

20 June 2018

May Patterson
Team Leader
Resource Assessments
Planning and Environment
320 Pitt St
SYDNEY NSW 2001

Dear Ms Patterson,

Proposal: SSD6334 State Significant Development – Sutton Forest Sand Quarry

DPI Fisheries is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, DPI Fisheries ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (FM Act) (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (1999)*. In addition, DPI Fisheries is responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture and marine protected areas within NSW.

The potential impact of the development upon the aquatic habitats and fish communities in Long Swamp and Long Swamp Creek and its tributaries is of particular interest to this Department in relation to this proposal.

Key Issues

Protection of in-stream and riparian vegetation along inland streams of NSW has been identified as a primary action of reduce threats to fish in NSW. Changes in water quality and quantities can have detrimental impacts to aquatic and riparian vegetation and ecosystems.

Disturbances on land can translate to disturbances to aquatic habitats, sediments and pollutants carried by water flow can enter aquatic environments smothering habitats and reducing water quality.

The proposal has identified that with the adoption of pre-existing or standard mitigation measures a 'medium' risk remains for:

- reduced flows to Long Swamp Creek; and
- reduced volume of water resulting in degradation of riparian or aquatic vegetation / ecosystems.

Degradation of native riparian vegetation along NSW water courses has been listed as key threatening process under the FM Act.

The key issues of concern to DPI Fisheries in relation to this State Significant Development are:

- Water Quantity - Decrease in groundwater and surface water flows and potential impacts to aquatic and riparian ecosystems.
- Water Quality - Decline in water quality from pollutants (suspended sediments) entering the water way.

Water Quantity

Predicted changes in flow rates and impacts to Long Swamp Creek have been calculated by averaging figures over a 45 year period. No specific analysis has been conducted on the impact of reduced flows and lowered water tables on riparian and aquatic ecosystems during periods of heightened risk (ie drought conditions when vegetation communities are under greater stress). Additional analysis of changes to the frequency, duration and severity of moisture deficits upon riparian and instream communities during drought periods resulting from the proposed development should be undertaken.

The impact of prolonged decreases in water tables or surface water flows can lead to vegetation death and changes within aquatic ecosystems. The reliance of ecosystems on particular water levels or flow regimes may only become apparent when the water supply is modified for a sufficient length of time. As was identified in the Aquatic Ecology Assessment "it is unclear if the predicted reduction in water table would have an impact on swamp habitat, though it is possible that some fringing areas of swamp habitat may be lost" (Aquatic Ecology Assessment - Section 4.4.3)

Although a monitoring program including ecological monitoring points within or adjacent to Long Swamp or Long Swamp Creek was recommended in the Aquatic Ecology Assessment, no such program has been included in Table 6.1 of the EIS – Summary of Environmental Management and Monitoring Measures. Additionally, proposed actions to be implemented in order to halt or reverse impacts in the event that drawdown exceeds predicted modelling or adverse ecological effects are detected have not been detailed.

The proposed monitoring of groundwater levels for the life of the project is via the network of onsite monitoring bores and selected off-site private bores (EIS Section 5.2.1). We note that none of these monitoring points are located within or adjacent to Long Swamp or Long Swamp Creek.

Water Quality

Section 5.3.3.1 of the EIS states an objective to achieve a **neutral** effect on water quality compared to the existing conditions in the receiving waters. That is; water discharging to Long Swamp Creek from an operational quarry must be of equivalent quality to that currently generated under forested conditions.

The NorBE assessment (3.2.8 - Surface Water Assessment) makes the following statement "If all the relevant CRPs are adopted and successfully implemented then it can be assumed there would be a neutral or beneficial effect (NorBE) on water quality".

The Surface Water Quality Assessment shows that a maximum Total Suspended Sediment (TSS) load of 7.5mg/L was recorded under current conditions. Water quality targets detailed in Section 5.3.5.1 propose an operational TSS discharge

level of 50mg/L, (more than 6 times the current detected levels) from Sediment Basin and Water Storage Dams. This is in addition to periodical uncontrolled discharges where greater concentrations of TSS will occur. These figures suggest that the objective of a **neutral** effect on water quality is unlikely to be achieved. Much higher standards for discharge water need to be specified to ensure that a neutral outcome is achieved.

To ensure a truly Neutral impact water quality is achieved over the whole life of the project, a comprehensive Soil and Water Management Plan is required. Periodic, independent auditing of compliance with such a plan should be a condition of any consent that may be issued.

Planned water quality monitoring proposes the collection of baseline water quality data **following** the commencement of onsite activities. In order to obtain accurate data from the current or pre-developed situation, baseline data must be collected **prior** to commencement of any works within the footprint. As was identified in the Surface Water Assessment, at least 18 samples collected over a 2 year period is required to obtain appropriate baseline data. Baseline data collection should be periodically (at least monthly), and event based (rainfall exceeding 25mm in a 24 hour period).

Accurate baseline data, along with appropriate water quality targets, should be used to inform the development of an appropriate water management system designed to achieve a neutral effect on water quality.

Water quality monitoring undertaken at monthly intervals and more particularly during significant rainfall events should be undertaken for the life of the project to ensure that the proposed system is achieving its objective of a neutral effect.

Extraction of the Hawkesbury Sandstone resource at this location has an identified risk of detrimental impacts to high significance waterways and aquatic habitats and Endangered Ecological Communities. We note that the Hawkesbury Sandstone resource is readily available in previously disturbed areas.

For further information please contact Fisheries Manager Jillian Reynolds on (02) 4428 3406

Yours sincerely

A handwritten signature in black ink, appearing to read 'J. Reynolds'.

Jillian Reynolds
Fisheries Manager
Aquatic Ecosystems – South Coast