



'optimising development potential'

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TECHNICAL NOTE

PROJECT : **MUX1 - South West Sittingbourne**

JOB NO. : **13-042**

NOTE TITLE : **Preliminary Hydrology Statement**

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1.0 Introduction

1.1 This note presents a summary position on matters pertaining to Hydrology in the context of the EIA prepared for the Planning Application on Land at Wises Lane, Sittingbourne.

2.0 Baseline Conditions

Tidal and River Flooding

2.1 The Swale Borough Council's Strategic Flood Risk Assessment (2009) confirms the entirety of the site to be within Flood Zone 1 and thus subject to the lowest level of risk from coastal and river flooding.

2.2 **Figure 2.1** includes a copy of the relevant tile from the SFRA flood mapping, confirming that the site is not with FZ2, 3a or 3b.

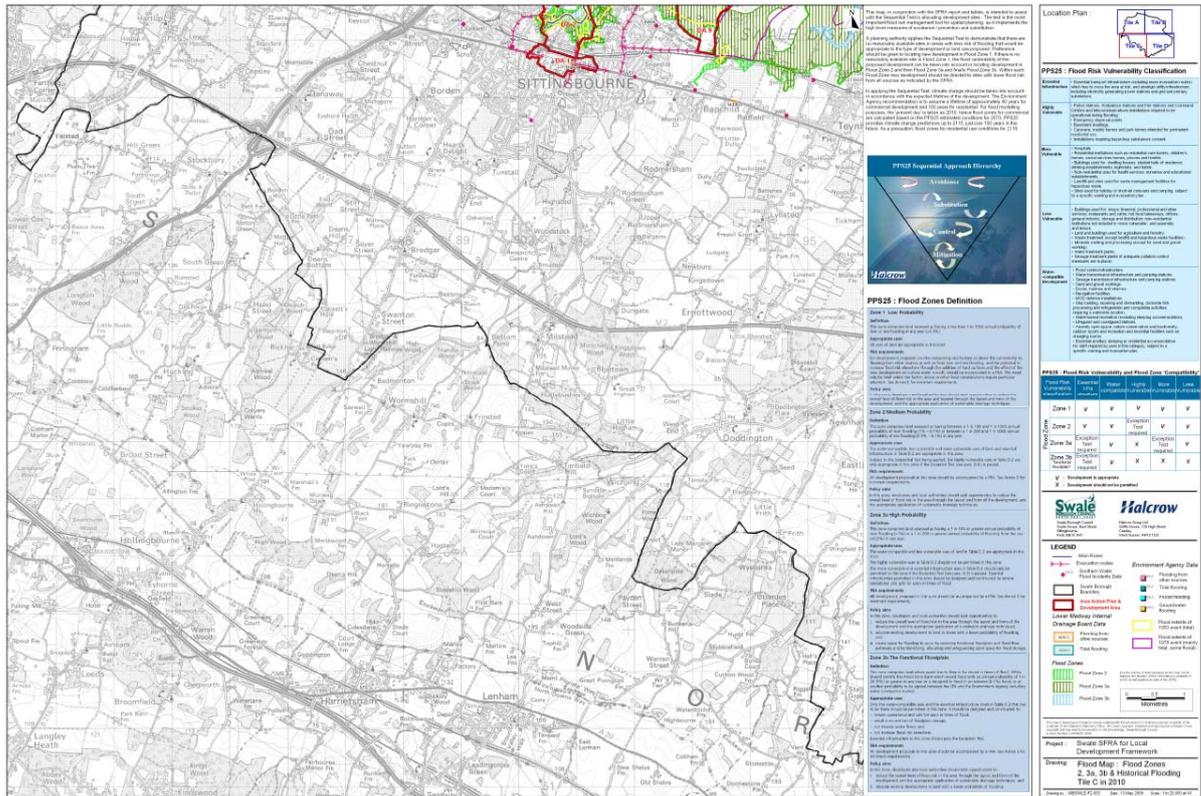


Figure 2.1 – SFRA Tile C Flood Risk Zones

Surface Water Flooding

2.3 As indicated on **Figure 2.2**, the site is subject to some level of localised surface water flooding that has been appropriately considered within the development of the surface water drainage strategy, to ensure that the development does not give rise to any increase in off-site surface water flooding.

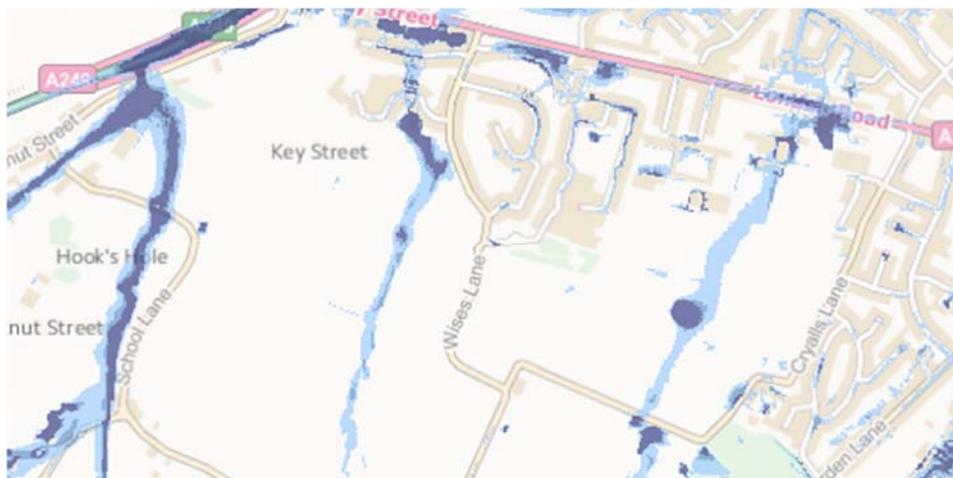


Figure 2.2 – EA Surface Water Flooding Map

Groundwater Flood Risk

- 2.4 Ground water flooding is not understood to occur on the site.

Existing Foul Sewers

- 2.5 The Southern Water asset location search shows no foul water sewers within the site boundary.

3.0 Identification And Evaluation Of Key Effects and Mitigation through Design

Construction Phase Effects

- 3.1 During the construction works there is the potential for a short-term change in the hydraulic regime and in water quality, which will need to be appropriately mitigated. In the absence of foul drainage on the site, there is not risk during the construction phase.

Operational Effects and Mitigation

- 3.2 The main potential effects for surface water drainage relate to changes to the current drainage regime, which may result in increases in the volume of surface water runoff. This may impact on the local watercourses and surface water flooding.
- 3.3 Where possible, SuDS have been investigated for incorporation into the outline drainage design. The assessment considers the impact on the environment of introducing these methods into the development with respect to environmental and ecological benefits.
- 3.4 The design process has involved a technical assessment of the SuDS which are most appropriate to the site and masterplan and the adoption issues associated with their use. The SuDS techniques which have been investigated with a view to potential inclusion in the development include:
- Attenuation ponds,
 - Attenuation Swales,
 - Conveyance Swales,
 - Soakaways
 - Porous/permeable paving
- 3.5 An indicative surface water drainage strategy for the proposed development has been prepared. This incorporates appropriate mitigation measures and includes the provision of Sustainable Urban Drainage Systems (SuDS).
- 3.6 The outline drainage design for the site is based upon guidance prepared by KCC and CIRIA Report C753 - The SuDS Manual (Ref 1.11). This is to ensure the protection of water quality and to simulate as naturally as possible the flood hydrograph for the area.

- 3.7 Careful consideration will be given to the development design levels to channel overland flow away from the development (Volume 2 – Technical Appendix 12.1 Flood Risk Assessment).
- 3.8 The surface water runoff from potentially polluted areas (e.g. access roads and parking areas) will be discharged via source control measures. This effectively reduces total suspended solids, heavy metals and hydrocarbons from the runoff, providing water quality treatment (Volume 2 – Technical Appendix 12.1 Flood Risk Assessment).
- 3.9 The early phasing of the operational surface water quality elements in addition to temporary water quality treatment measures will minimise the risk of the pollutants entering the groundwater receptors.
- 3.10 The proposed SuDS layout will incorporate some of the SuDS measures discussed above. The surface water runoff from potentially polluted areas will be discharged via source control measures, which effectively reduces total suspended solids, heavy metals and hydrocarbons from the runoff, providing water quality treatment. Attenuation will be provided via ponds/attenuation basins, which will be located within the landscaped areas.
- 3.11 A comprehensive SuDS system will be incorporated into the masterplan to provide a 'treatment train' approach to maintain a high water quality prior to discharge into the ground via deep-bore soakaways. This will take the form of source and site control features.