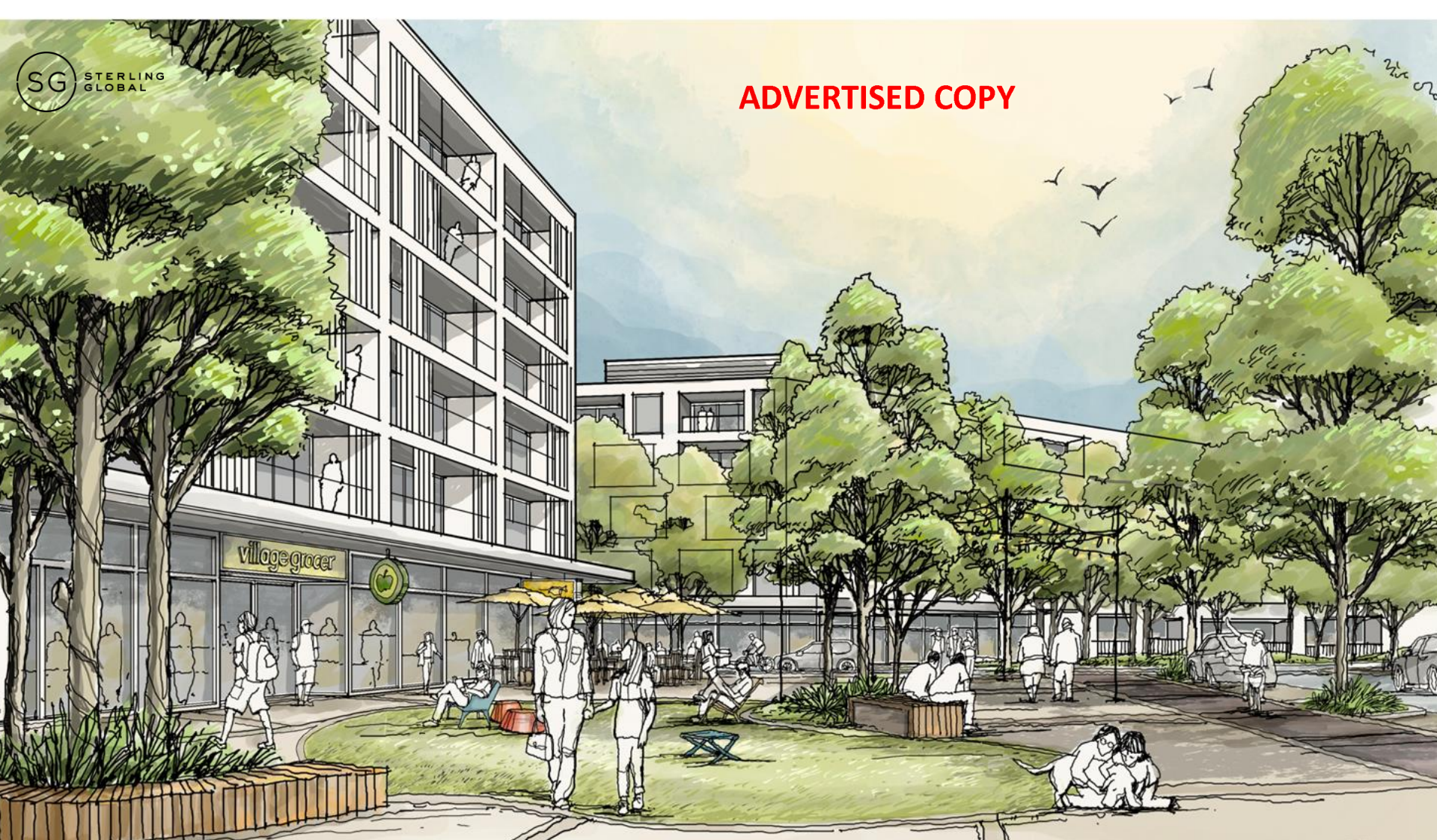


ADVERTISED COPY



TALBOT VILLAGE

REGENERATION OF THE FORMER TALBOT QUARRY

SITE PREPARATION WORKS DOMAIN 1 PRELOAD

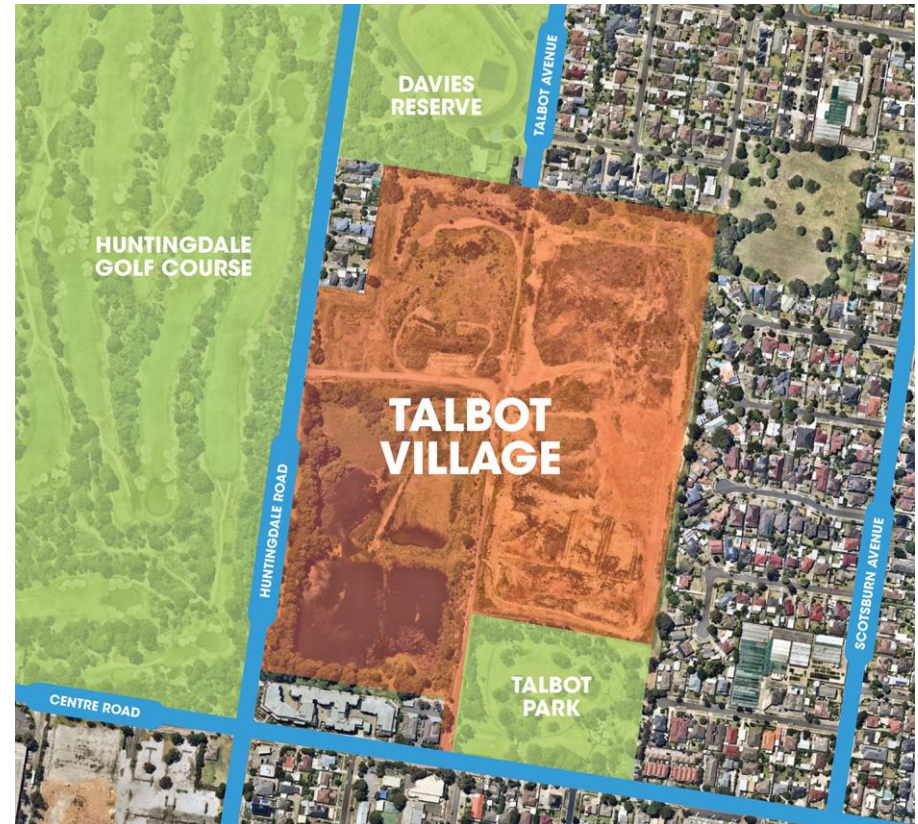
29 OCTOBER 2021
COUNCIL REFERENCE: TPA/53179

TALBOT VILLAGE VISION

Sterling Global is rehabilitating and redeveloping the former Talbot Quarry site in to a vibrant master planned community in Oakleigh South.

Having prepared a master plan for the site, designed by esteemed Urban Designers and Master Planners Hatch RobertsDay, Sterling Global has applied to rezone the land with a development plan.

In preparation for future building construction works (subject to planning approval), Sterling Global, and its team of highly experienced geotechnical and civil engineers, has determined the ground improvement strategy for the site and is seeking planning permission from the City of Monash for these works.



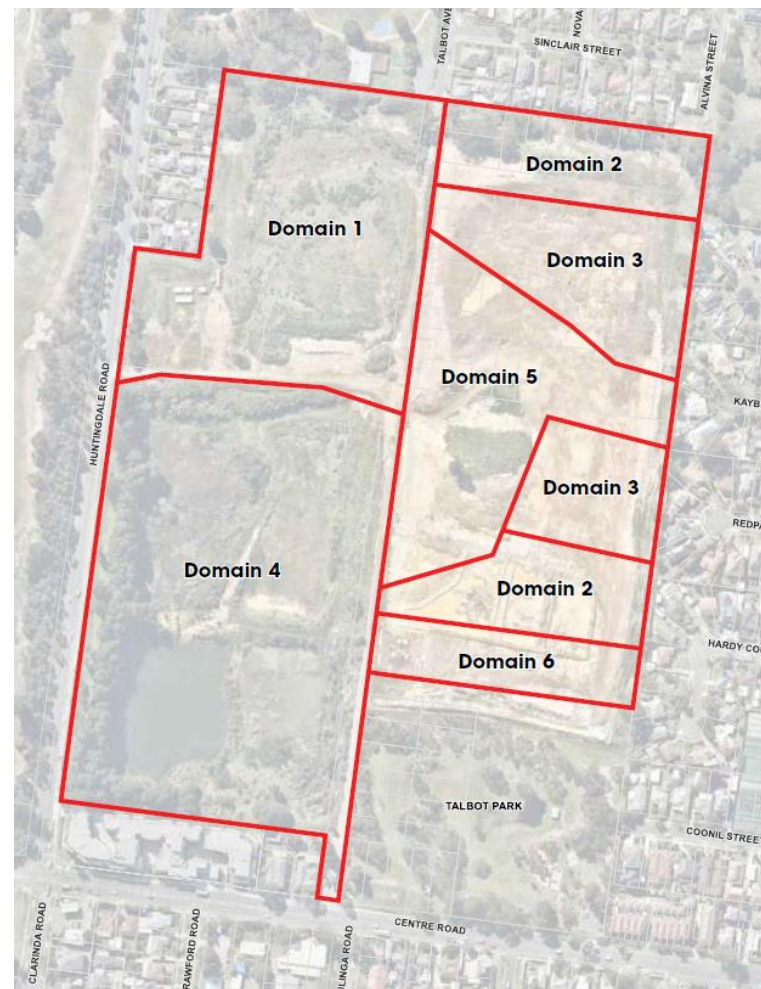
阅读中文版宣传单，并了解Talbot 社区重新开发工程（位于Huntingdale路Huntingdale高尔夫球场的对面），请访问 www.talbotvillage.com.au/chinese 网站。

SITE OVERVIEW - GEOTECHNICAL

The Talbot Village site has been used both as a sand quarry and municipal landfill. From the 1950s to 1990s the site was used as a sand quarry and has been progressively backfilled since the 1970s. Part of the site (the section adjacent to Davies Reserve) was a former municipal landfill. A large section of the site remains an open quarry pit. Other parts of the site have been backfilled with slimes.

Based on previous uses and similar geotechnical properties, the site has been categorised in to 6 domains.

Domain	Condition
1	Former Council landfill (previously a quarry pit)
2	Quarry pit backfilled with slimes and uncontrolled fill
3	Quarry pit backfilled with slimes and uncontrolled fill
4	Existing quarry void, up to 18 metres deep, partially backfilled with uncontrolled fill and slimes
5	Former sand processing and concrete batching plant area, shallow slimes are present in some areas
6	Quarry pit backfilled with slimes, uncontrolled fill and construction & demolition debris (such as concrete and timber)

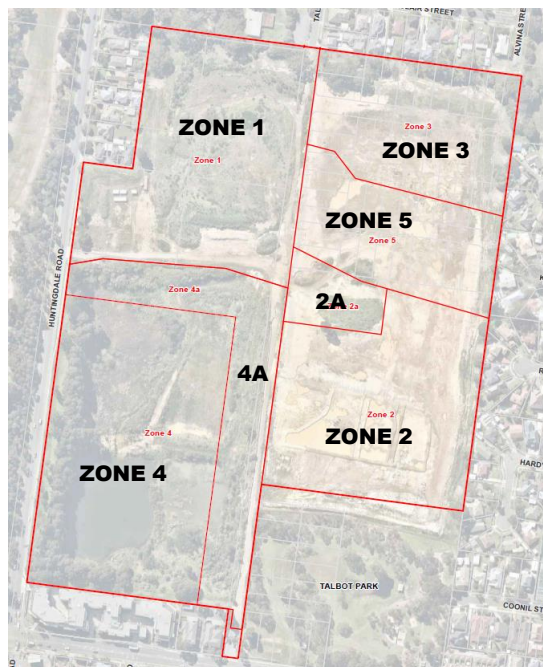


SITE OVERVIEW - ENVIRONMENTAL

Due to previous uses as a sand quarry and municipal landfill, an environmental audit of the site is required prior to future use and development to assess any environmental risks and management requirements to enable to development of sensitive uses such as residential.

The environmental audit of the former Talbot Quarry was completed in 2020, finding that the site is suitable for residential and other sensitive uses.

For the purpose of environmental assessment, the site has been classified into 5 zones, based on historical use and environmental characteristics.



Key conclusions of the environmental audit:

- Landfill gas is being generated at the site. Prior to preloading works, a landfill gas venting trench must be installed behind neighbouring residential properties to protect against any landfill gas migration during ground improvement works
- Prior to construction of new buildings, a landfill cap and perimeter landfill gas venting trench must be installed. New buildings will have protection and ventilation measures included.
- Groundwater was found to be contaminated at the site and has been determined by the Environment Protection Authority (EPA) as having been cleaned up to the extent practicable (CUTEP)
- Some small areas of the site have soil contamination. The contamination at the site is not considered to pose an unacceptable risk to users of the site, surrounding residents, or the environment. Any excavation or movement of contaminated soil will need to be handled in accordance with applicable health and safety regulations. Prior to occupation of buildings, the site will be capped with 500mm of clean fill
- Bi-annual landfill gas and groundwater is ongoing at the site.

The statements of environmental audit outline the conditions under which building works at the site must be carried out. The environmental auditor must verify designs of protection measures and the construction of such works.

Further detail about the outcomes of the environmental audit can be found on the website, <https://www.talbotvillage.com.au/environmental-management>

GEOTECHNICAL INVESTIGATION

Over the last 20 years, significant geotechnical investigations have occurred, undertaken by geotechnical engineers, Tetra Tech Coffey, engaged by Sterling Global and previous owners. The investigations have provided extensive information of the ground conditions at the site, informing the ground improvement and redevelopment process.

Preloading works undertaken to the eastern portion of the site has verified this method of ground improvement on top of slimes and provided a large volume of settlement data to enable prediction of the completion of the ground improvement and tolerable settlement criteria for structural design and building works.

From late 2020 to mid 2021 Coffey on behalf of Sterling Global undertook additional investigation at the site which included:

- Additional boreholes to determine the thickness of slimes and depth of landfill waste
- Cone Penetrometer, flat dilatometer and vane shear tests to assess the strength of the slimes
- Geotechnical modelling of collected investigation and settlement data to assess when the preload can be removed, predict long term settlement to meet tolerable settlement following construction and assess potential for differential settlement
- Recommend site wide ground improvement strategy



GROUND IMPROVEMENT WORKS DONE TO DATE

Domain 1

Historical investigation indicated that preloading would likely be an appropriate ground improvement method for the former landfill, classified as domain 1. In 2005 a trial embankment was undertaken to verify this prediction.

Preloading has been identified as the ground improvement technique for Domain 1

Domains 2-6 (excluding 4)

In 2017 works commenced to preload the eastern half of the site. This was completed in 2019 and was done to all areas except within 30 metres of the boundary.

During the works, settlement plates were installed underneath the preload and settlement pins at the top. Monthly settlement monitoring occurs to track the progression of settlement and enable future settlement predictions to occur.

The collected data has demonstrated preloading to be an effective method of ground improvement.

Due to the 30m setback, additional works along the perimeter are required to ensure the entire quarry pit is preloaded as part of the ground improvement process.



PROPOSED GROUND IMPROVEMENT STRATEGY

Domains 1, 2, 3, 5 and 6

Preloading has been determined to be the dominant ground improvement strategy across all areas of the site with the exception of Domain 4.

Slimes and uncompacted landfill do not have sufficient ground strength to be able to safely support buildings. In order to compact the ground, each domain needs to undergo a period of preloading. The preload is created by bringing clean fill to site and creating a uniform stockpile across the entire former backfilled quarry pits. This applies to domains 1, 2, 3, 5 & 6.

The weight of the preload is a greater weight than that of future buildings meaning most ground settlement has occurred prior to construction and any settlement that has occurred after construction is within tolerable allowances to prevent damage to the structures.

Along with the preload, a series of settlement plates and pins are installed, and land surveyors record the ground level each month to monitor the settlement that is occurring. Tetra Tech Coffey, Sterling Global's geotechnical engineers, track the settlement trends to determine when the preload can be removed, and the ground is ready for construction of roads and buildings.

Once completed, the preload stockpile will be removed and used as backfill in the domain 4 quarry pit following commencement of those works.

WHAT IS PRELOADING?

- Placement of fill over areas of ground that have poor structural properties – eg slimes and landfill
- Being a greater weight than future development, the load induces an amount of settlement prior to development such that new structures do not cause unacceptable levels of settlement
- Applies to all slimes areas and landfill (domains 1-6 excluding 4)
- Preload stockpiles should be a minimum of 2 metres high above final finished ground level of the future development
- Preload should cover the entire quarry pit for adequate ground improvement and minimisation of differential settlement
- Settlement is monitored by plates and surface pins to determine settlement trend and achievement of primary consolidation
- Preload stockpiles are removed and used as backfill for Domain 4
- Structures are designed with secondary consolidation considered such that any ongoing settlement occurs within tolerable ranges



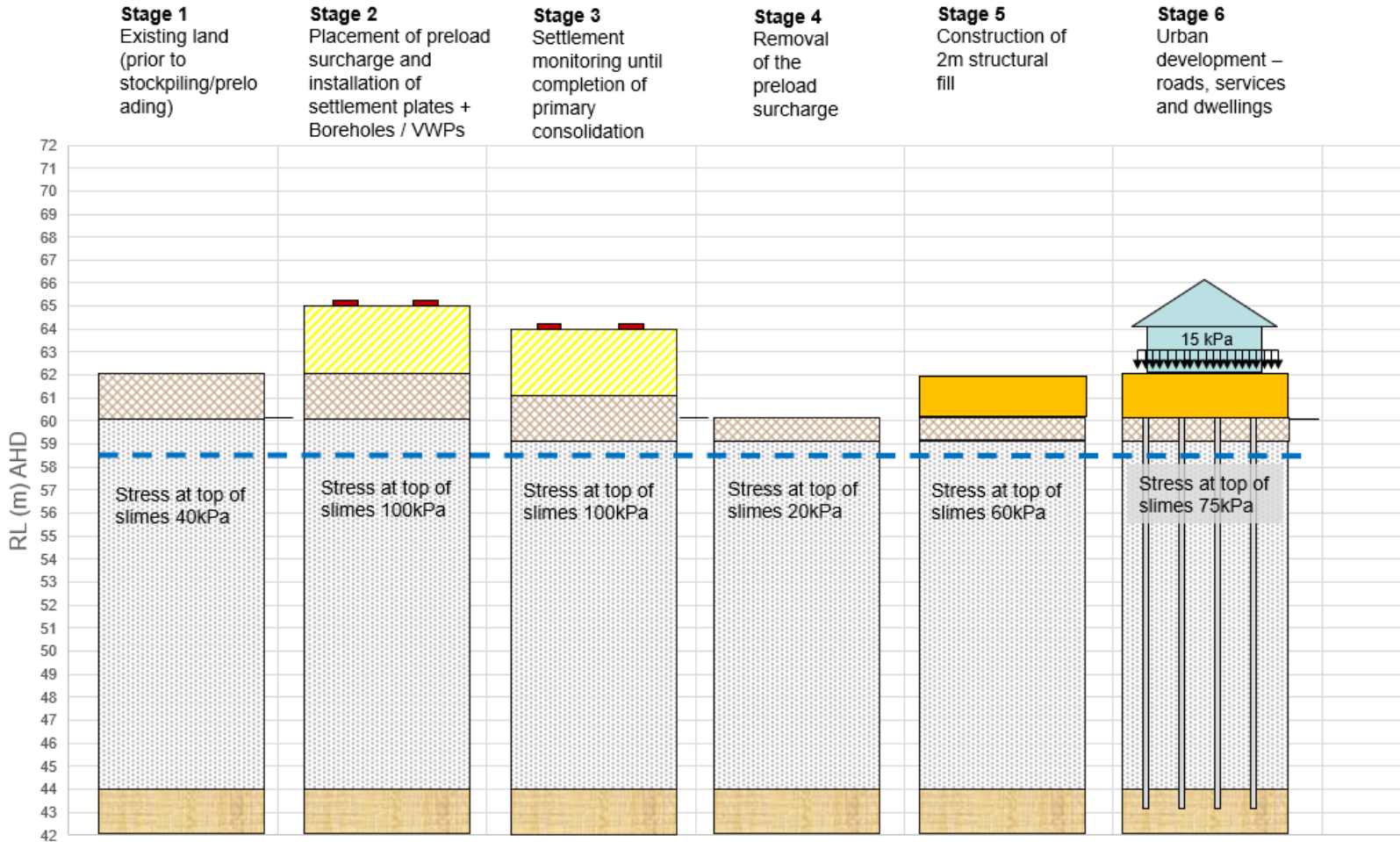
Primary consolidation

The achieved process that has removed excess water pressure, inducing ground settlement and improved bearing capacity. The can then be built upon with tolerable long term settlement.

Secondary consolidation

The slower rate of consolidation over a longer period of time. Structures are designed to accommodate the gradual settlement

PRELOADING PROCESS



LEGEND

	New Fill		Structural Fill		Piles to further support structures (if required)
	Old Fill		Groundwater table		Settlement Plates
	Slimes				
	Natural				

Stages

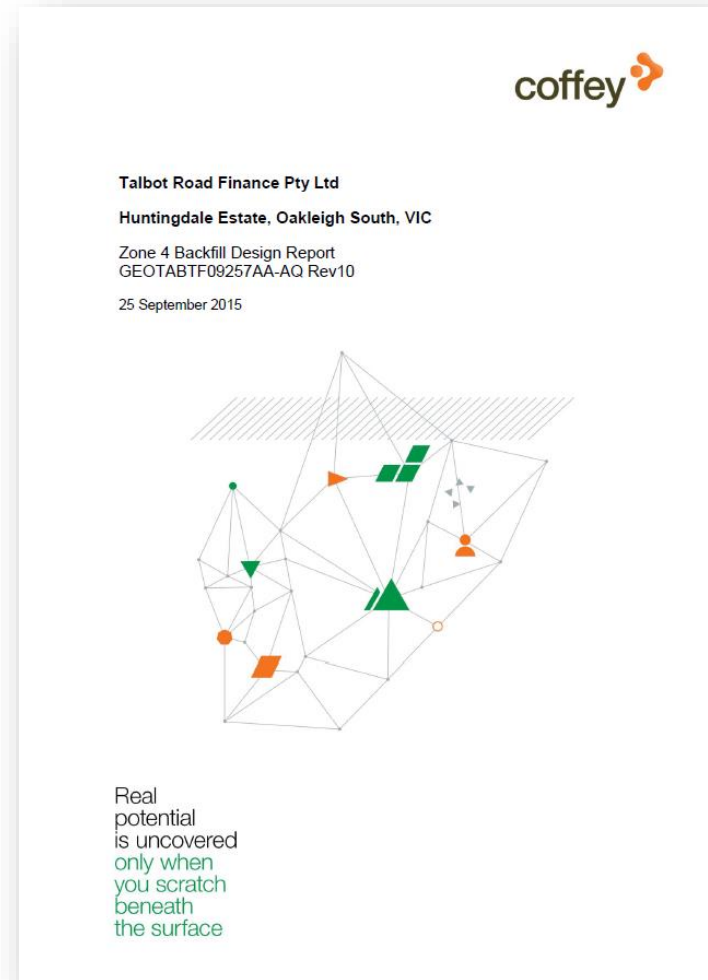
GROUND IMPROVEMENT STRATEGY CONT'D

Domain 4

The former quarry hole be backfilled with suitable fill material to create a new ground level for the future development.

Backfilling will be undertaken under the supervision of geotechnical engineers and constructed in accordance with Australian Standards (Guidelines for Earthworks for Residential Developments).

Settlement plates and pins will be installed progressively with ongoing settlement monitoring occurring during and following backfilling. The settlement will be tracked to determine when the ground is ready for construction of roads and buildings (primary consolidation).

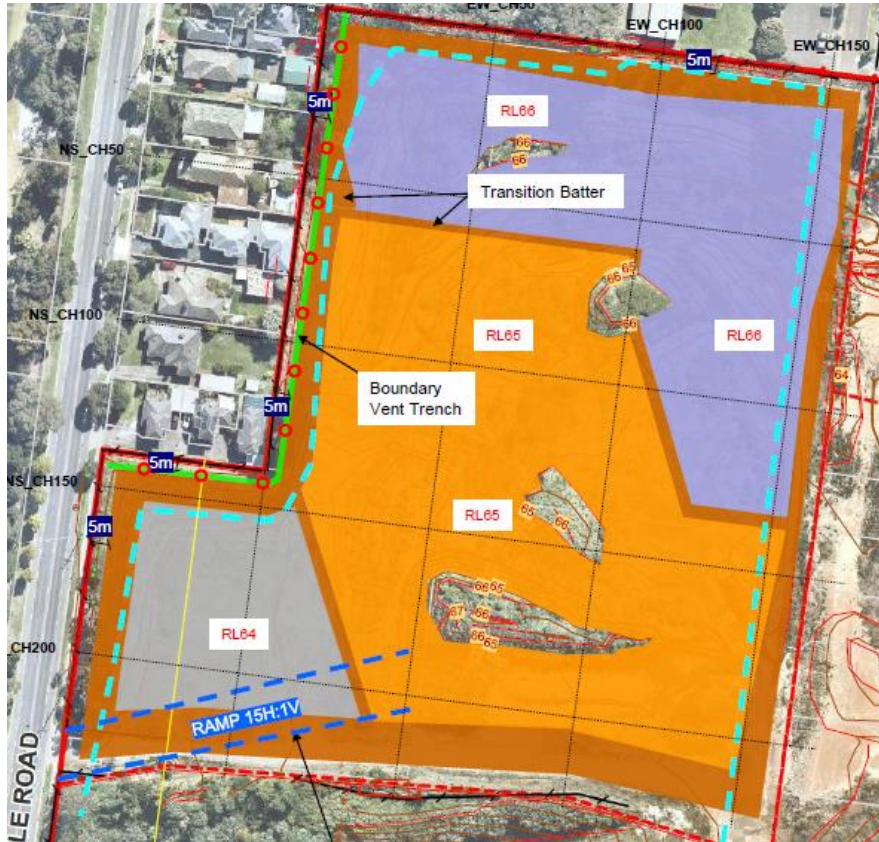


**All works will be undertaken in accordance with the requirements of the Statements of Environmental Audit including any required landfill gas or ground water monitoring*

ABOUT THIS PLANNING PERMIT APPLICATION

***GROUND IMPROVEMENT WORKS TO
DOMAIN 1***

NEXT STAGE OF GROUND IMPROVEMENT WORKS

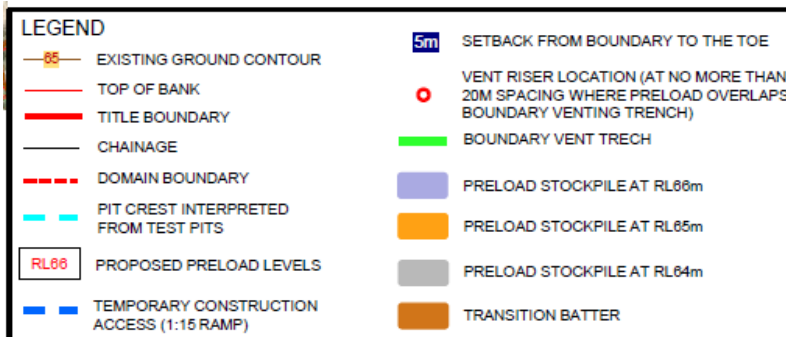


Sterling Global has applied for a planning permit to preload Domain 1 and install a landfill gas venting trench to prepare the land for the landfill cap and future development.

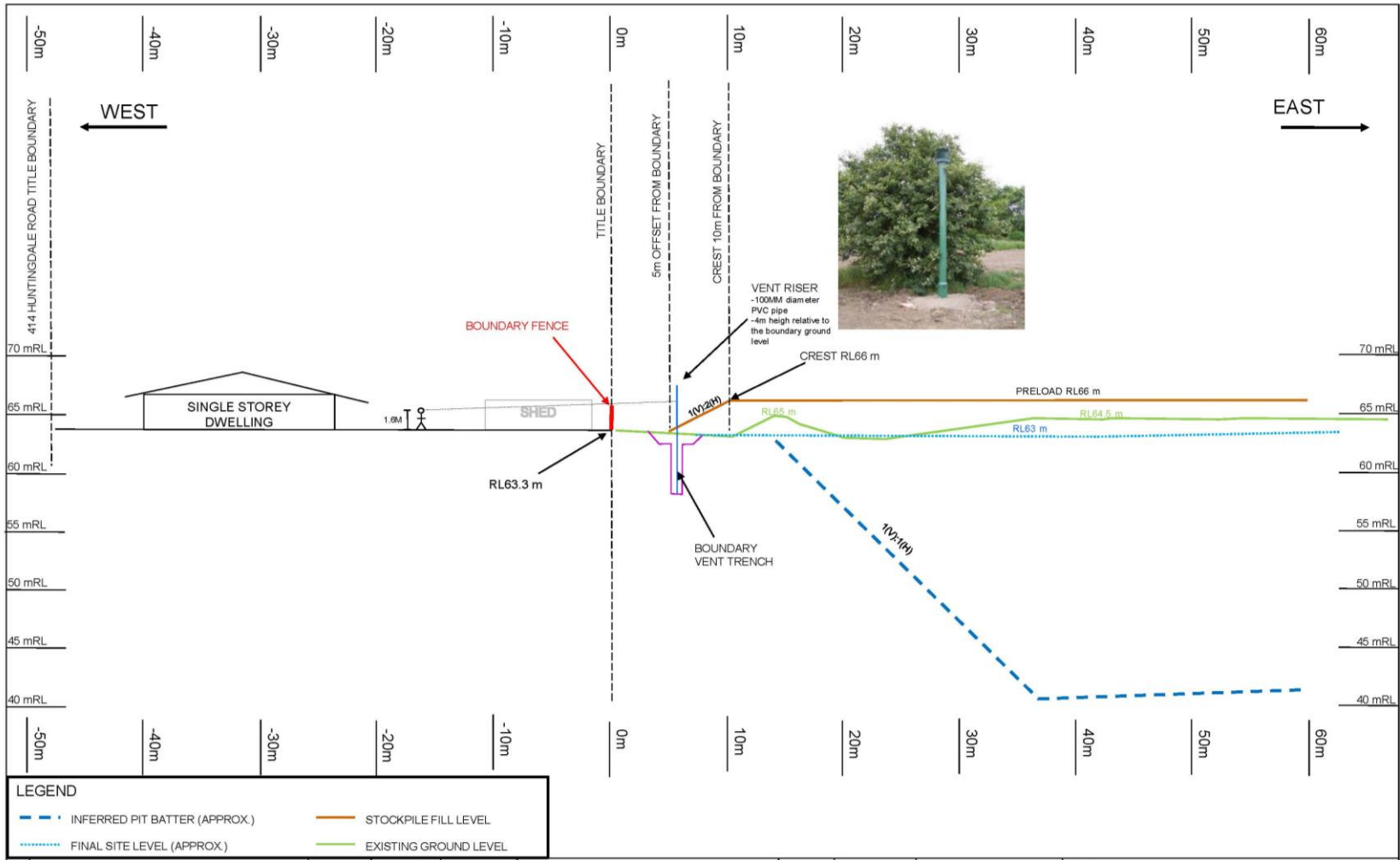
This application has been advertised to adjoining residents with Council reference TPA/53179.

Works will involve:

- Removal of vegetation in the workzone including all trees in Domain 1
- Installation of the boundary landfill gas venting trench between the edge of the quarry pit and rear of the Huntingdale Road residential property boundaries
- Importation of clean fill to form the preload stockpile. The stockpile will be set at three different levels in different parts of the domain
- The bottom of the stockpile will be offset 5m from the property boundary
- The landfill gas venting trench will be installed prior to stockpiling works
- The works do not involve excavating in to landfill waste



DOMAIN 1 PRELOADING



*Cross sections behind each adjoining property are included within the application material

TALBOT VILLAGE

REGENERATION OF THE FORMER TALBOT QUARRY

PROGRAM OF WORKS

The below represents an indicative program of works. The program is subject to change as works progress and may be influenced by weather or supply chain of preload material. Residents will be kept informed as works progress.

Activity	Likely timeframe
Construction of boundary venting trench	4 weeks
Vegetation removal and site preparation	3 weeks
Importation and construction of preload	4 to 6 months
Settlement monitoring of preload	12-18 months
Removal of preload	Following completion of settlement monitoring as approved by the geotechnical engineer

ENVIRONMENTAL MANAGEMENT

Preloading works are occurring on top of a <40 year old closed landfill which continues to produce landfill gases.

Constructed in the 1970s, the landfill was unlined due to less government regulation at the time.

Whilst it is not expected, as a precaution, a landfill gas venting trench will be installed to intercept any lateral migration of landfill gas.

The trench acts as a landfill gas barrier behind the residential properties on Huntingdale Road. The trench will be lined with a plastic barrier and backfilled, ultimately being covered by the preload.

The trench will be constructed prior to the commencement of stockpiling works and must be inspected by the environmental auditor before further works occur.

The trench does not draw landfill gas towards it and is installed as a precaution.

The trench is for the benefit and protection of neighbouring properties during rehabilitation of the site.

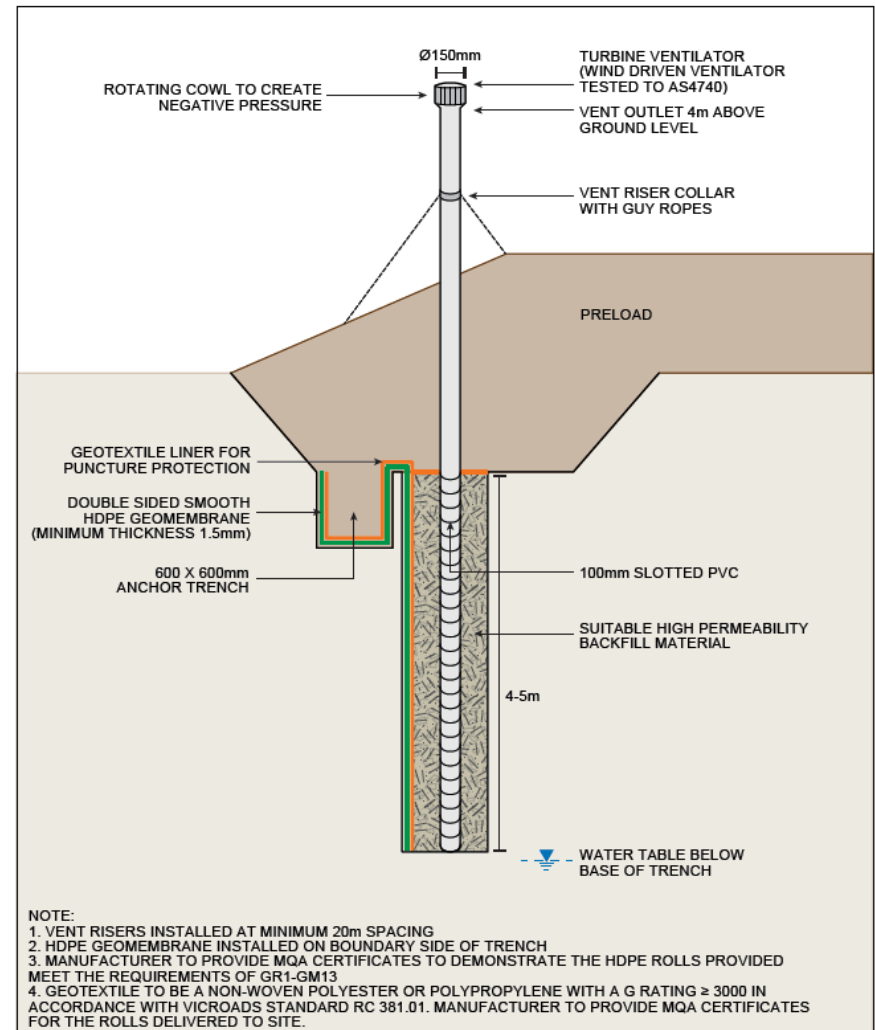
Regular landfill gas monitoring will occur during the preloading works.

Is it safe to vent landfill gas at the boundary?

Landfill gas is vented through riser pipes that are a minimum of 4 meters from the ground level at the boundary. Any landfill gas is immediately, and safely, dissipated into the atmosphere.

What do the vent risers look like?

The risers are 100mm diameter (about the size of a rainwater downpipe), spaced at no more than 20 metres and sitting 4 metres above the ground level at the boundary. The risers are no more visually intrusive than an empty flag pole.



MANAGING COMMUNITY AMENITY

All works will be undertaken in accordance with the Construction Environmental Management Plan included in the environmental audit.

Dust

The contractor will take steps to minimize dust as best as possible:

- Minimising vehicle speed on site
- Limiting work on dry windy days
- Water spraying on stockpiles and in works areas to suppress dust
- Application of dust suppressant on completed stockpile areas

Noise

Unfortunately, noise can be expected during site works. To minimise the impact to adjoining residents, working hours are proposed to be limited to:

- Monday to Friday – 7am – 6pm
- Saturdays – 8am to 12pm
- No work on Sundays or public holidays

Machinery will work efficiently while close to the boundary and limit the amount of time working near neighbouring properties as best as possible.

Stormwater

The stockpiling involves altering the levels of the land and changing the natural rainwater run off pathways. A swale will be built at the top of the stockpiles to collect and direct stormwater southwards. An additional swale will be provided around the perimeter of the stockpile to direct stormwater away from neighbouring properties

Traffic

Construction access to the site is proposed to be via Huntingdale Road.



QUESTIONS?

Why are there three different stockpile heights?

The natural fall of the land is several metres from north to south. Creating a consistent level would mean the southern portion of the stockpile is taller than necessary. The stockpile will be stepped to three heights to minimise the height.

Why is the stockpile setback 5 meters from the boundary?

To adequately improve the ground for the future landfill cap it is necessary to preload the entire quarry pit/landfill. When the quarry was excavated it was constructed quite close to the property boundary.

Why are the trees being removed?

It is important for the preload to cover the entire former quarry pit/landfill. The current trees are located within the footprint of the former pit. Trees need to be removed to enable adequate preloading. During the development of Talbot Village extensive new canopy trees will be planted.

Where does the imported material come from?

Typically, the material is brought from the excavation of soil from other building projects such as basements, level crossing removals, tunnels and freeway upgrades.

What checks occur to the material?

Before importation all fill material is screened, processed and checked in accordance with the Site Backfill Protocol which is endorsed and included in the Statement of Environmental Audit.

When will works begin?

The works are subject to Council planning approval however we anticipate works to commence in mid-2022.

How long will the works take?

It is expected that it will take up to 6 months to prepare and construct the preload stockpile.

How long will the preload stockpile remain?

The stockpile needs to remain until primary consolidation is reached and future settlement will be in tolerable limits for future buildings. This will be monitored monthly. It is expected to be 12-18 months.

What happens to the stockpile after it is removed?

The stockpile will be used as backfill material for the filling of the Domain 4 quarry hole.

How can I stay involved?

For the duration of the works, Sterling Global will chair a Community Reference Group (CRG) which will help the community understand what's happening during construction and provide us a local perspective to help us manage construction impacts. Local residents will be invited to express their interest prior to works commencing and meetings will be held regularly.

MEANING OF TERMS

Slimes

Ground with poor geotechnical strength, similar to Coode Island Silt (as found in central Melbourne). Requires ground improvement to increase strength prior to development of new buildings.

Preloading

Placement of fill to accelerate consolidation settlement of the land and improve geotechnical strength to enable development.

Settlement monitoring

The period of time the preload remains on the land and monitoring of the settlement and confirmation of ground improvements to decide when construction can occur.

Unloading

Removal of the preload fill and placement in Zone 4 quarry void

Structural fill

Following removal or preload and existing fill, replacement with structural fill platform to new ground level in order to support future roads and buildings.

Landfill cap

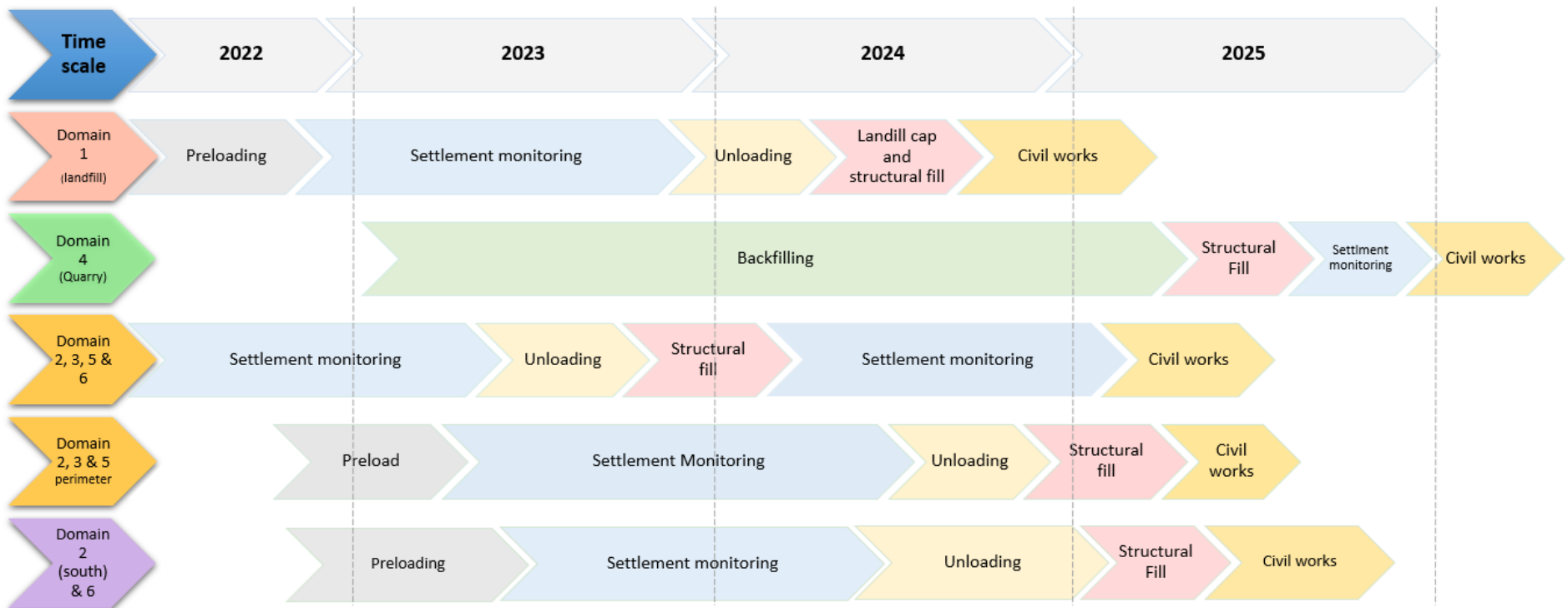
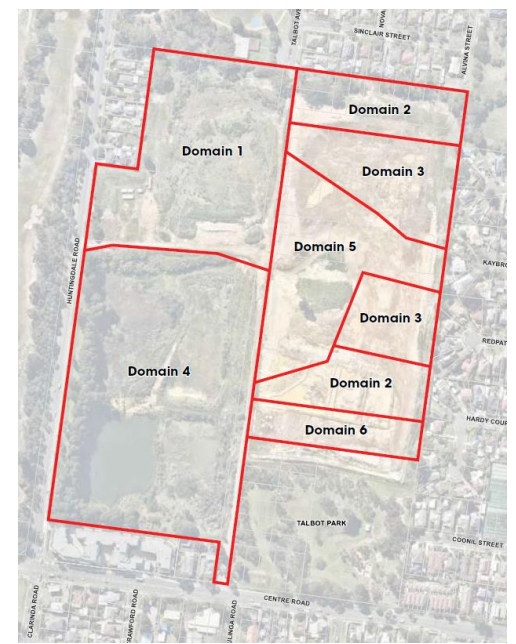
Engineered cap on top of the former landfill in accordance with the Statement of Environmental Audit

Civil works

First stage of urban development, roads and services, prior to construction of buildings

OVERALL PROGRAM

Works will occur across the site in stages. The below outlines an indicative timeline of the site preparation works. All works are subject to Council approval and geotechnical sign off to proceed to the next phase. Sequencing the program is indicative only and subject to regular review.



WHAT NEXT?

Planning application for preloading Domain 1

Monash City Council is currently considering Sterling Global's application for ground improvement works in Domain 1.

Subject to a planning permit being issued, works are anticipated to commence in mid 2022. Residents will be advised prior to construction commencing.

Other ground improvement works

Sterling Global is currently preparing a planning permit application for some additional preloading along the northern and eastern boundaries of the site to ensure the full extent of the former quarry pits are appropriately preloaded. We anticipate this application to be advertised by Council in early 2022.

We are also preparing an application for the backfilling of the Domain 4 quarry hole to be submitted to Council in the coming months

CONTACT US

You can contact us in the following ways:

- Visit us at www.talbotvillage.com.au
- Call us on 9021 0616
- Email us at hello@talbotvillage.com.au

TALBOT VILLAGE

REGENERATION OF THE
FORMER TALBOT QUARRY

