

Drainage Strategy

Change of Use of Land (Use Class E) to form container storage (Use Class B8)

Land at former Quarry Farm, Ainsworth Lane, Knowsley, L34 9EU



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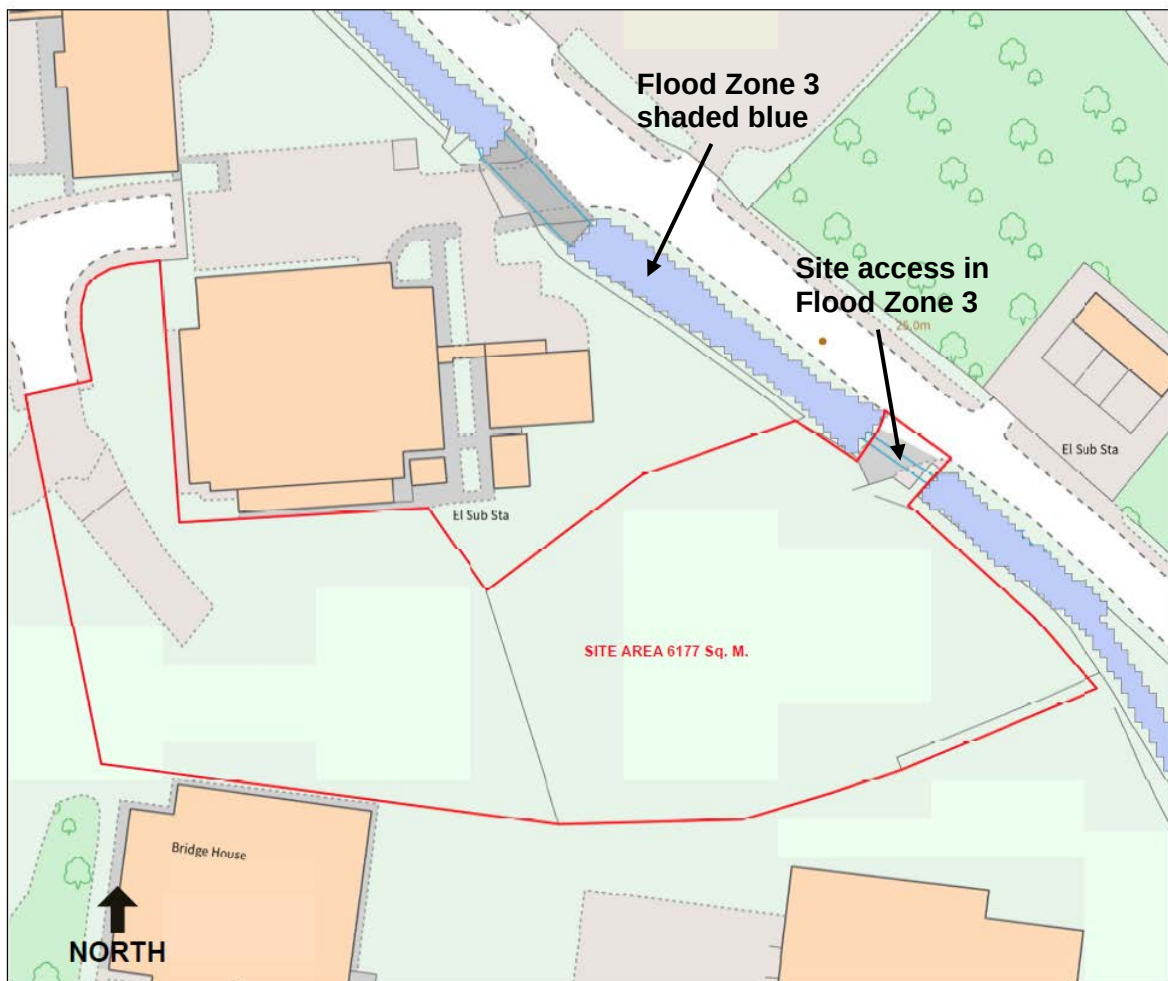
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Background and Introduction

This Drainage Strategy supports a planning application for change of use of land (Use Class E) to form container storage (Use Class B8) at former Quarry Farm, Ainsworth Lane, Knowsley, Lancashire, L34 9EU. The site area is 6,177 sq. m.

It has been requested by Knowsley Council because part of the application site has been identified as being within flood Zone 3.

According to the Environment Agency's Flood Map for Planning, the site is located within Flood Zone 1, but the Ainsworth Lane site access runs over a small, culverted section of Knowsley Brook measuring 25 sq. m. which is in Flood Zone 3a. This area represents 0.4% of the total 6,177 sq. m. site area. The remainder of the site is shown as "clear" and therefore classified as Zone 1, as shown on the plan below.



The planning application is solely for the change of use of the land to allow the temporary storage of shipping containers en-route to the Docks, together with the siting of two 'Portakabin' type units to provide mess, welfare, and toilet facilities.

There are no permanent structures proposed, nor are any engineering works proposed to create additional hard surfaces. The land is a cleared site and former farmyard following the demolition of former farm buildings in 2013 and consists of an existing crushed stone surface and existing concrete-paved accesses to Unity Grove and over the culvert to Ainsworth Lane. It must be emphasised that no engineering operations such as the formation of impermeable hard surfaces are proposed.

Summary of Flood Risk Assessment

A Flood Risk Assessment (forming a separate supporting document) has been undertaken using data supplied by the Environment Agency. This concluded that the site does not flood, there is no flood risk to this site from Knowsley Brook and there will be no increase in run-off to areas downstream. The site is not within the flood outline of the 0.1 % AEP + climate change flow modelled by the Knowsley Brook Study in 2017. The site does not form part of the watercourse floodplain and as demonstrated above, there can be no issue regarding loss of flood storage resulting from the change of use of the site.

Surface Water Drainage Strategy

The primary flood risk generated by any new development is the risk posed by an increase in surface water runoff. The Environment Agency state that in order to demonstrate that the development is of low risk, the applicant should show that it will be feasible to balance surface water run-off to the existing run-off rate in terms of a brownfield development for all events up to the 1 in 100 year storm (including a 30% allowance for climate change) and set out how this will be achieved.

As previously discussed, the development site comprises an existing crushed stone surface following the demolition of farm buildings in 2013. The proposed development will not increase the amount of hardstanding across the site, therefore larger surface water run-off rates / volumes will not need to be attenuated within the site boundary. Rainwater will continue to infiltrate into the ground through the crushed stone surface, as is already the case.

There will be no increase in run-off as a result of the change of use of the site because there are no permanent buildings or new areas of impermeable hardstanding proposed. The shipping containers are simply placed over the crushed stone surface and are only in partial contact with the ground (the only contact with the ground is at the edge beams). Rainwater can therefore percolate through the crushed surface and under the containers – see photo below.

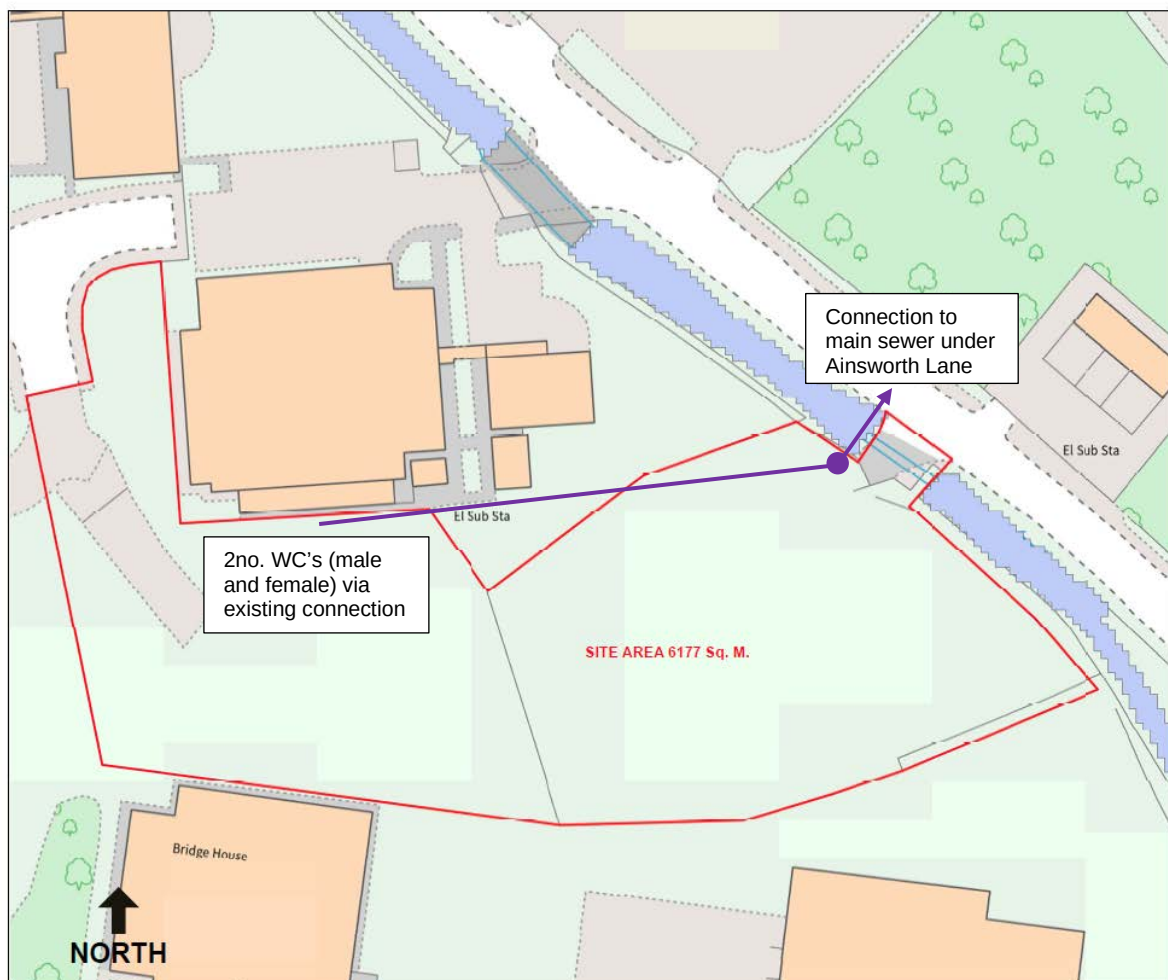


As there will be no change to existing surface water infiltration, nor any new paved areas, there is no need to install new attenuation such as soakaways or manage runoff into the watercourse

Foul Water Drainage Strategy

The existing foul sewer outfalls from the site via a 3m deep manhole adjacent to the access off Ainsworth Lane – shown in purple on the plan below. From here it is understood to connect into the main sewer. The site has a water services account with United Utilities.

There are presently 2 individual WC's connected to this foul drain, these are part of the mess and welfare facilities for the staff and are temporary 'Portakabin' buildings shown in the photograph overleaf.





Conclusions

The use of the site for the short term storage of shipping containers en-route to and from the Docks will not increase surface water runoff as there is no net gain in impermeable surface.

A separate Flood Risk Assessment has concluded that the site does not flood, there is no flood risk to this site from Knowsley Brook and there will be no increase in runoff to areas downstream.

The containers are simply placed over the crushed stone surface and are only in partial contact with the ground (the only contact with the ground is at the edge beams). Rainwater can therefore infiltrate through the crushed surface and under the containers, as is already the case.