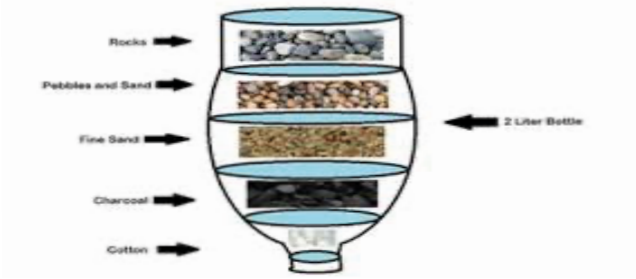
SIMON WATKINSON

WHITECLIFFE ENTRANCE GATEWAYS
Design Proposal
July 2020

I have been endeavouring to bring together the several aspects of the areas qualities encompassing the landscape itself and the history of chalk mining. Finding a form and a narrative for the Artwork entails researching the area, but also making an imaginative leap between the various components. I was drawn to physically making a large visual impact that drew from the exposed cliffs of the quarry and initially envisaged a large piece of chalk being retained from the entrance being created at the Castle Place. This evolved into a large architectural gabion structure filled with smaller pieces of chalk who's form echoes some of the original lime kilns in the area. Whilst exploring these structures I was also looking for another strand that connected to the aspiration for a health aspect. This culminated in the idea of a gravel filter that purifies as the water descends through the layers. The layers in the Artwork now reflect both the layered landscape of the quarry and the differing grades of stone that compromise a filter, adding the use of large scale "cullet", raw glass, for colour . The Artwork physically links into its landscape setting with the Kentish ragstone in the embankment. The use of Corten links to the street furniture These ideas are the outline to the Artwork.

Besides the physical scale of the structure I want there to be an element of close up interest and would like to explore with the community the opportunity for embedding found or made objects within the gabion baskets at street level. These could relate to the history of the area and would be part of the community engagement phase, coupled with working with local school children on the process of filtration. I would like to think that some degree of consultation and engagement could be undertaken at an early stage to allow some genuine interaction and feedback to occur.



Castle Place Entrance

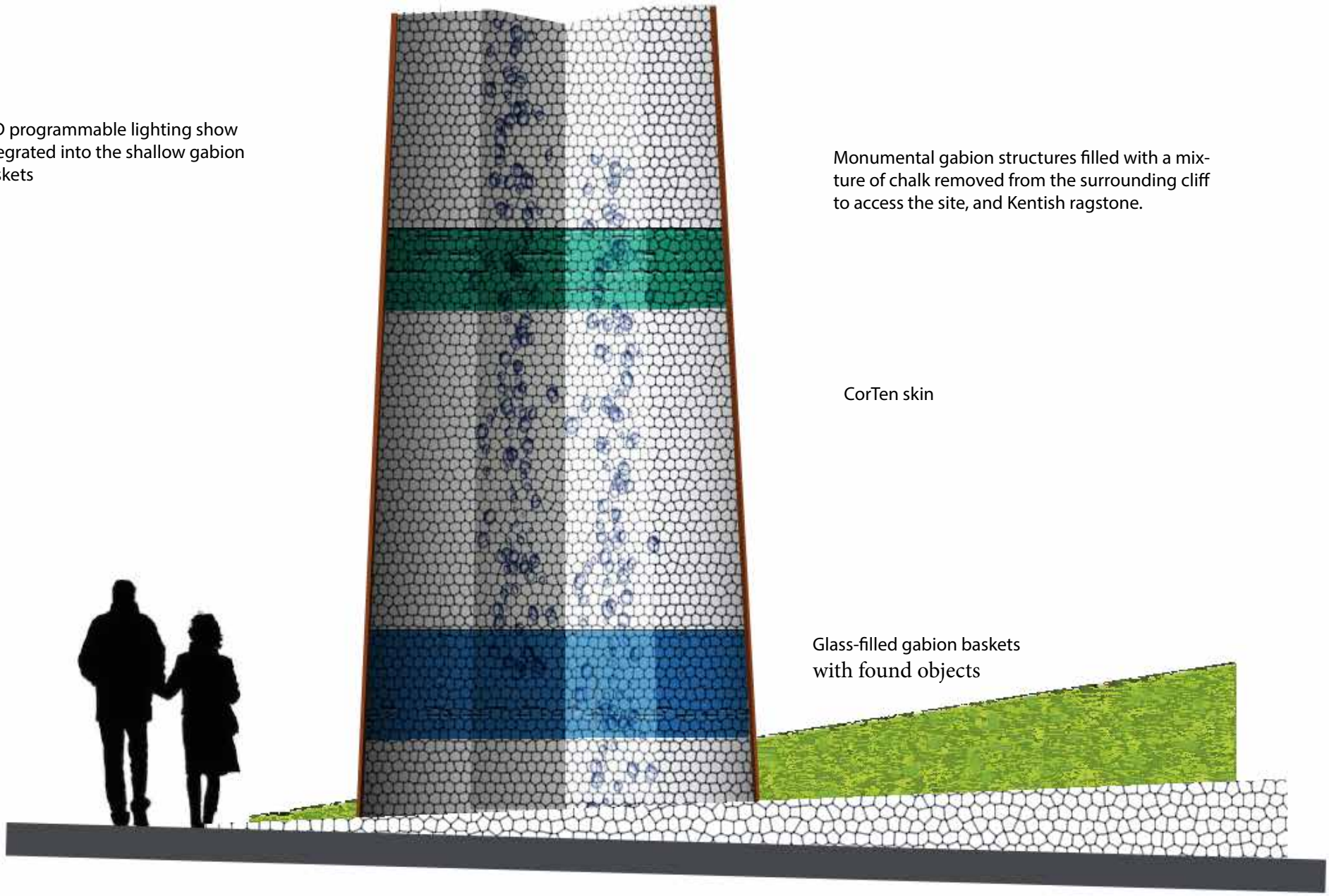
solar panels to top of structure?

LED programmable lighting show integrated into the shallow gabion baskets

Monumental gabion structures filled with a mixture of chalk removed from the surrounding cliff to access the site, and Kentish ragstone.

CorTen skin

Glass-filled gabion baskets
with found objects




21.50 ex
18.20
18.00
17.50

To animate and dramatise the structure I have proposed a fully programmable LED lighting show, built into the gabions and surrounding Corten skin structure. This can be programmed to present differing light shows for selected calendar events. This would be achieved using architectural IP67 rated rgb LEDs and a DMX control with chronological clock.

LED RGB node strings

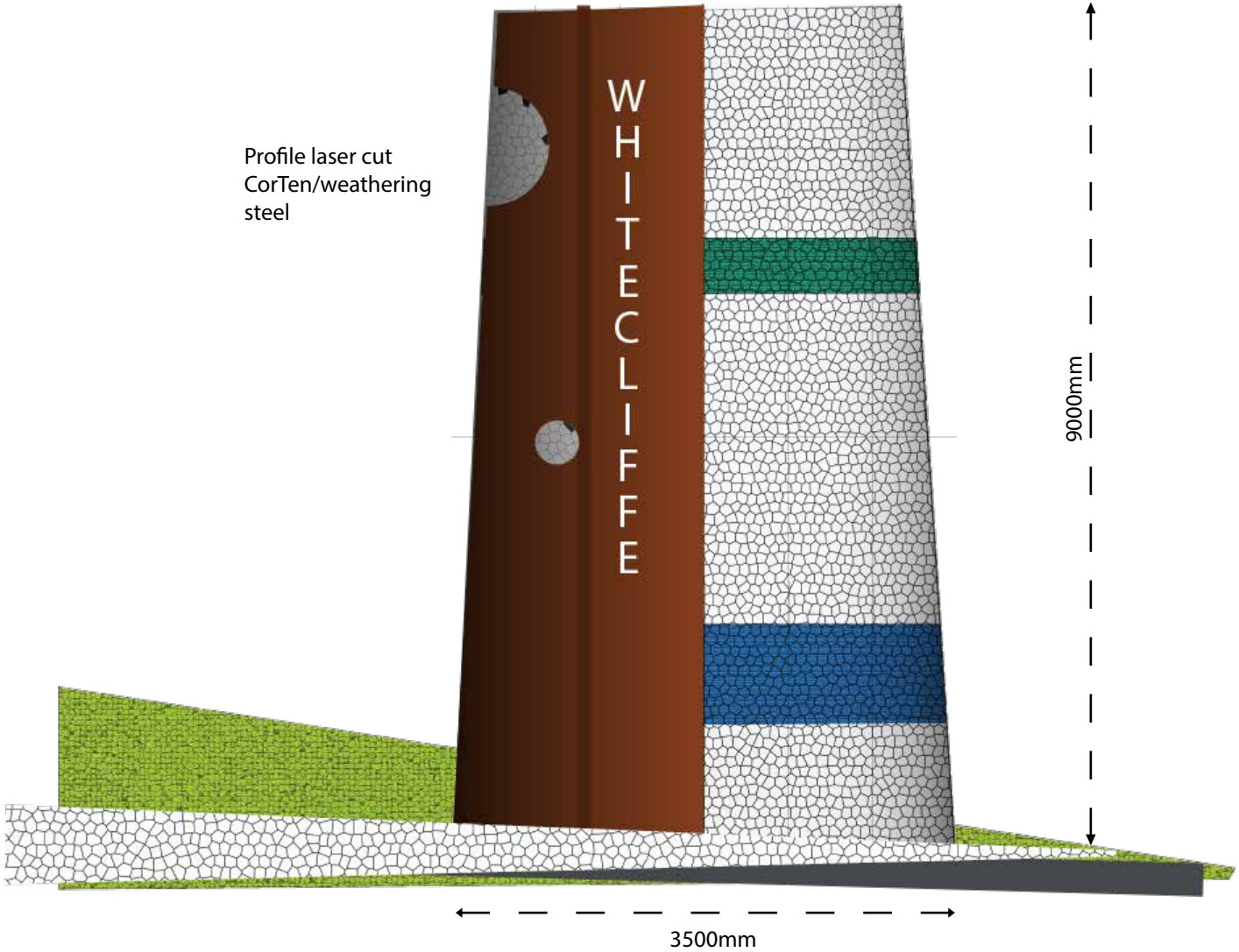
Pharos Controller for DMX programming

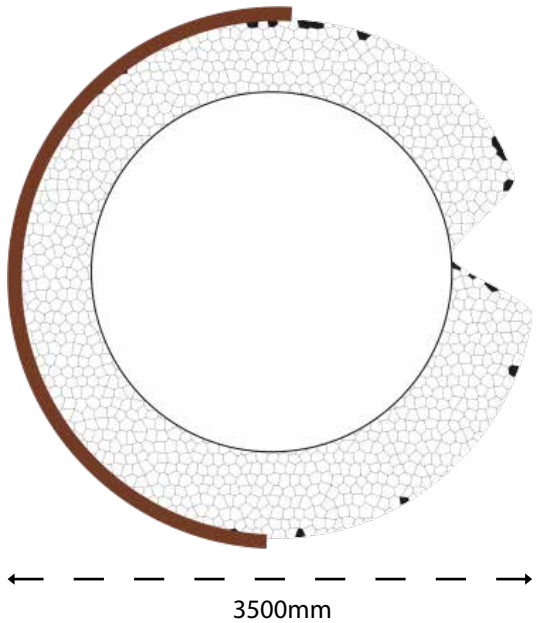
Castle Place Entrance

Elevation

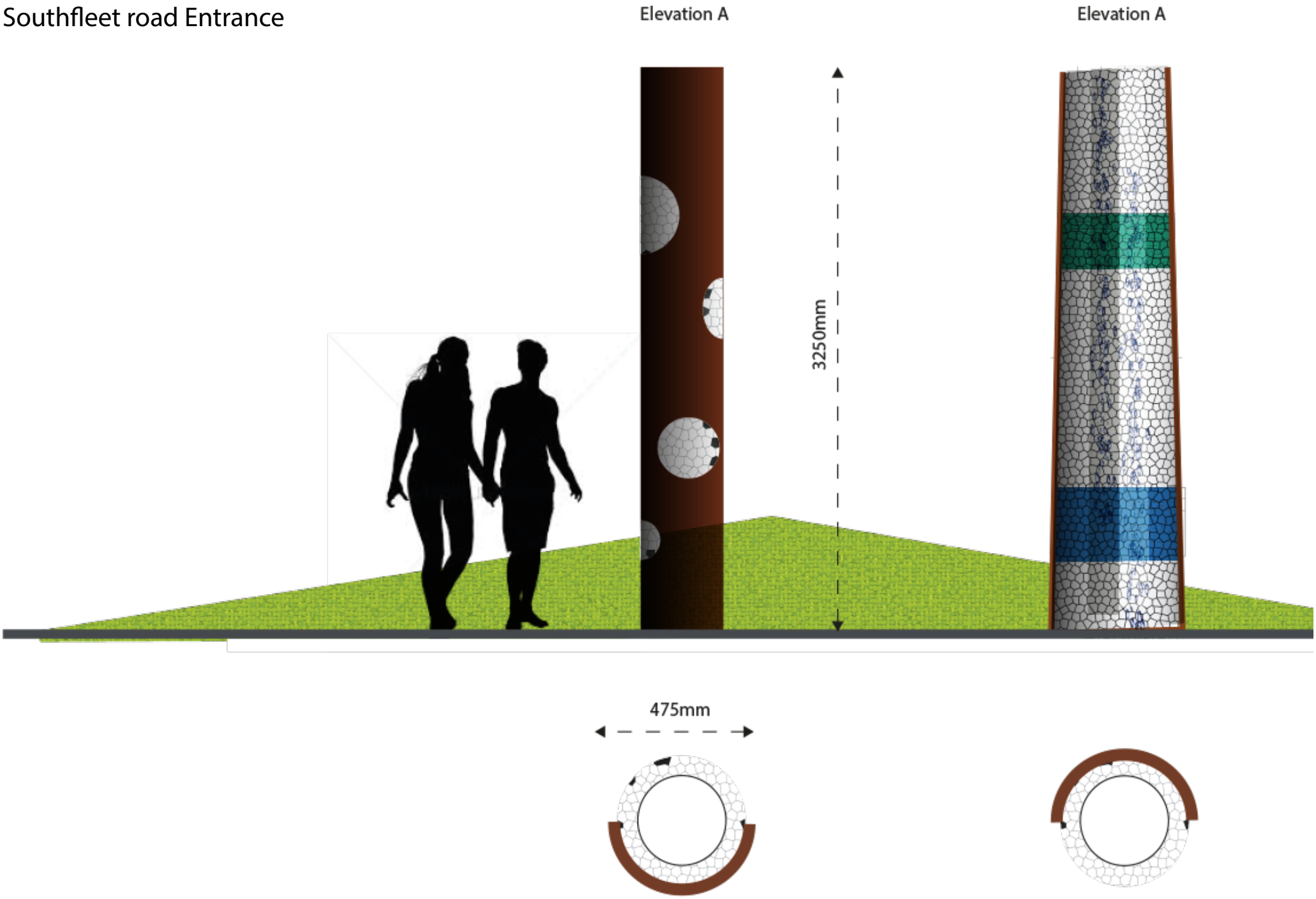
Plan

Profile laser cut
CorTen/weathering
steel





Southfleet road Entrance



Castle Place Entrance


Southfleet Road Entrance
ARTWORK SITE LOCATION
(not to scale)
B259
B259
B259
B259
Castle Hill Dr
Castle Hill Dr
Castle Hill Dr
Castle Hill Dr
Castle Hill Dr
Hill Dr

MAINTENANCE SCHEDULE FOR PROPOSED MATERIALS (DRAFT)

Gabion basket construction

Any long term maintenance is basically periodic visual inspections to detect damage or abnormalities. Any damage detected should be reported and advice on repair should be sought. These would typically be annually, but will vary depending on the location of the wall and what it is supporting. Abnormalities may include: localised bulging of the face; broken components; damage by impact or vandalism; vegetation on the face; excessive water through the face. No requirement for any cleaning is anticipated.
If any fencing has been installed at the top of the wall to prevent falls, this will need to be inspected to ensure it remains adequate. Typically any fencing will not last as long as the structure and will need to be replaced during the lifespan of the retaining wall.
If a rear of wall drain has been installed at the construction stage, the relevant catch pit, manhole or soak away within the development should be checked annually to ensure this can still flow.

General considerations
Local minor impact damage. Individual split, broken or damaged cage components will not affect the structural capacity of the wall and can be repaired locally if required. If several components are broken in the same area such that it will affect other parts of the wall or loss of the infill stone, advice should be sought from a structural Engineer.
Major collision damage. As with any structure, affected areas may require re-building with localised support of the fill behind. Advice should be sought from a structural Engineer.
Settlement. The "method compaction" guidance within Specification for Highways Works; Series 500 is based upon achieving 90% compaction. It follows that some post-construction consolidation should be expected. The Gabion system is also a flexible structure that can accommodate differential settlement caused by seasonal moisture changes, so some minor movements will occur over its lifespan.
Excavation near the wall. Excavation behind the retaining wall may affect the structure but it will be based on how close and to what depth the excavation is carried out. Also the plant used to carry out the excavation can damage and exert large loadings on the wall. If any excavations are required behind the wall advice should be sought from the supplier or structural engineer. . Excavation in front of the wall may undermine the structure. Any excavation deeper than 500mm may have the potential to undermine the retaining wall foundations leading to settlement and possible collapse. Any excavation in front of the wall should be checked by a structural Engineer.
Vegetation. The Gabion system is a caged structure filled with inert crushed stone, so it is not expected to be susceptible to vegetation establishment from within the wall. Vegetation growing on or up the face of the wall will not affect the structure. However, any

MAINTENANCE SCHEDULE FOR PROPOSED MATERIALS (DRAFT) cont.

vegetation growing out of the wall/cages should be removed.
Water. The Gabion retaining wall has crushed stone within and behind the wall, thus the wall should have very little evidence of water within it. If water is coming through the face this would mean excessive water is coming from behind the structure and should be investigated to find the water source and remove it. For more specific project details please refer to the project specific drawings.
DEMOLITION AND DISMANTLING. No demolition should be undertaken without reference to a Structural Engineer.
RESIDUAL RISKS. As any other type of retaining wall, falling from height is a residual risk of a Gabion retaining wall. Occasionally post formers will be left in the top of the wall for the Main Contractor to install a fence after works are complete. This will ensure that falling from height from the top of the wall has been addressed, but the fencing will need to be maintained for the lifespan of the wall. Gabion walls can be climbed by people and thus falling from height off the wall may also be an issue. The Contractor will need to take any necessary steps to bring this to the end-users attention.

LED Lighting, power supply and control gear.

Monthly Visual check of operation and timings . All lighting nodes should operate as expected check for and report any inconsistent colour output or lighting nodes that do not operate.

Six Monthly Visual inspection of controls cabinet. Visual check of operation and check date and time on iplayer. Check for and correct any moisture ingress. Check date and time on iplayer and reset if necessary. Refer to Philips documentation.

Annual Visual and operational check of consumer unit and operation of MCB's. Visual inspection of above ground portion of SWA supply cable. Check security of fittings. All to be secure, free of evident tampering or damage incl water damage.

Weathering Steel

During storage and handling of the steel, care should be taken to ensure that the developing rust patina is not damaged. Patina will re-form if it is damaged, however it may appear non-uniform until it has re-formed. If graffiti is an issue then removal of said graffiti could affect the durability of the structure. Low pressure water jetting can be undertaken to remove chalk graffiti, but care must be taken not to disrupt the protective rust patina.

MAINTENANCE SCHEDULE FOR PROPOSED MATERIALS (DRAFT) cont.

Higher pressure and potentially abrasives would be required to remove spray paint and this is more likely to remove the rust patina and hence affect durability of the column. If the rust patina is removed then the weathering process will begin again and this will be repeated each time rust patina is removed. If removal of graffiti is anticipated to be an issue then the areas affected could be painted (colour to match the mature steel). The same would be true if cleaning is required to remove bird excrement or any other significant dirt/debris.Visual inspection of weathering steel should be carried out. For bridges it is recommended that this takes place every 2 years. The surface condition of the patina indicates performance. A fine grained rust patina indicated corrosion is progressing at an acceptable rate however coarse laminated rust layers and/or flaking suggests unacceptable performance.
Monitoring of the steel thickness should be carried out. For weathering steel bridges it is recommended that this monitoring takes place every 6 years. If the loss of section exceeds the original allowance then remedial measures may need to be taken. Steel thickness measurements should be taken using specialist portable ultrasonic equipment that will not damage the protective rust patina.