



# BULLA

## SPOILS FACILITY

PART OF THE SUNBURY ECO-HUB

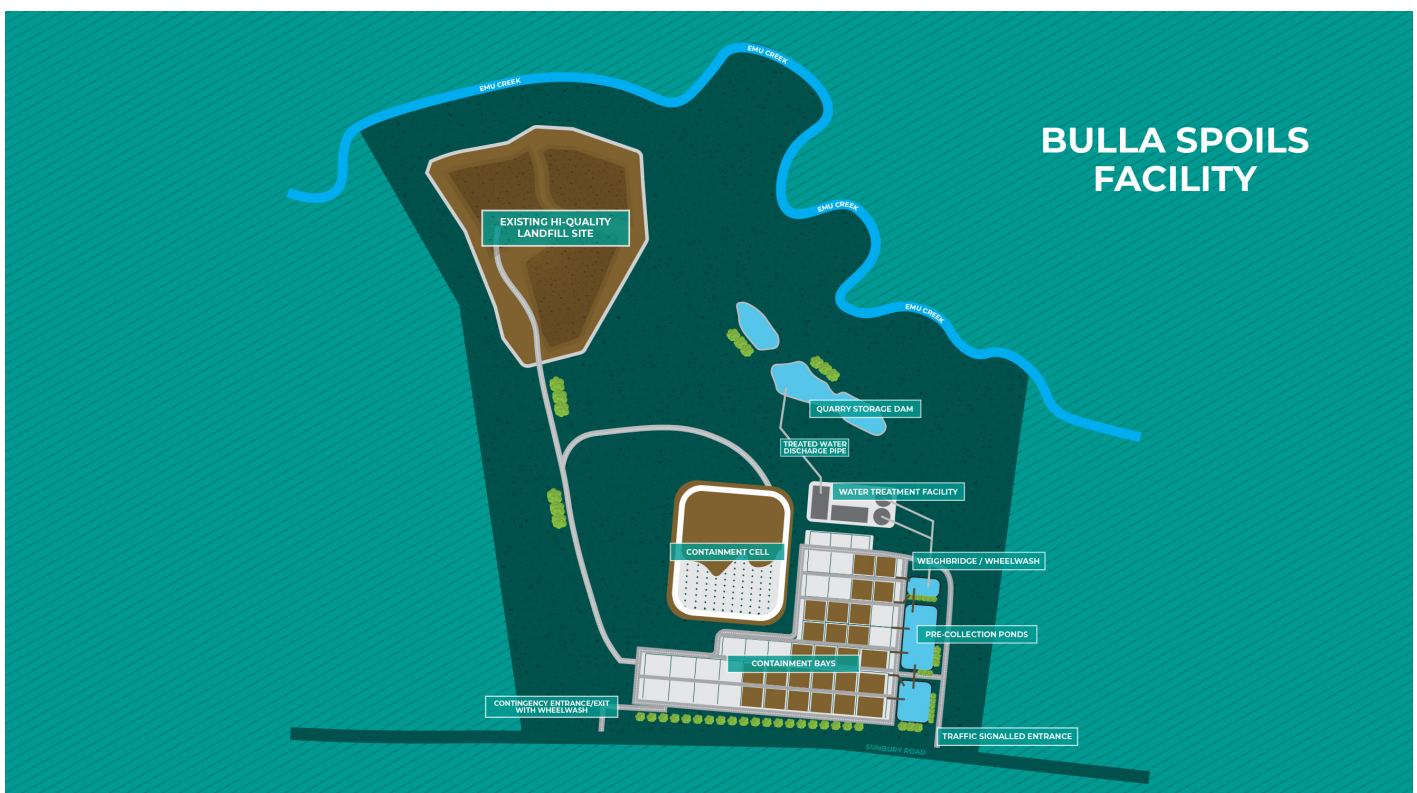
### Bulla Spoil Processing Facility CONSTRUCTION FACT SHEET

OCTOBER 2021

Major construction is underway of the Bulla Spoil Processing Facility (BSPF), located within Hi-Quality Group's Sunbury Eco-Hub at 570 Sunbury Road, Bulla. The facility is being constructed to treat and store the material removed by the tunnel boring machines on the West Gate Tunnel Project. When complete, the facility will include a soil processing area with minimum 58 holding bays and three pre-treatment ponds, a purpose-built water treatment plant, and a purpose-built containment cell.

The treatment and safe disposal of contaminated material is an important issue in our waste sector, and we take our responsibility as a solution provider seriously. Hi-Quality has a long and proven track record of safe operations in the treatment and disposal of contaminated materials.

We know the community may have questions about what we're building and how it might impact residents and the surrounding area, and we want to provide as much information on the construction as we can. More information will also be provided on the operations of the facility – including trucks and transport – closer to when it begins taking tunnel spoil.





# Processing area

## 1. What is the processing area?

The processing area refers to the intake location at the facility, where trucks will deposit tunnel material into the holding bays. The water (which may contain traces of PFAS) will then be drained from the material to the pre-treatment ponds and then into the water treatment plant.

## 2. What does construction involve?

Construction of the processing area involves land preparation, construction of the holding bays, and building three pre-treatment ponds.

Preparatory works have been undertaken, including clearing the land along Sunbury Road, and constructing a barrier wall to improve visual amenity.

Major construction includes building the hardstand pavement and bases for the holding bays. For the pre-treatment ponds, we are excavating and lining the area with layered protective lining. Fencing will also be constructed around each pond to ensure safety of wildlife and workers on-site.

Construction of the processing area will take approximately six to seven months. The site will become operational in early 2022.

## 3. What are the holding bays?

The holding bays will store the material from the West Gate Tunnel. Trucks will deposit the material into these bays, where it will be held for approximately 21 days as it goes through testing and classification, and for the water to be drained off into the pre-treatment ponds.

## 4. What are the pre-treatment ponds?

The pre-treatment ponds will be located next to the holding bays. Once the material is placed into the holding bays, water contained within the soil will be drained off into the pre-treatment ponds, before it is directed to the water treatment plant. A drainage system will be installed within each bay to extract water from the tunnel material into the pre-treatment ponds.

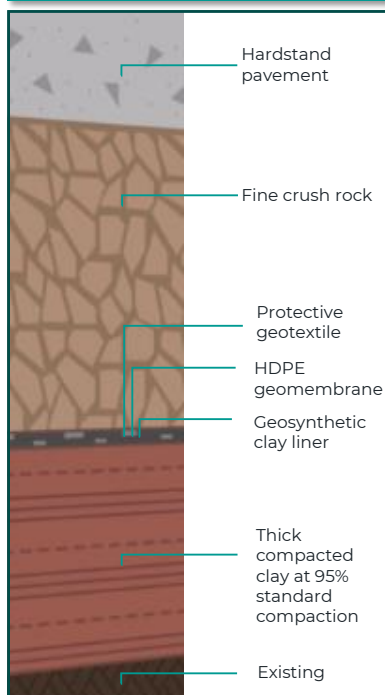
The pre-treatment ponds have the capacity to handle high rainfalls and adverse weather conditions.

## 5. How are the bays being constructed?

The bays are being constructed above ground, with robust lining and walls approximately one metre high. The design of the bays ensures there is enough capacity to hold volumes of material far above what is expected.

The lining for the holding bays is in-line with Type 2 Best Practice Environmental Management (BPEM) standards. The bays follow the first three stages of the containment cell base layer (outlined

### HOLDING BAYS







in question four of the Containment Cell section below). The holding bays also have additional layers of fine crushed rock and pavement installed on top of the geomembrane. This pavement will enable easy transport of trucks in and out of the processing area in a clean and safe way, preventing any material being taken off-site.

### ***6. What can I expect during construction of the processing area?***

All construction works for the facility are taking place between 6am and 6pm to limit impacts on Sunbury Road and surrounding properties. While all construction is within site boundaries, the processing area is the most visible work being undertaken on the facility.

During major construction periods, and to respond to varying weather conditions, we will ensure dust mitigation measures are in place. This will include regular watering of exposed areas, stockpile protection to minimise emissions, and air quality monitoring.

We also have lighting plans in place to avoid any unnecessary lighting and we undertake regular noise monitoring.

### ***7. Why is a fence installed along Sunbury Road?***

A fence has been installed along Sunbury in-line with our planning approvals to ensure the safety and security of the facility and our workers on-site.

A four-metre high bund (or retaining) wall is also being built behind the fence line. This will be landscaped when construction is complete, and the tree line along the fence will remain along the site boundary.



# Water treatment plant

## ***1. What is the water treatment plant?***

A specially engineered water treatment plant is being built for the Bulla Spoil Processing Facility to treat the PFAS contaminated water from the material removed by the West Gate Tunnel boring machines. Liquid drained from the spoil will be pumped to the plant and will undergo a process to extract all PFAS, resulting in water within Australian Drinking Water Guidelines.

## ***2. How does the water treatment plant work?***

The water treatment plant follows two processes to first remove PFAS and then return it to drinking level standards.

First the water will go through a filtration system that will condition the water to the ideal parameters before the PFAS removal stage. This stage includes a series of adsorption beds, consisting of a mixture of Activated Carbon and Ion Exchange Resins, which will then remove the PFAS.

Once the water has gone through this process, it will use a reverse osmosis process to return the water to drinking levels as required. Reverse osmosis removes contaminants from water and liquids by pushing water through a semi-permeable membrane to separate contaminants. The membrane itself is a mesh-like layer system that filters the contaminants from the water.

The water treatment plant being constructed for the Bulla Spoil Processing Facility will have the capacity to treat 3 million litres of water a day which is far higher than what is expected from the Project. The facility will include the ability to process water for re-use on site – for operational activities such as dust suppression and truck washing – and the ability to discharge water to better than Australian Drinking Water Guidelines.

## ***3. What happens to the PFAS once it's removed?***

Concentrated PFAS will be safely captured and taken for safe disposal at a licensed facility. The treated water will be reused on-site to wash the trucks used to deliver the spoil, ensuring all roads used by the trucks stay clean, and other operational activities like dust suppression.

## ***4. Has this design been used before? Why is it being used for this project?***

The process employed on this project is widely recognised around the world as an effective way to remove PFAS contaminants, including by Australian airports and defence force bases, as well as specialist treatment and environmental bodies.

The water treatment plant has been designed for this project to have the scalability and ability to respond to various scenarios. It will be able to treat not only the water found in the West Gate Tunnel boring machine material, but to also process



any rainwater that may be found at the soil processing area to ensure all nearby liquid is appropriately processed and treated. In addition, the filtration system provides this scalability in response to the site water requirements while the reverse osmosis system produces water that meets the Australian Drinking Water Guidelines.

### ***5. Who is building and manufacturing the Water Treatment Plant?***

Bulla Spoils Facility has engaged EnviroPacific to design, construct and install the water treatment plant. EnviroPacific is an Australian company that specialises in engineering solutions to treat and recover contaminated water and other materials. EnviroPacific has worked on a range of significant treatment projects around the country, including the design, construction and operation of a PFAS water treatment facility at Melbourne Airport. You can find out more about what they do at [www.enviropacific.com.au](http://www.enviropacific.com.au).

### ***6. What does construction of the water treatment plant entail?***

The water treatment plant is being built off-site by EnviroPacific. It will be installed at the Bulla Spoil Processing Facility in sections over the coming months. As the components arrive on-site, they will be installed and tested, before the plant is commissioned. In the meantime, preparation of the site is underway, including excavation of the land and building a hardstand base where the plant will be located.

### ***7. What can I expect from construction?***

The water treatment plant will be installed in the lower parts of the site. Due to its location away from Sunbury Road, minimal impacts on the community are expected during construction. You may see some parts of the facility arriving onsite, however these movements will be limited and consistent with day-to-day site operations.





# Containment cell

## 1. What is a containment cell?

The containment cell refers to the purpose-built area of the facility where the material will be stored once it has been classified and treated through the processing area.

## 2. Where is the containment cell located?

The containment cell is located in a large valley that runs through the site, alongside the existing containment cells.

## 3. What does construction involve?

Construction of the cell began with the excavation of the area and compacting of the ground to ensure it is dense and tough before the lining is installed. Most of the soil and rock excavated for the containment cell is either being reused on site for other construction activities – such as in the processing area – or provided to separate projects and nearby businesses.

Once excavation and land preparation is complete, layers of lining are installed along the base and the walls of the cell. Hi-Quality Group constructed one of Victoria's first vertical wall-lined cell in 2018 and this technology will help guide construction for the BSPF containment cell. The lining follows Type 2 Best Practice Environment Management Standards (BPEM), which outlines the highest level of protection to prevent contaminants from leaking into the surrounding land. You can read more about BPEM standards on EPA Victoria's website.

The containment cell is being constructed in multiple stages; stage one covers the first half of the cell, and stage two will complete the full 29 hectares. The cell will be able to begin receiving tunnel spoil when stage one is complete, which will be in early 2022. Stage two will be completed in mid-2022.

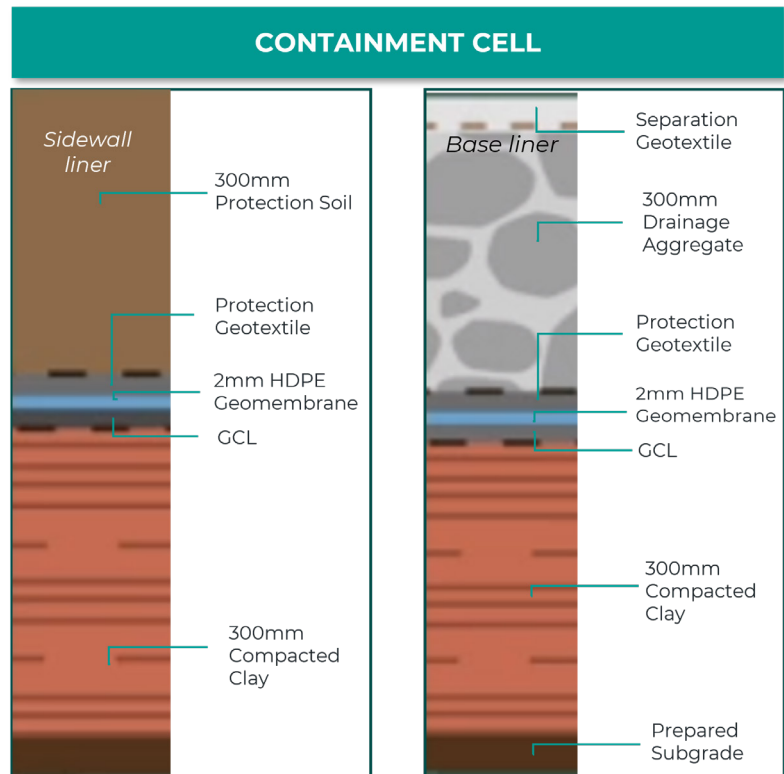
## 4. What is the cell lining made of?

The cell lining has been designed in line with the BPEM standards, which aims to avoid and/or minimise any environmental impacts, including groundwater

- The top layer of cell lining will consist of drainage aggregates of rock and natural material that direct any liquid to the water treatment plant.
- 2mm of geomembrane will be installed underneath the drainage aggregates. Geomembrane is a plastic welded together to direct any liquids into a collection point.
- A geosynthetic layer will be below the geomembrane. Geosynthetic clay is a carpet-like material that is encapsulated with a fine clay powder. This layer could hold water for thousands of years.
- A base layer of thick compactable clay - a single drop of water would take approximately 100 years to get through a metre of this clay to groundwater.







### ***5. What can I expect during construction of the containment cell?***

Due to the location of the containment cell away from Sunbury Road, minimal impacts to the community are expected during construction. Adjoining landowners may experience a slight increase in noise and light in the area, and we are in regular contact with these households.

### ***6. How long will the containment cell lining and structure last?***

The containment cell is being developed for long-term protection of the environment and the local community. The land the facility occupies is earmarked for future residential and industrial development, and in time will be redeveloped in-line with Victorian Planning Authority's Sunbury South Precinct Structure Plan. The layers of protection within the containment cell have been designed with these long-term plans in mind.



## New traffic lights

To help minimise impacts of truck movements and improve safety, traffic lights will be installed and the planned speed reduction to 80km on Sunbury Road will be introduced. The installation of traffic lights was already planned as part of the Sunbury Road Upgrade to be delivered by Major Roads Project Victoria. Works for the installation of the traffic lights are likely to commence in November. More information on these works will be provided prior to commencement.

