*	Abalone will be accommodated in plastic tanks which can be easily dried and disinfected.
3. Culture Water Management		
Semi-closed and closed tank aquaculture systems	Level 1: *Recirculating aquaculture system with biofiltration, solids filtration (fine, suspended, settlable), oxygen, UV or ozone, pH control*	The various marine water treatments proposed in different parts of the farm include the ability to recirculate water; solids filtration, UV treatment and ozone treatment. Further details are provided in **Section 5.4** of the EA.