Project 18219

Drainage Statement – Rev A

Proposed Foul Drainage

The proposed foul flows will be collected and conveyed in new sewers laid within the proposed highway throughout the site heading in a southern direction. A new 150mm sewer will be laid within Waunsterw road connecting into an existing chamber serving a 150mm sewer. The proposed foul sewers will be offered for adoption through a section 104 agreement with Welsh Water.

Proposed Storm Drainage

Following infiltration tests undertaken on site it is not deemed viable to infiltrate the proposed surface water into the ground (Refer to Site Investigation Report 12385/RAH/19/SI). The Site is bounded by watercourses to the North, East and West boundaries. The existing site levels show the site entirely draining to the watercourse on the western boundary. The watercourses to the North and East have falls and levels inconsistent to the site levels to allow a direct connection. Furthermore, any discharge from the proposal would introduce additional flow over the existing rates. Site observations of the watercourse to the Western boundary have indicated it is highly likely to be discharging unrestricted to a chamber located North of Waunsterw.

The storm water strategy will be to mimic the existing site discharge course at a greatly improved and controlled manner. The proposal will collect the storm water from the proposed development and discharge to the existing chamber. A flow control chamber will limit to a maximum rate of 10.4l/s for a 100year storm event with a 40% climate change allowance. This rate is the current site Qbar rate as shown in the attached calculation sheet. The proposed control and restricted discharge will offer significant betterment over the existing arrangement. Added flood protection to the dwellings downstream of the site would also be advantages.

The proposed dwellings will utilise a blue roof system to hold, store and release captured rain fall. Minor rainfall events are likely to be held entirely within the roof makeup with more intense events being discharged in a slow and limited manor. A maximum rate of 0.8l/s including for a 100year storm event with 40% climate change allowance will be achieved. The system will greatly improve water quality over standard roofing systems.

The car park areas will be porous paving construction allowing storm water to be filtered through the construction before being collected into a piped system. Where practicable, roof down pipes will be connected to water butts to allow rainwater capture for reuse. Roof, highway and car park catchments will be collected into a piped network and discharged along a series of ponds and swales running through the site. The ponds and swales will offer storage facilities for limited discharge and help improve the water quality. These features will also provide an attractive community space while allowing a rich and biodiverse habitat for wildlife.