Lead Local Flood Authority – London Borough of Camden
Statutory Consultee for all Major Developments (SuDS)
Statutory Consultee for all Major developments >1ha

Scheme Address	Athlone House, Hampstead Lane, London, N6 4RU
Planning Reference	2016/3587/P
Size of site (as stated on application form)	2.88 Ha
Date	15/07/2016
Recommendation:	Further information required.

Applicant Responses added 20.07.16

Description of Development:

Restoration and extension of Athlone House for use as a 6 bedroom single dwelling house; creation of new vehicular/pedestrian entrance from Hampstead Lane and associated part demolition of boundary wall; refurbishment and extension of Caen Cottage and refurbishment of the Gate House, both to be used as ancillary residential accommodation; erection of a summer house on disused tennis court within the grounds; and associated landscaping works and restoration of historic garden.

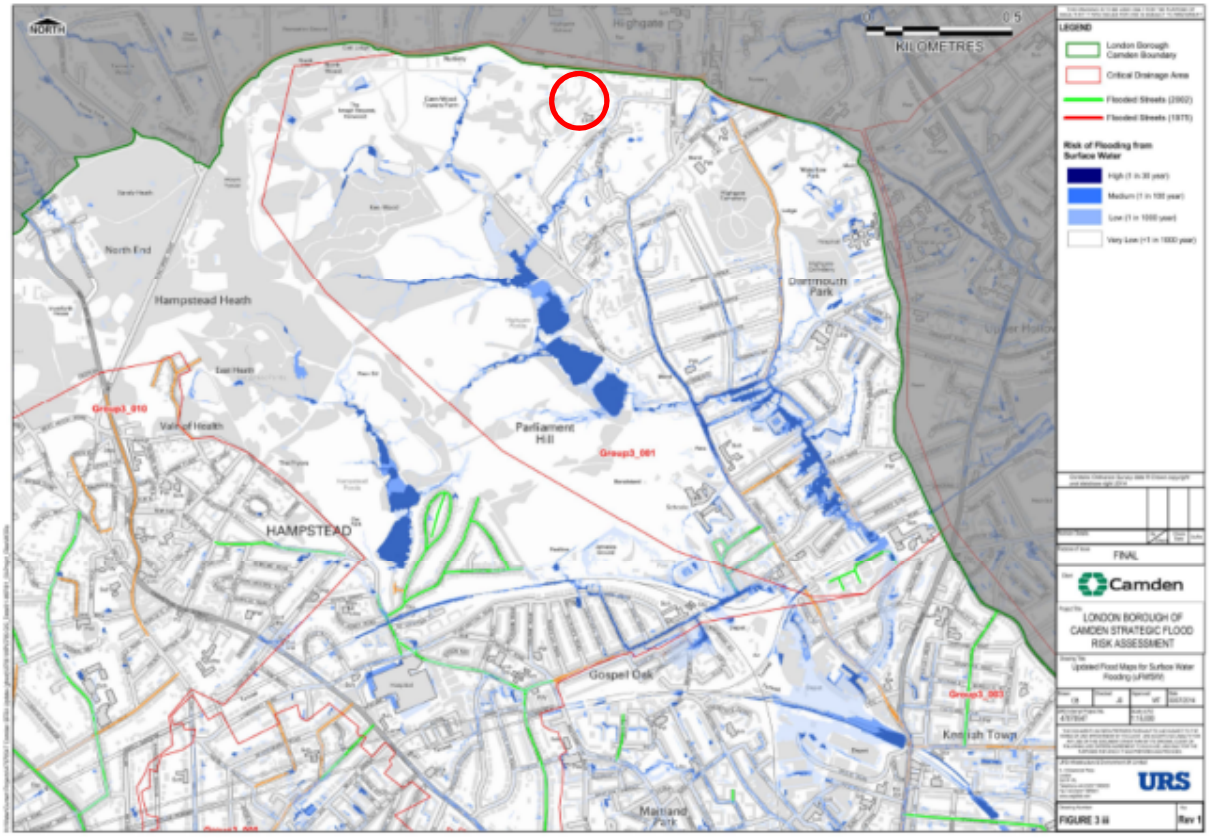
Policy Requirement:

- Submit an FRA if >1ha
- Major developments to achieve greenfield run-off rates wherever feasible and as a minimum 50% reduction in run off rates.
- NPPF requires all major developments to include SuDS unless demonstrated to be inappropriate (as set out in the Ministerial Statement by the Secretary of State on 18 December 2014).
- Development should follow the drainage hierarchy in policy 5.13 of the London Plan below:
    - store rainwater for later use
    - use infiltration techniques, such as porous surfaces in non-clay areas
    - attenuate rainwater in ponds or open water features for gradual release
    - attenuate rainwater by storing in tanks or sealed water features for gradual release
    - discharge rainwater direct to a watercourse
    - discharge rainwater to a surface water sewer/drain
    - discharge rainwater to the combined sewer
- Developments in areas known to be at risk of surface water flooding are designed to cope with being flooded.

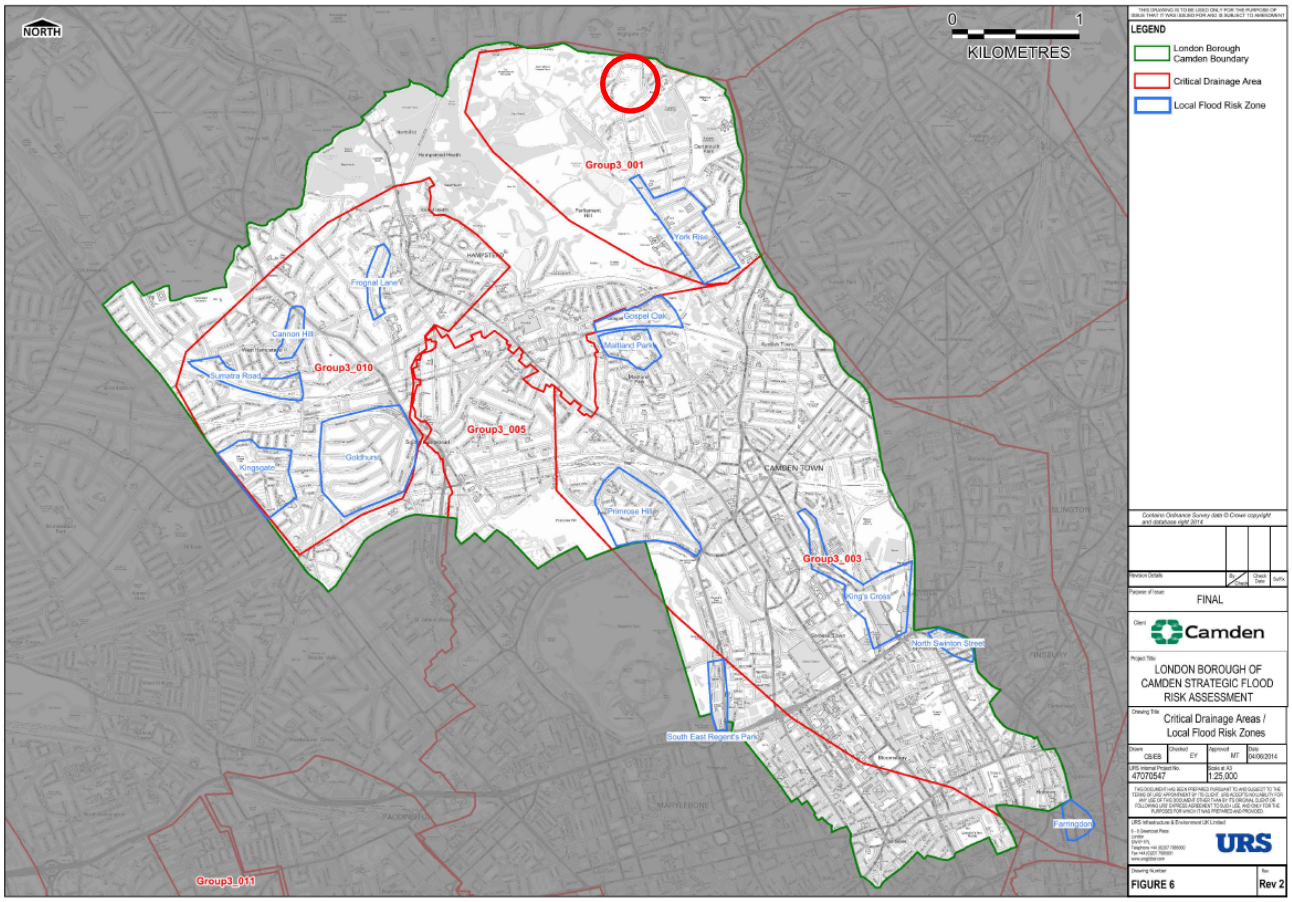
Best practice guidance recommended within the non-statutory technical standards:

- Constrain off volumes to greenfield run off volumes for the 1 in 100 year 6 hour event.

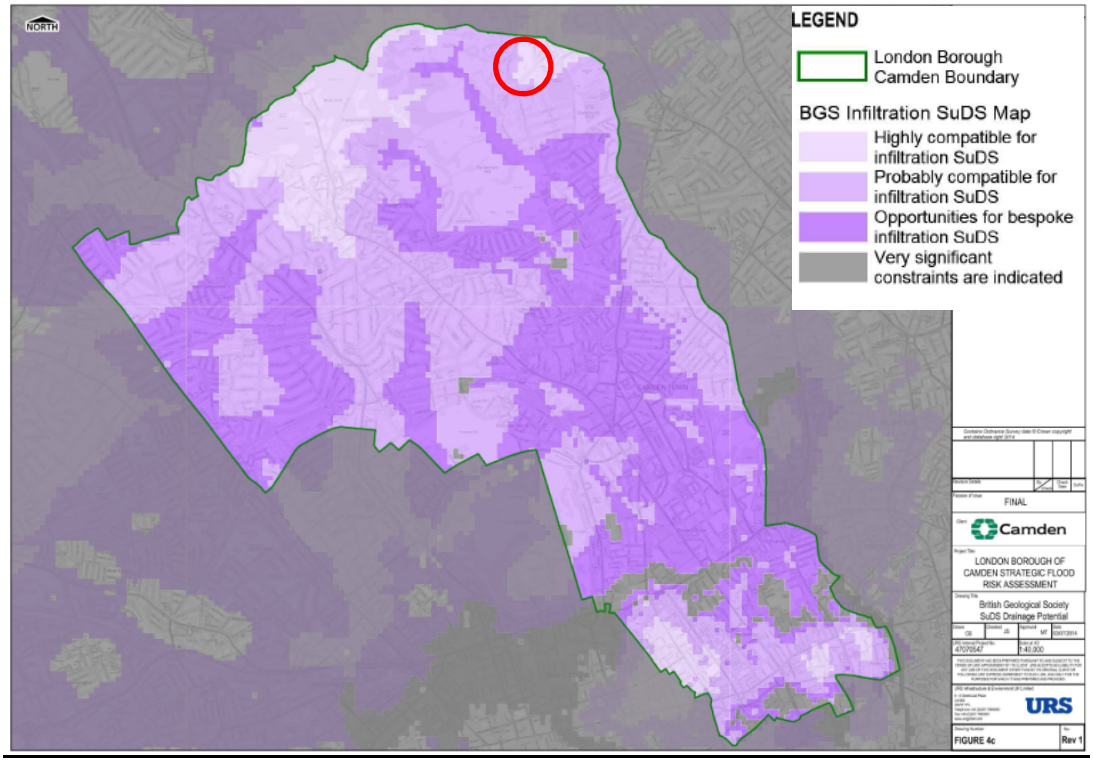
Location of development relative to surface water flood risk:



Location of development relative to Local Flood Risk Zone:



Location of development relative to infiltration compatibility:



Documents submitted (✓ = YES, × = NO):

- ✓ surface water drainage statement
- ✓ drawings showing details of SuDS extent and position
- X completed drainage proforma
- X SuDs maintenance (to be provided)

Proposed SuDS:

- Runoff from the main building drainage system to flow to ornamental lake/pond which has an existing overflow to the Western Hampstead Heath ditch system.
- Attenuation tank (247m3 - 17m x 10m x 1.2m) with Hydrobrake limiting discharge to 4.4 l/s.
- Permeable paving (tanked) - providing 3 levels of water quality management (retention of suspended solids, breakdown of pollutants, bio retention).
- Rain gardens
- Rainwater butts
- Swales to access road

Greenfield, Existing and Proposed Run off rates:

Greenfield:

- QBAR = 10.6 l/s
- 1/1 = 9 l/s
- 1/30 = 23.9 l/s
- 1/100 = 33.7 l/s

Proposed:

Applicant is proposing to discharge at greenfield (QBAR) rate i.e. 10.6 l/s

Proposed volume of water attenuated

199m3

NOTE: Peak storm (120 min winter storm for 1/100+CC storm event) has run-off volumes of 256m3 and discharge rate of 10.7 l/s – however this is a small difference). Also, the plans indicate a discharge rate of 4.4l/s.

Action for applicant: To clarify the discharge rate. The model shows a discharge rate of 10.7l/s, but the plan shows a discharge rate of 4.4l/s. Applicant is entitled to discharge at 10.6l/s however this needs clarifying as discharging at 4.4l/s would cause the tank to be undersized.

Applicant Response 20.07.16

We confirm the discharge rate of 4.4 l/s noted on the drawing is an error. The discharge rate should be 10.6 l/s as noted on item 7.4 of the FRA. The Microdrainage calculations attached show that a minimum storage of 198.5 cum is required to contain the 1 in 100 year storm +30% CC. The drainage strategy drawing shows a slightly increased volume of 204cum therefore providing sufficient capacity to accommodate the 10.6 l/s discharge rate.

A copy of amended drawing 1480-DR-50-P05 is attached.

We apologise for any confusion caused.

Policy compliance and Further information required

Submit an FRA if >1ha

Comment: FRA submitted. Risk deemed low.

Major developments to achieve greenfield run-off rates wherever feasible and as a minimum 50% reduction in run off rates.

Comment: Development is proposing to discharge at 10.6 l/s (greenfield).

Developments to include SuDS unless inappropriate
Development should follow the drainage hierarchy in policy 5.13 of the London Plan

Comment: Applicant is following the SuDS hierarchy. 3,800sqm is impermeable, with the remaining 25,000sqm greenfield. As surface water will be discharging into watercourse, water treatment has been considered – rain gardens and tanked permeable paving will remove suspended solids, heavy metals, nutrients, bacteria and dissolved pollutants. This along with the tanked storage will provide sufficient treatment to prevent water quality being a problem.

Microdrainage calculations have been provided for the attenuation tank only and not the whole network. The applicant should provide Microdrainage calculations for the whole network (this can be conditioned).

The applicant will need to demonstrate that it does currently discharge to the watercourse, by providing existing drainage plans.

Action for applicant: The applicant will need to demonstrate that it does currently discharge to the watercourse, by providing existing drainage plans.

Applicant Response 20.07.16

As discussed there are no formal records of the surface water drainage serving Athlone House, however, a visual survey inspection of the surface water drainage manholes serving the property was undertaken. A full CCTV survey is proposed to confirm all drainage details but due to the lack of access to the rear lawn area this was not possible during the agreed timeframe for return of the planning application.

The visual survey showed an outfall pipe crossing the formal lawn, running through two chambers before discharging into the ornamental pond. It is deducted from the current information that the property has an unrestricted discharge into the pond. The proposals aim to improve the current situation by providing attenuation storage capacity and flow control measures while ensuring the existing flow of water to the Heath is maintained.

There is not a formal outfall structure from the pond, however, inspection of the area immediately adjacent to the pond outside of the property boundary (Hampstead Heath) shows an unculverted earth channel outfall discharging from the pond, which it is believed acts as an outflow/overflow for the pond. The location of this photo is where the outfall is shown on the drainage strategy drawing. This outfall was observed running at the time of the photo after a period of rainfall. This outfall will also be surveyed rodded to establish its construction and assist future maintenance.

Photographs taken during the survey have been added to an additional copy of the drainage strategy plan as discussed.

Developments in areas known to be at risk of surface water flooding are designed to cope with being flooded.

Comment: Development is located in Flood Zone 1, therefore considered to be at low risk of flooding.

The SFRA shows that Hampstead Lane was affected by the 1975 floods, though these did not affect the site. The topography generally slopes away to the west and east.

There are no recorded incidents of sewer flooding in and around the site however the Flood Risk Assessment has recommended that the developer install anti backflow valve to provide protection to the basement of the development.

Groundwater flood risk is deemed to be low; however, the FRA does state that seepage is present and therefore the basement construction takes consideration of this.