

17 Sirdar Road, Haringey, N22 6QP

Flood Risk Assessment &
Sustainable Drainage Systems (“SuDS”)

May 2023

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1.0 Introduction

Existing Site

17 Sirdar Road is an existing terraced house, with a garden that extends up to almost 50 metres, with a garage located at the bottom of the garden facing Westbury Avenue (A1080).

Planning application HGY/2023/0234 was approved for conversion of a single family dwellinghouse to 2no. self-contained flats comprising 1 × 2-bedroom flat and 1 × 3-bedroom flat inc. associated bicycle and bin storage.

Development Proposals

Sub-division of site, demolition of the existing garage and construction of a new dwelling containing 4 × 1-bed flats, comprising of a basement level and 3 above-ground levels, with associated cycle and bin storage.

It should be noted that the existing area of the garage and surrounding area is a concrete/impermeable surface.

2.0 Planning Policy - Flood Risk and Surface Water Management

The London Plan 2021

Policy SI 12 Flood risk management

A. Current and expected flood risk from all sources (as defined in paragraph 9.2.12) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.

B. Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should cooperate and jointly address cross-boundary flood risk issues including with authorities outside London.

C. Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

D. Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.

E. Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

F. Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

G. Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

Policy SI 13 Sustainable drainage

A. Lead Local Flood Authorities should identify – through their Local Flood Risk Management Strategies and Surface Water Management Plans – areas where there are particular surface water management issues and aim to reduce these risks. Increases in surface water run-off outside these areas also need to be identified and addressed.

B. Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible. There should also be a preference for green over grey features, in line with the following drainage hierarchy:

- 1) rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
- 2) rainwater infiltration to ground at or close to source
- 3) rainwater attenuation in green infrastructure features for gradual release (for example green roofs, rain gardens)
- 4) rainwater discharge direct to a watercourse (unless not appropriate)
- 5) controlled rainwater discharge to a surface water sewer or drain 6) controlled rainwater discharge to a combined sewer.

C. Development proposals for impermeable surfacing should normally be resisted unless they can be shown to be unavoidable, including on small surfaces such as front gardens and driveways.

D. Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improved water quality, and enhanced biodiversity, urban greening, amenity and recreation.

9.13.1 London is at particular risk from surface water flooding, mainly due to the large extent of impermeable surfaces. Lead Local Flood Authorities have responsibility for managing surface water drainage through the planning system, as well as ensuring that appropriate maintenance arrangements are put in place. Local Flood Risk Management Strategies and Surface Water Management Plans should ensure they address flooding from multiple sources including surface water, groundwater and small watercourses that occurs as a result of heavy rainfall.

9.13.2 Development proposals should aim to get as close to greenfield run-off rates as possible depending on site conditions. The well-established drainage hierarchy set out in this policy helps to reduce the rate and volume of surface water run-off. Rainwater should be managed as close to the top of the hierarchy as possible. There should be a preference for green over grey features, and drainage by gravity over pumped systems. A blue roof is an attenuation tank at roof or podium level; the combination of a blue and green roof is particularly beneficial, as the attenuated water is used to irrigate the green roof.

9.13.3 For many sites, it may be appropriate to use more than one form of drainage, for example a proportion of rainwater can be managed by more sustainable methods, with residual rainwater managed lower down the hierarchy. In some cases, direct discharge into the watercourse is an appropriate approach, for example rainwater discharge into the tidal Thames or a dock. This should include suitable pollution prevention filtering measures, ideally by using soft engineering or green infrastructure. In addition, if direct discharge is to a watercourse where the outfall is likely to be affected by tide-locking, suitable storage should be designed into the system. However, in other cases direct discharge will not be appropriate, for example discharge into a small stream at the headwaters of a catchment, which may cause flooding. This will need to be assessed on a case-by-case basis, taking into account the location, scale and quality of the discharge and the receiving watercourse. The maintenance of identified drainage measures should also be considered in development proposals.

9.13.4 The London Sustainable Drainage Action Plan complements this policy. It contains a series of actions to make the drainage system work in a more natural way with a particular emphasis on retrofitting.

Haringey Council

Haringey Council's Development Management Document (Adopted July 2017) provides detailed criteria and standard based policies which support the objectives of the Core Strategy.

Policy DM25: Sustainable Drainage System

A. All proposals for new development must seek to manage surface water as close to its source as possible in line with the London Plan drainage hierarchy.

B. The Council will require Sustainable Drainage Systems (SuDS) to be sensitively incorporated into new development by way of site layout and design, having regard to the following requirements: (a) All major development proposals will be required to reduce surface water flows to a greenfield run-off rate for a 1 in 100 year critical storm event; (b) All minor development proposals should aim to achieve a greenfield run-off rate and, at a minimum, achieve a 50 per cent reduction on existing site run-off rates; (c) All other development should seek to achieve a greenfield run-off rate and include at least one 'at source' SuDS measure resulting in a net improvement in water quantity or quality

discharging to a sewer; and (d) For all development where a greenfield runoff rate cannot be achieved justification must be provided to demonstrate that the run-off rate has been reduced as much as possible.

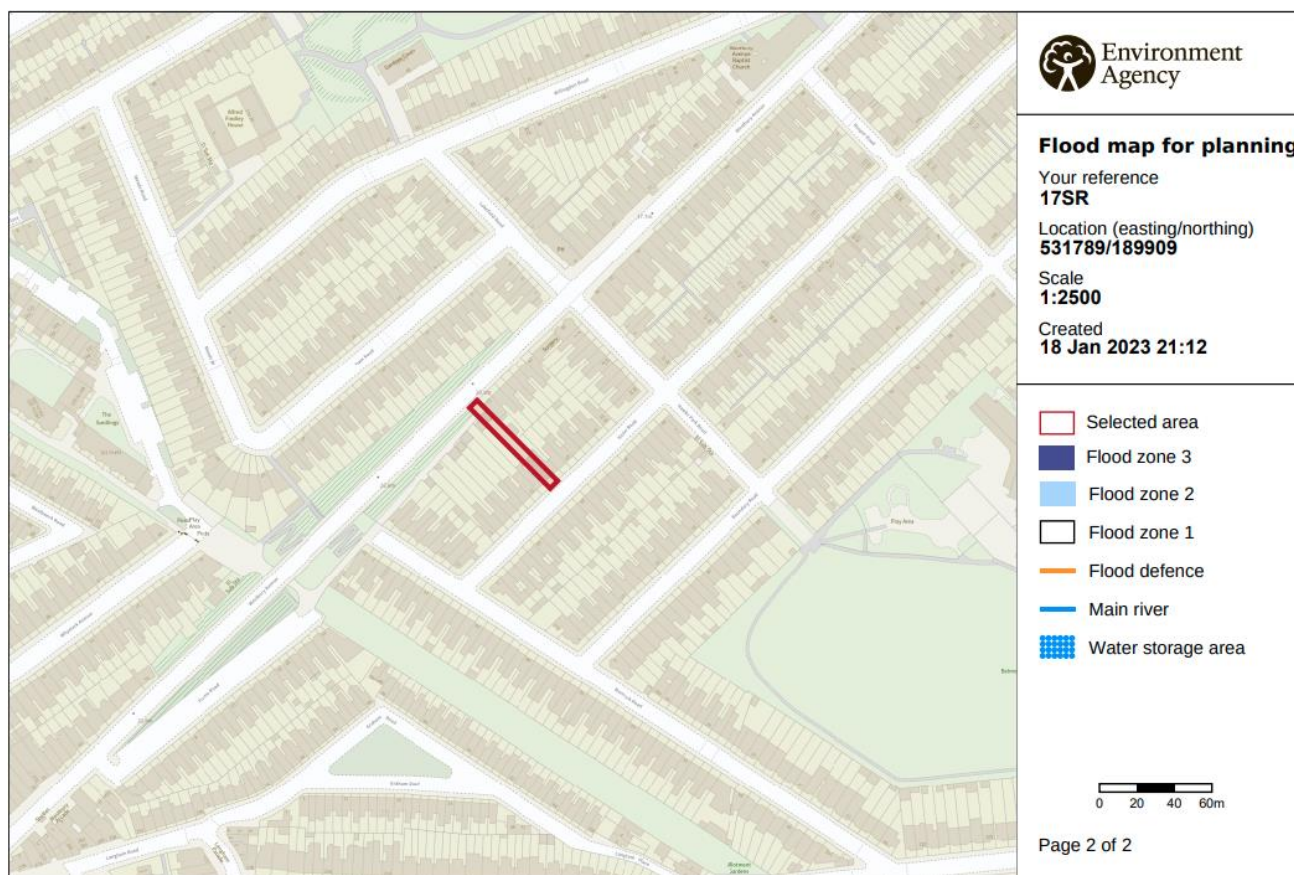
C. Where Sustainable Drainage Systems are implemented they will be expected to: (a) Meet the requirements set out in the Council's relevant local standards and guidance, or national standards where agreed; (b) Incorporate measures identified in the Surface Water Management Plan; (c) Be designed to maximise biodiversity and local amenity benefits, and where appropriate, ensure that SuDS techniques provide for clean and safe water at the surface; (d) Improve water quality; and (e) Function effectively over the lifespan of the development.

D. Where SuDS cannot be implemented due to site constraints (such as land contamination or space limitations) robust justification must be provided along with proposed alternative sustainable approaches to surface water management.

3.0 Flood Risk

Fluvial Flood Risk

The site is shown on the Environment Agency (EA) Flood Maps to be located in Flood Zone 1 and is therefore considered to be at low risk of fluvial / tidal flooding.



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Critical Drainage Area

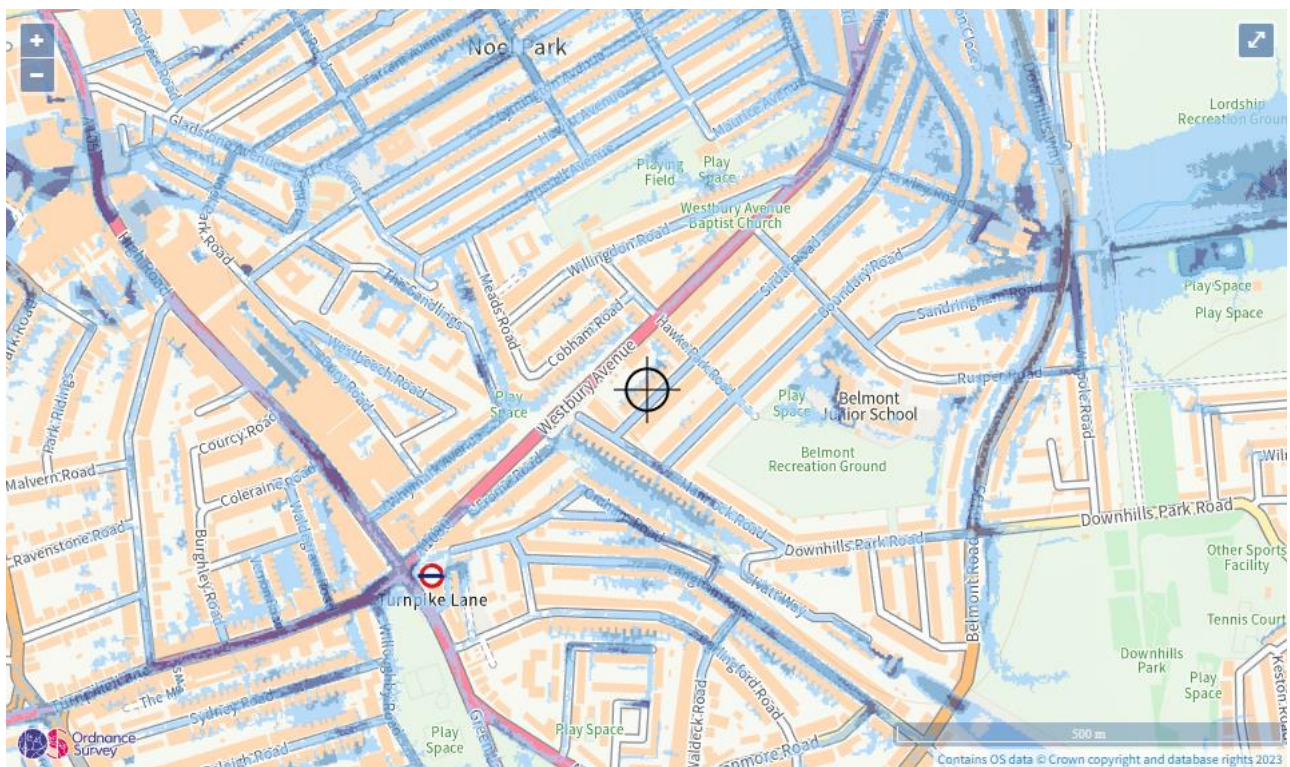
The London Borough of Haringey Surface Water Management Plan (SWMP) defines a Critical Drainage Area (CDA) as a discrete geographic area (usually a hydrological catchment) where multiple and interlinked sources of flood risk (surface water, groundwater, sewer, main river and/or tidal) cause flooding in one or more Local Flood Risk Zones during severe weather thereby affecting people, property or local infrastructure.

The SWMP indicates that the site is not located within a CDA, rather HDA_03.

Surface Water Flooding

The EA surface water flooding maps indicate the site is at low risk of surface water flooding.

Measures to mitigate any residual risk of surface water flooding are proposed in the following section.



Extent of flooding from surface water

● High
 ● Medium
 ● Low
 Very low
 ⊕ Location you selected

Groundwater Flooding

The British Geological Survey (BGS) Geology Maps confirm that the site has a bedrock geology of London Clay Formation. On this basis, the risk of groundwater flooding is considered low.

4.0 Surface Water Management

The proposed development does not significantly increase the hardstanding/roof area as most of the proposed area of the development is already impermeable/concrete. Nevertheless, the proposal includes SuDS to be fitted.

SuDS Options & Maintenance

Based on the London Plan drainage hierarchy, and recognising the underlying ground conditions and constraints of the site, the following SuDS are proposed:

- Rainwater recycling (water butts)

Operation and maintenance schedules are provided (taken from Ciria C753 The SuDS Manual); these should be adopted by the property owner.

Water Butt

In order to provide a simple level of rainwater harvesting, a water butt will be installed. If used frequently, it may ensure that some additional storage is available during an extreme rainfall event. The water butt will also afford the opportunity to reduce the impact on potable water supply by enabling future occupants of the dwelling to reuse collected water, for example to water plants, rinse crops or wash the bins.

The water butt should be checked for litter monthly – leaves can become trapped in the water butt which could lead to blockage of the taps and overflow

Where appropriate, and if safe to do so, the water butt should be cleaned annually to prevent smells associated with stagnant water, and to remove any algae.

5.0 Conclusions

Flood Risk

The site is shown on the Environmental Agency Flood Maps to be located in Flood Zone 1 and is therefore considered to be at low risk of fluvial / tidal flooding.

Haringey Council's Surface Water Management Plan indicates that the site is not located within a Critical Drainage Area.

The Environmental Agency surface water flooding maps indicate that the site is at low risk of surface water flooding.

Based on the desktop study of underlying ground conditions, the risk of groundwater flooding is considered to be low.

Surface Water and SuDS

Based on the London Plan drainage hierarchy, and recognising the underlying ground conditions and constraints of the site, rainwater recycling (water butts) are proposed. Operation and maintenance should be adopted by the property owner.