150903

FLOOD RISK ASSESSMENT ADDENDUM

FOR

LATCHMERE HOUSE

FOR

BERKELEY HOMES (WEST LONDON) LTD

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LATCHMERE HOUSE

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1.0 SURFACE WATER STRATEGY

1.1 SuDS are designed to mimic natural drainage processes; it is generally considered that about 50% of each year's total rainfall occurs in events which are less than 5mm in depth. In a natural catchment, the first 4mm to 5mm of rainfall is lost due to natural processes such as soakage into the topsoil, infiltration, evaporation and transpiration; and therefore does not result in runoff.

1.2 Once the flow routes have been established, then the selection of SUDS techniques and the building of a management train to manage surface water runoff can proceed.

1.3 Source control techniques in the form of permeable pavements and subsurface storage in the form of voided sub-base have been provided to replicate the natural catchment process.

1.4 Permeable surfacing provides a surface suitable for pedestrian and vehicular traffic, while allowing rainwater to infiltrate through the surface and into underlying layers. The water can be temporarily stored in its 30% voided granular sub-base before infiltrating to the sub-strata, or discharged towards the soakaways.

1.5 Permeable paving has been chosen so that the first flush volume from hard surfaces can be intercepted and treated using sufficient treatment stages. These measures will control the runoff at or very near its source. The permeable paving will both provide treatment of surface water before being discharged and can provide good water quality treatment by:

- Reducing peak flows to reduce the risk of flooding downstream,
- Reducing the effects of pollution in runoff on the environment,
- Eliminating surface ponding and surface ice,
- Offering resilience to a lack of maintenance.

1.6 The SuDS management train is an integrated sequence of measures employed which, taken together, control volumes of runoff and reduce pollution before discharge. These measures are designed to emulate the natural catchment process.

1.7 The four principal stages of a SuDs management train are: Prevention, Source Control, Site Control and Regional Control. Run-off does not need to pass through all the stages in the management train, it can flow straight to a suitable control.

1.8 Dealing with water when and where it falls (source control) is the preferred, cheaper and easiest option. By dealing with runoff at source the volume of water and the potential amount of contamination is less, which requires smaller SuDS components further downstream.

1.9 Although oversized pipes are at the bottom of hierarchy of SuDS methods, they do indeed serve as SuDS features as they retain a sufficient amount of attenuated water. This allows any potential contaminates to settle within the catch-pits preventing any release downstream.

2.0 AMENDMENTS TO DEVELOPMENT

2.1 The surface finishes drawing has been updated to reflect the amendments undertaken in the landscaping architects proposals. The main changes where that on Road 6 the permeable block paved surface and infiltration sub-base underneath had been removed. Currently it is made up of an impermeable block paved surface with no allowance for permeability.

2.2 The main spine road now has a permeable surface footway on the north side of the carriageway as mitigation of the removal of the permeable paving on Road 6.

2.3 The raised table to the south-east of Latchmere House had intended to contain a permeable paved carriageway, but this also has been removed and replaced with an impermeable block paved alternative.

2.4 The private footway link to the east of the development has also been changed from permeable to impermeable. However, the benefit of infiltration has not been lost as the surface water from the footway will run-off to the surrounding landscaped areas.

2.5 Similarly the private footway link to the western side of the development has been amended from a permeable surface to an impermeable alternative. There is no surrounding landscaping to allow immediate surface run-off, therefore the levels must direct the run-off to flow and drain to the permeable paving at the nearest turning head on the spine road.

2.6 Throughout the development, where permeable paving was allocated to private parking bays, the permeable paving has been removed and replaced with an impermeable block. To the south of the development, the run-off from the bays will still drain to the permeable paving within the main carriageway and subsequently then drain to the private soakaways.

3.0 CONCLUSIONS

3.1 Although the permeable paving controlled at source has reduced, the amount of infiltration into the underlying soils has not. The run-off source location has only changed, whereby there is more overland flow towards a permeable surface than previously designed.

3.2 The amount of surface water run-off discharging from the development is still zero, and the run-off can still follow the treatment process towards a suitable control via the private soakaways situated throughout the development. The only method of surface water discharge remains infiltration

APPENDICES

APPENDIX 1 WINDES CALCLULATIONS

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