

Flood risk and riparian ownership analysis

London, England

Project:	GIS Analysis of flood risk and riparian ownership
Location:	Dog & Duck Caravan Park, Plucks Gutter, Kent
Client:	Kent Leisure Parks Ltd

PROJECT BRIEF

Kent Leisure Parks recently acquired The Dog & Duck Caravan Park in Plucks Gutter, Kent, located on the Great Stour 'main river'. Recently, the removal of older caravan units has not been balanced with the replacement of these units within the existing layout, as space does not allow easy logistics for bringing in new units. The future business viability of the Site relies on replenishing caravan units with modern, larger and more desirable static caravans over time. There was also a desire from the site operator to reduce density with the acceptance of having a new lower number of bases within the Site than was historically permitted. Therefore, there was a need to create a looser layout, with replacement units in a previously undeveloped area of the Site. All aspects of the application were acceptable for the new Site, save for flood risk aspects which centred around the new development being located within 'functional floodplain'.

In basic terms, functional floodplain is an area which is regularly flooded, and should be preserved as naturally intended, to provide flood storage in regular events. Typically, flood modellers define functional floodplain by using the flood outline for a 1 in 20-year (5% annual exceedance probability) river flood event; though there should be a consideration of local flood processes and river behaviour on a site specific basis, according to the National Planning Policy Framework (NPPF). In functional floodplain areas, most types of development, except for key water compatible infrastructure, are not permitted (i.e. certainly not caravan base developments).

In most circumstances, functional floodplain is a natural area of flooding utilised by the river; i.e. areas that would flood if the river was not managed by human activity (e.g. flood defence works). However, in the case of Dog & Duck Caravan Park, if flood defences along downstream sections of the Great Stour were not in place, flooding of the Site is not likely to occur during a 1 in 20-year flood event; i.e. the Site is therefore not naturally in functional floodplain. These defences have now inadvertently brought the risk of regular flooding at the Site in order to protect downstream reaches of the Site. Enzygo would not ordinarily recommend development in such locations, however in this case, the proposals had merit given the unchanged flood risk and betterment it would bring.

However, the Environment Agency consider the worst-case risk as defining policy when reviewing flood risk information submitted in support of an application. As the area is defined as functional floodplain in national policy terms where defences are in place, even though it is accepted that flood defences downstream of the Site worsen flooding from the Great Stour at the Site, the agency cannot be seen to contravene policy. The Site already manages its flood risk and existing units currently occupy functional



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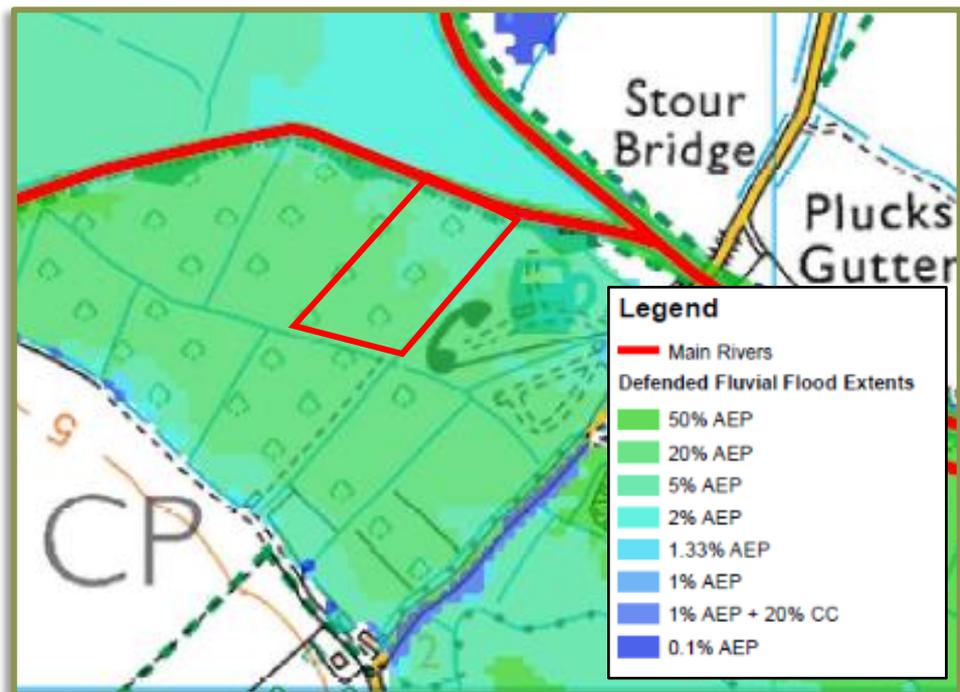
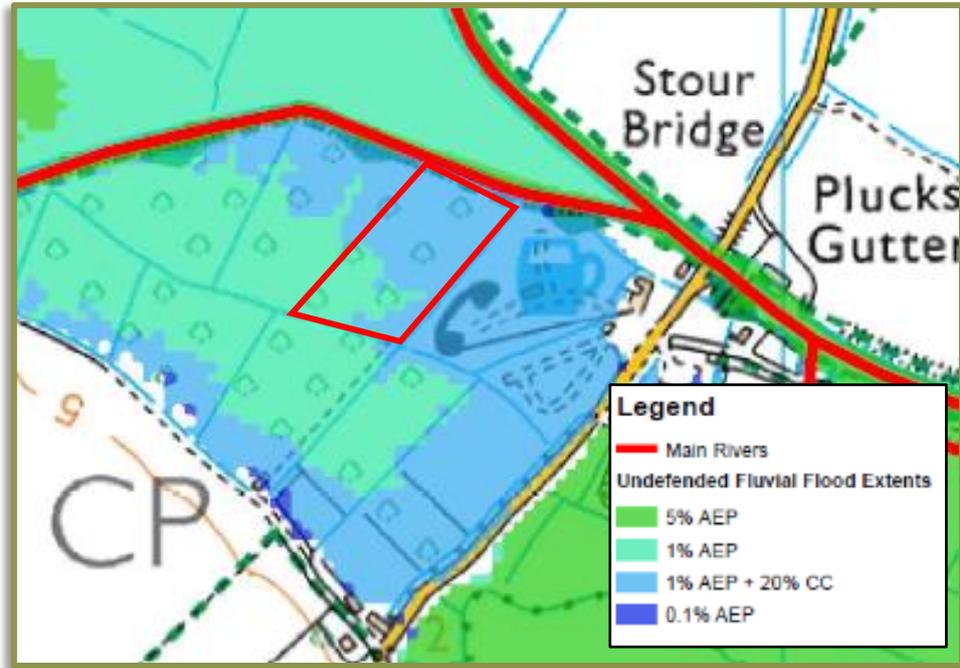
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floodplain. So, arguably nothing would change by spreading the Site out over a larger area. A battle for pragmatism ensued.

Environment Agency modelled flood map: Undefended and Defended Flood Map (5% represents functional floodplain)



WHAT WE DID

Flood risk and drainage implications were firstly explored at the outset of the application with the undertaking of a detailed site-specific Flood Risk Assessment (FRA). This



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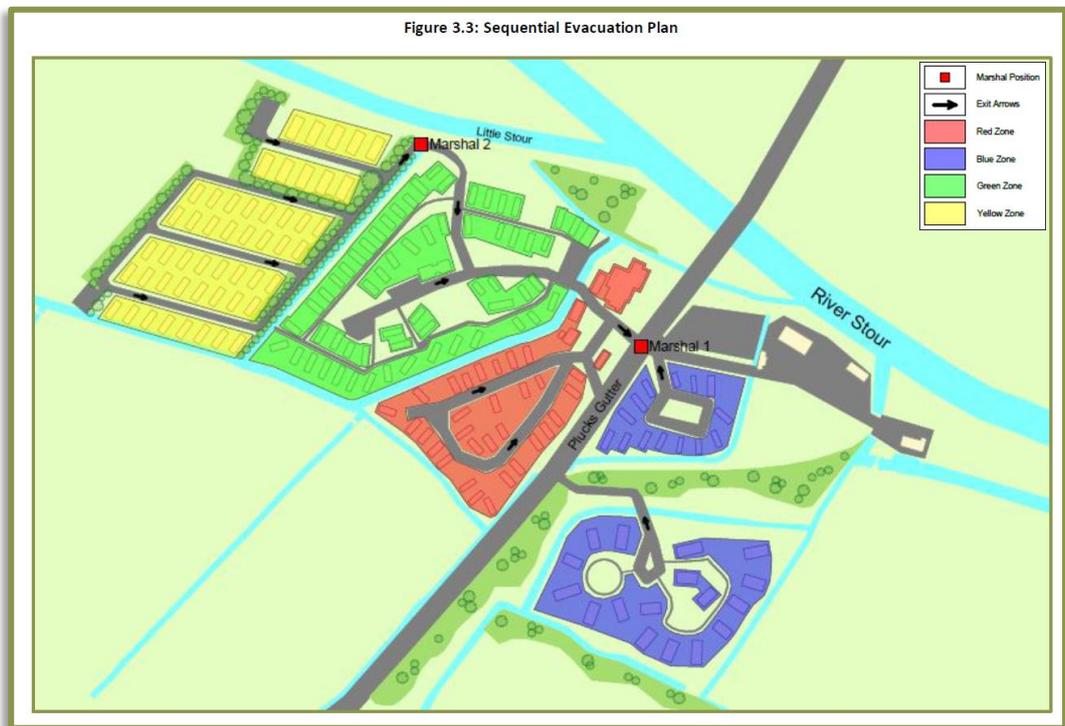
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document reviewed Environment Agency modelled flood level information for the Site, comparing these to detailed surveys of the development area. The document also conceded the development is located in possible functional floodplain as a result of the installation of flood defences along downstream extents of the Great Stour. The main focus of the document, as with all similar developments in flood zones, is demonstrating the risk can be managed. The development is to provide a place to spend holidays, not for residential use. Given the desirable riparian location, (arguably most UK holiday locations have to balance the desire for natural beauty with the inevitability of natural risk from river and coastal flooding), it is reasonable to have such places located at risk accompanied with a plan of what to do to minimise it.

Enzygo's hydrology team are industry leaders in providing Flood Evacuation Management Plans (FEMP) for large holiday park site operators across the UK. Many of these Sites are possibly at higher risk of flooding than this example, but having a concise and easy to follow document, used by staff trained by Enzygo's experts, this flood risk can be significantly reduced. A FEMP was written for the Site to manage this risk in the most effective manner which reassures the Site owner that their cliental can be kept safe.

Flood Evacuation Phase Plan (within Site) and Evacuation Routes



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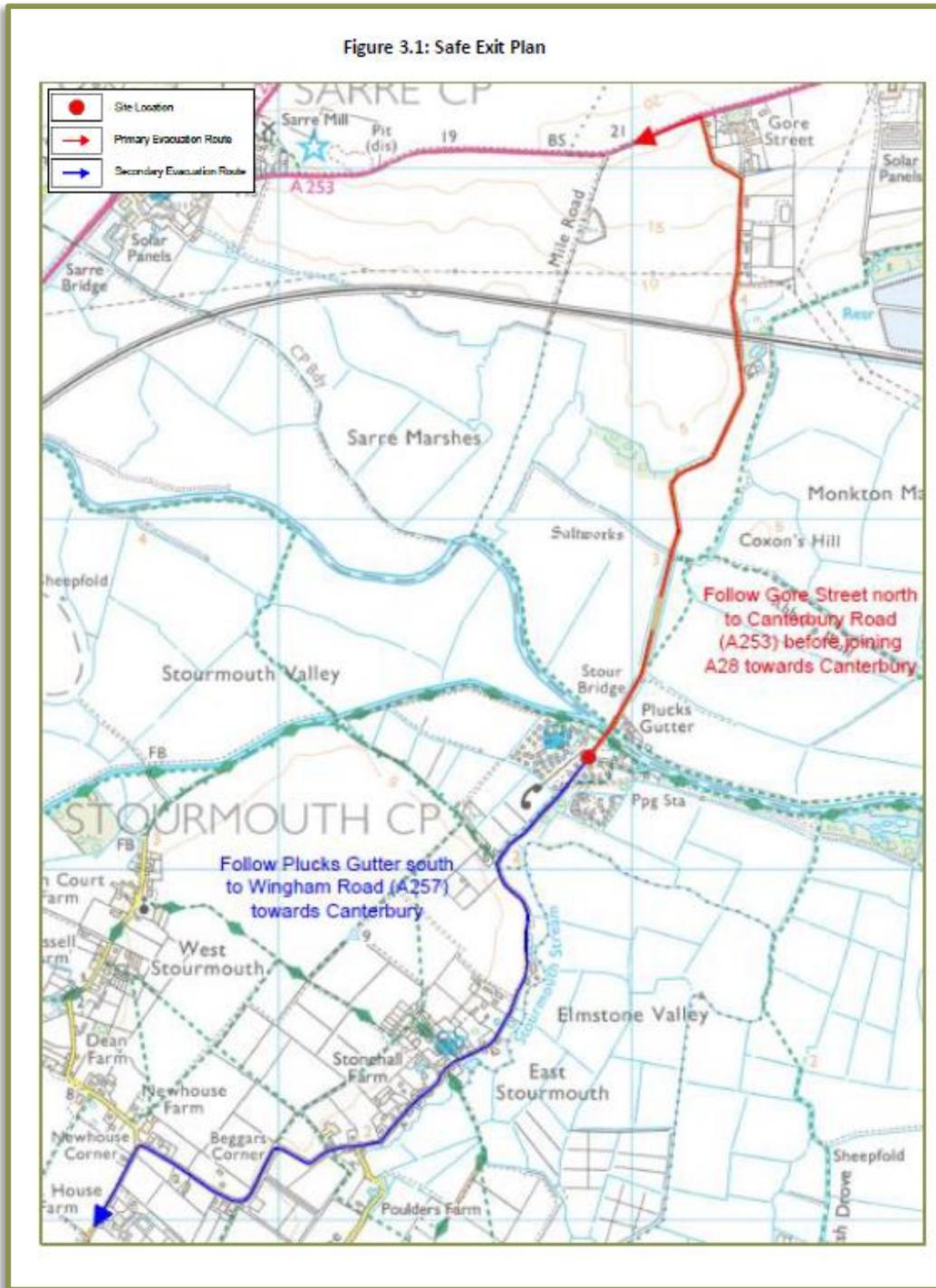
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Figure 3.1: Safe Exit Plan



With the risk addressed for the Site users, the development needed to be brought before the local planning committee to be judged on its merits rather than dismissed on the grounds of statutory policy enforcement, which we argued was inappropriate for this site. A meeting was held with a representative of the Environment Agency to see if any compromises or additional risk mitigation could sway their view as the statutory consultee. While the representative could understand the pragmatic reasoning on why the development was not only needed, but acceptable, he confirmed the Environment Agency's viewpoint would remain unchanged and a holding objection would be maintained.

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Supporting statements and information were provided as Technical Letters to the local planning authority detailing the discussions and highlighting how a FEMP already manages risk at the Site. Confidence was gained by the Case Officer on the merits of the technical information to recommend the application for deliberation by committee. The points made by the Environment Agency, as statutory consultee to the LPA were noted, but were not used to immediately dismiss the application.

WHAT WE ACHIEVED

Through consultation with local council representatives and a robust and well worded written statement read out in the committee on behalf of the applicant, the pragmatic view of Enzygo and the client that the development could be brought forward safely and would have a negligible impact on floodplain storage was backed. The committee members approved the application with 8 votes for and 2 against; a resounding victory for pragmatism!

FURTHER WORK

Enzygo are now assisting Kent Leisure Parks Ltd in addressing the planning conditions for the approved plans to help them bring forward the development as soon as possible. Given the 'staycation' is now firmly back in fashion in these times of Covid-19, this planning approval will help boost tourism in Kent.



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