Site Name: Charlton Riverside Central

Site ID:	C5	**Site Address:**	Charlton SDL	**Area (ha):**	35.99
Current Use:	Industrial and big retail sheds (Stone Lake Retail Park)	**Proposed Use:**	Residential, small scale retail, employment use. Seconday and primary school area of search. To include bus and cycle east-west route and transport interchange at the south western corner of the site opposite Charlton Church Lane. The development of the	**Vulnerability Classification:**	More Vulnerable / Essential Infrastructure

Tidal Source:

Flood Zone 1 (<0.1% AEP): 0%	**Flood Zone 2 (0.1% AEP):** 100%	**Flood Zone 3 (1% AEP):** 99%	**Flood Zone 3b (5%AEP):** 0%	**Area Benefiting from Defences:** 100%

Flood Zones and Flood Defences

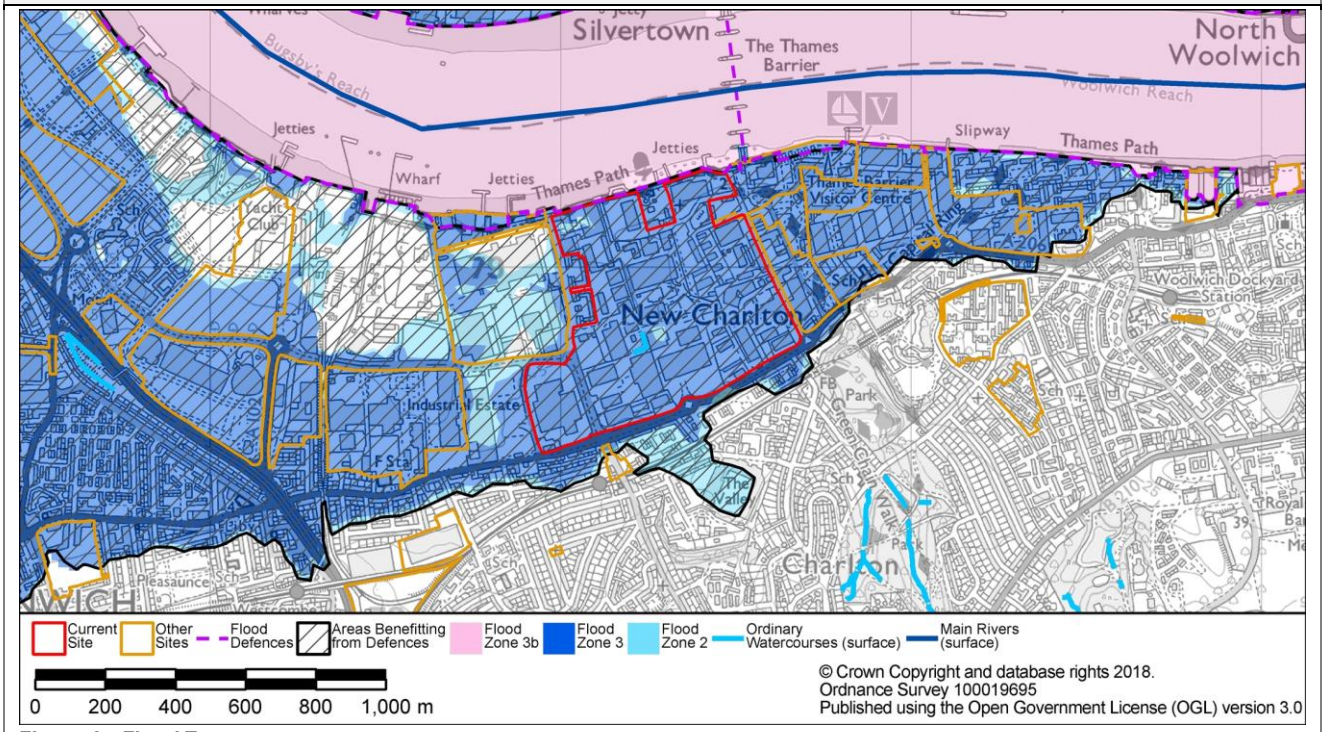

Figure A - Flood Zones

Flood Defence Source:	tidal	**Upstream of Thames Barrier?**	Yes
Flood Defence Type:	wall	**Standard of Protection:**	1000
Flood Warning Area	Tidal Thames from Woolwich Arsenal to Deptford Creek (100% Overlap)	**Emergency Rest Centre**	Charlton Athletic Football Club

Residual Tidal Flood Risk

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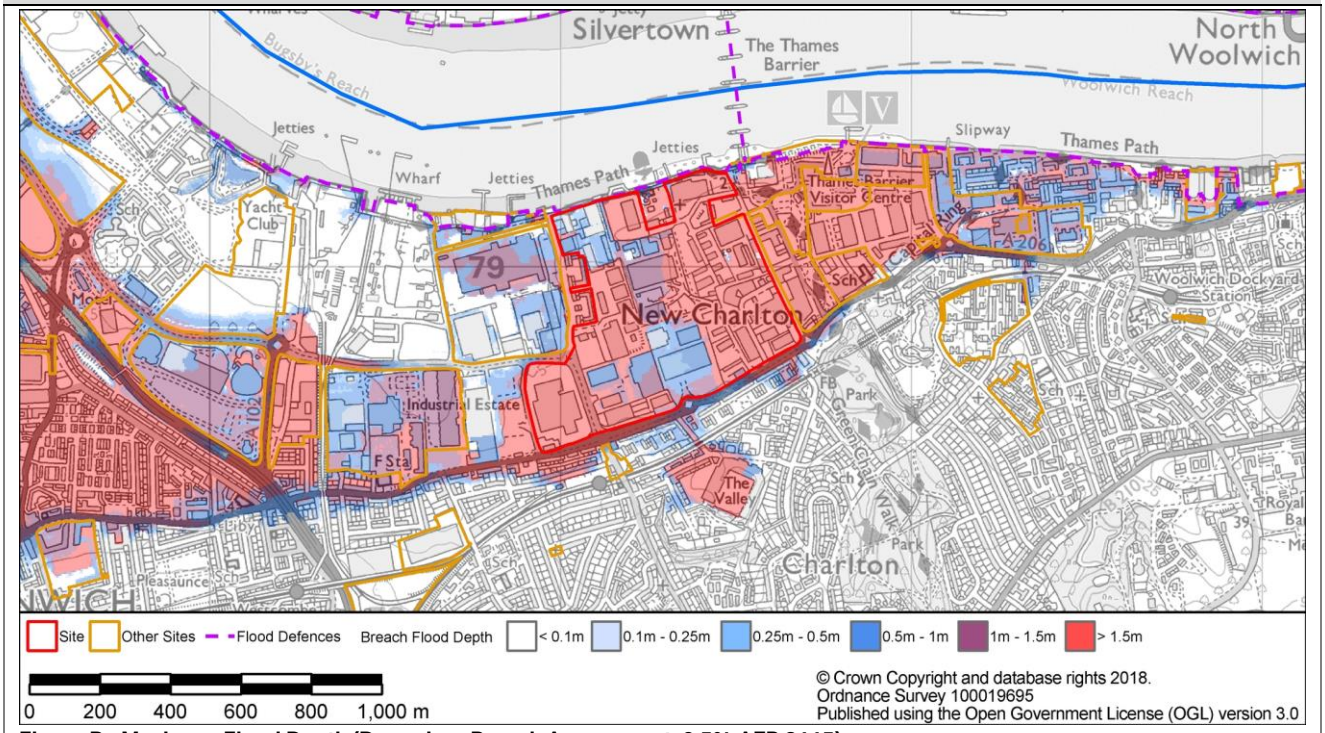

Figure B - Maximum Flood Depth (Downriver Breach Assessment, 0.5% AEP 2115)

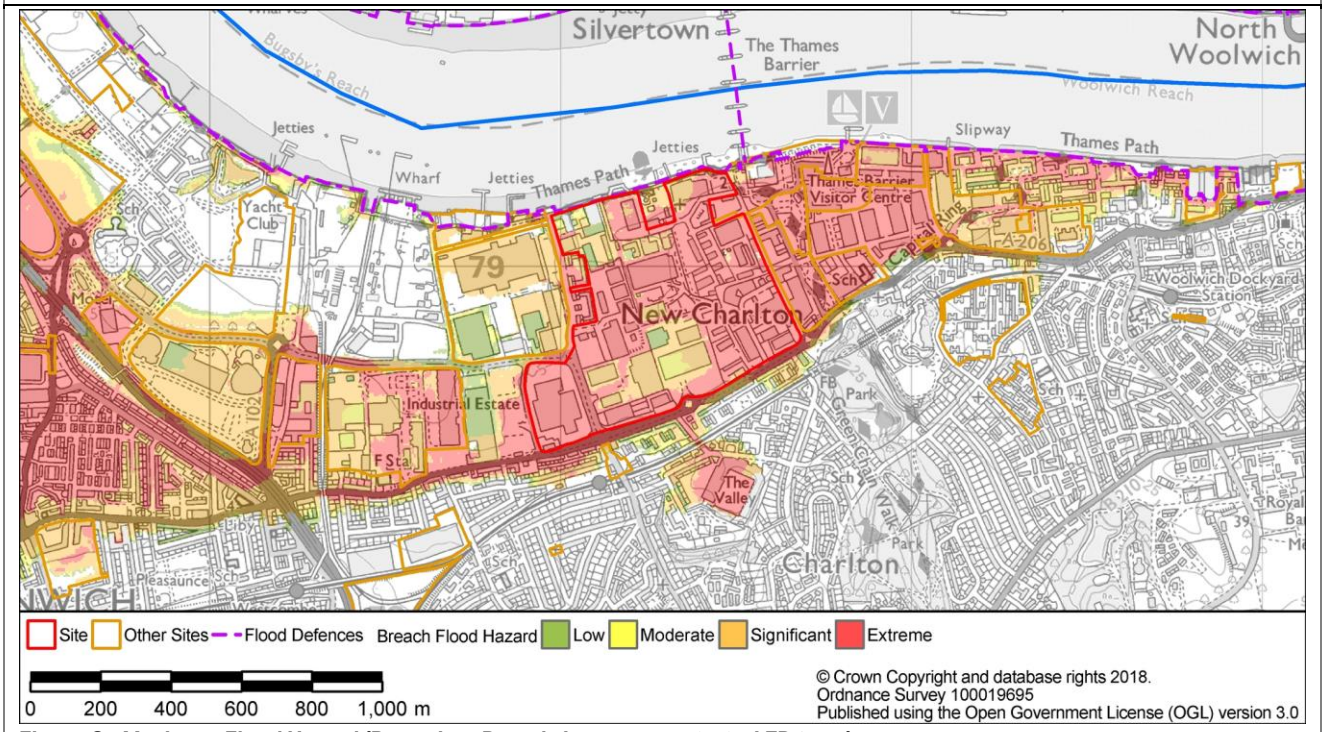

Figure C - Maximum Flood Hazard (Downriver Breach Assessment, 0.5% AEP 2115)

Surface Water Source	
Risk of Flooding from Surface Water (RoFSW)	High

Site Name: Charlton Riverside Central

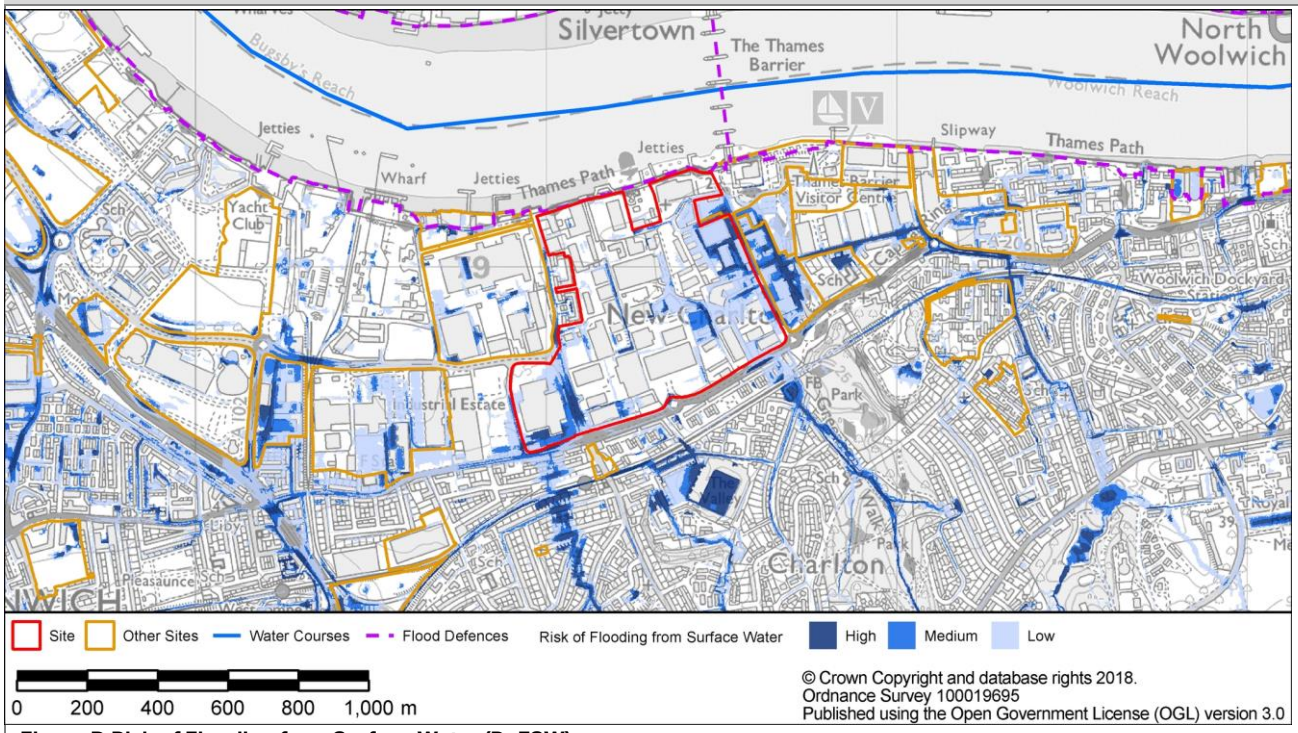

Figure D Risk of Flooding from Surface Water (RoFSW)

Critical Drainage Area	Group6_014 (100% Overlap)

Groundwater Source

Bedrock Geology	Thanet Sand Formation, Upper Chalk Formation	**Superficial Geology**	Alluvium - Clay, Silty, Peaty, Sandy, Head - Clay, Silt, Sand, Gravel, Kempton Park Gravel Formation
Bedrock Aquifer Designation	Principal (100% Overlap), Secondary A (0% Overlap)	**Superficial Aquifer Designation**	Secondary (undifferentiated) (100% Overlap), Secondary A (0% Overlap)
Potential Groundwater Flooding Zone	Zone B		

Other Sources

Sewer Flooding (within 4 digit postcode)	Internal Flood Incidents: 2 External Flood Incidents: 3
Artificial sources	

Site Specific Recommendations

The site is predominantly located within Flood Zone 3. A small part of the site is located in Flood Zone 2. The site benefits from the presence of the Thames Barrier Defences, and is at residual risk of tidal flooding. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. Basements are not permitted on the site. Permission is required from the Environment Agency for work activity within 16m of a tidal river or tidal defence The ROFSW map shows that site and surrounding area may be at high risk of surface water flooding. An assessment of the local surface water flow paths should be made during the development of the site design. Buildings and other more vulnerable aspects of the development should be placed away from those areas at risk of surface water ponding. Reference should be made to the Integrated Water Management Strategy for the area.

Finished floor levels should be set at whichever level is higher: 300mm above the general ground level of the site or 600mm above the estimated sea level for a 1 in 200 year (0.5%AEP) event (including climate change). A number of flood resistance and resilience measures can be implemented into new developments to mitigate potential flooding. Guidance on resilience measures can be found in the document 'Improving the Flood Performance of New Buildings, Flood Resilient Construction' published by The Department for Communities and Local Government (CLG).

Potential overland flow paths from surface water should be determined and appropriate solutions proposed to minimise the impact of the development, whilst ensuring that flows are not diverted towards other properties elsewhere. Developers should consider using design for exceedance approaches by using urban areas and infrastructure to help manage local flooding. Flow paths should be assessed to inform the strategic location of SuDS and techniques to route flows around the edge of buildings. Careful consideration should be given to the use of fences and landscaping walls so as to prevent causing obstruction to flow routes.

Unobstructed safe access routes to and from the development should be provided. These should provide access to higher ground that is not at risk from tidal flooding. It is strongly recommended that permanent internal access to upper floors is provided for all users of the site to provide safe refuge in a flood event. In the event of a breach in defences there is potential that dry routes to a safe location may be limited. The local area is covered by the 'Tidal Thames from Woolwich Arsenal to Deptford Creek' Environment Agency Flood Warning Area. A Flood Warning and Evacuation Plan (FWEP) must be prepared for the site, detailing how flood warning will be provided as well as how the safety of occupants and access to/from the development will be ensured. Further details of what should be included can be found in the Developer Guidance.

Reference to the SWMP Appendix D Figure D6 identifies that (prior to the completion of a site investigation to determine precise local conditions) infiltration of surface water into the ground is uncertain for the site. Site investigations will be required prior to the development of a Drainage Strategy for the site. Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so. The site is located within the Group6_014 Critical Drainage Area. The potential development

Site Name: Charlton Riverside Central
must not increase flood risk to other areas within the CDA. Where an increased risk exists, developers need to provide a Drainage Strategy to demonstrate how they intend to address this, by what methods, over what timeframe and how maintenance of such works would be funded over its lifetime.This should include a consideration of SuDS in line with the London Plan 5.13 and Local Plan Policies. Surface water run-off should be managed in line with Royal Greenwich's surface water management requirements, as set out in Chapter 4 of the Developer Guidance.
Summary
The site is predominantly within Flood Zone 3, defended by the Thames Barrier, and has a residual risk of tidal flooding. More Vulnerable uses must be located on the first floor or above, with Less Vulnerable uses at ground level. It is recommended that effective surface water management measures are implemented, including careful site and building layout and the incorporation of SuDS, in order to reduce flooding both on the site and routing of flood water to other areas. Due to the extent of flood risk on the site, a flood warning and evacuation plan should be implemented to ensure access to and from the site. On this basis, it is likely that this site could pass the Exception Test.