MUSHROOM SUBSTRATE PLANT, MULGRAVE APPLICATION TO MODIFY APPROVALS FOR PROJECT AND CONCEPT PLAN (08_0255 MOD 3) CONSTRUCTION IMPACTS

MOD 3 proposes changes to the approved project as follows:

- Complete the straw bale storage facility as an open air storage;
- Modify the stormwater management system
- Retain the planted tree corridor

These changes include some new construction work, modification to approved construction work yet to be undertaken and deletion of already approved construction work that will no longer be required. The assessment of construction impact considers the net impact from the modification as far as possible.

Summary of changes

New construction work and previously approved work that has been deleted associated with each element of MOD 3 is summarised in the following table:

New construction work proposed in MOD 3	Approved construction work deleted in MOD 3
1. Complete the bale storage area as an open air storage	
• Construct noise barrier and perimeter wall • Fill the remainder of the enclosed area to 16 m AHD	• Delete 7-metre high concrete wall adjoining the materials store • Delete two bale storage sheds
2. Modify the stormwater management system	
• Construct basin 2 to a modified design • Construct new basin 3	• Construct basin 2 to the original design
3. Retain the planted tree corridor	
• No new construction required	• Nothing deleted, tree corridor exists

Nature and Duration of the work

New construction work proposed in MOD 3 is essentially a replacement for work already approved to be undertaken at the site and will employ construction methods already used and described in the construction environmental management plan for the site.

Overall duration of the work depends upon the availability of suitable fill material to extend the bale storage area. Construction of the walls and basins will be complete within about one month of commencement of these components.

Assessment of net impact

1. Complete the bale storage area as an open air storage

    a) Perimeter/noise wall

Construction work associated with the expanded bale storage area as proposed in MOD 3 includes installation of the perimeter wall/noise barrier and filling a small portion of the enclosed land to bring it to the same level as the remainder. The perimeter wall will be in place prior to placement of filling around the edges of the filled area because part of its function is to retain the filling. As noted in the environmental assessment the wall will be formed with concrete panels retained between steel columns.

Wall construction involves boring foundation holes for the steel columns, concreting the columns in place and then inserting the concrete panel strips between the standing columns using a crane or other suitable lifting device. This will be accomplished more quickly and with fewer operations and truck movements than the previously approved seven - metre high concrete wall. The deleted concrete wall would have required continuous foundations, reinforcing, formwork and several concrete pours along its 50 metre length. Similarly the deleted bale storage sheds were designed with concrete walls around the base to withstand machinery impact. Again foundations, formwork, reinforcing and multiple concrete pours would have been required before the superstructure could be added. The effective noise barrier that these structures were to provide would have not been achieved until this work had been largely completed.

In summary, it is considered there will be less construction impact from constructing the perimeter walls in lieu of the 7-metre high wall and bale storage sheds. The walls proposed in MOD 3 will be completed in a shorter time frame with fewer operations and fewer vehicle movements to achieve an effective noise barrier.

    b) Filling

As noted in the environmental assessment approximately 2,250 cubic metres of fill will be required to bring the triangular area of land added to the bale storage area to the same level as the existing storage area. A minor strip of filling is also required along the completed noise barrier to raise the existing batter to horizontal where it adjoins the barrier. This batter removal would have been required in any event where the 7-metre high concrete wall and storage sheds were to have been installed.

Approximately 125 truckloads of fill material will be imported to the site for filling. As noted in the environmental assessment, fill will be received from construction projects in the Sydney region that have suitable excavated material available at the time. Filling will be completed in as short a time frame as practicable, but will be governed by the availability of material.

Impacts from filling the bale storage area will be mitigated in that once the noise barrier is in place it will reduce noise transmission from ongoing construction operations taking place behind the barrier. Together with stacked straw bales in the existing storage, the barrier will also provide protection from the wind to aid in dust suppression during construction. The noise barrier will also retain any stormwater from the worksite until the level has been raised sufficiently to allow gravity drainage to basin 1, as intended.

The construction environmental management plan includes environmental safeguards for filling work at the substrate plant site. The additional filling required by MOD 3 is a relatively small addition to the filling that has already been undertaken and managed in accordance with the CEMP.

2. Modify the stormwater system

The changes to the design of basin 2 results from alterations to the catchment areas. The opportunity has also been taken to improve the outlet structures, add a water level controller/cut-off and add an overflow weir and provide rip-rap scour protection to the normal and overflow outlets. These modifications created by MOD 3 are inconsequential in terms of construction impacts. Basin 2 already exists as stormwater detention

structures. The work required under MOD 3 is similar to construction work that would have been required in the absence of MOD 3.

Basin 3 is a new basin to be created as a result of alterations to the catchment areas. Basin 3 is located in a natural depression that is currently the discharge point for the western catchment. Basin 3 construction work will largely be confined to the natural depression, enclosed by the existing tree corridor. On the western side of the tree corridor, basin 3 will require rip-rap protection for the normal and overflow outlets as for basin 2. The basin will be shaped by an earth-moving machine and may require import of some low permeability clay for lining the base and to form an internal weir if existing material is unsuitable for this purpose. Other construction work includes concreting the outlet structures, installing pipework and filter material in the bio-retention part of the basin.

The primary construction impact from basin construction is soil disturbance, which will occur primarily within the basin itself where any sediment can be captured and retained. Basin construction is expected to take approximately two weeks and will be undertaken in compliance with the construction environmental management plan for the site.

3. Retain the planted tree corridor

There are no construction activities required for this element of MOD 3.