WATER | ENVIRONMENT

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Our Ref: 20038

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Regeneration and Planning
London Borough of Camden
Town Hall
Judd Street
London
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Dear Daniel,

REQUEST TO DISMISS PLANNING CONDITION 22 RELATING TO SURFACE WATER DRAINAGE ON PLOT A FOR PLANNING APPLICATION NUMBER 2017/5497/P

I refer to the planning condition 22 of planning application 2017/5497/P relating to details of the surface water drainage for plot A, specifically:

> *22.*
> *Prior to commencement of development on each plot, other than works of demolition, site clearance and preparation, full details of the sustainable drainage system as stated in the approved document 'Flood Risk Assessment and SuDS Strategy' dated 31/08/2017, prepared by Water Environment Limited on behalf of GD Partnership Ltd, shall be submitted to and approved in writing by the local planning authority. Details shall include the following SuDS measures:*
>
> *a) Plot A: Combination biodiverse/blue roof: 13.9 m3 storage*
> *Cellular attenuation tank buried under cycle store: 34.2 m3 storage*
> *Controlled outflow to combined sewer: 19.8 l/s discharge rate*
> *Controlled outflow to Regent's Canal: 4.4 l/s discharge rate*
> *b) Plot B: Combination biodiverse/blue and blue roofs: 41.7 m3 storage*
> *Cellular attenuation tank buried under basement car park: 34.2 m3 storage*
> *Controlled outflow to combined sewer: 22.6 l/s discharge rate*
> *Controlled outflow to Regent's Canal: 13.1 l/s discharge rate*
> *c) Plot C: Combination biodiverse/blue and blue roofs: 55.0 m3 storage*
> *Cellular attenuation tanks buried under external paving: 150.0 m3 storage*
> *Controlled outflow to combined sewer: 83.8 l/s discharge rate*
> *Controlled outflow to Regent's Canal: 17.3 l/s discharge rate*
>
> *Such a system should be designed to accommodate all storms up to and including a 1:100 year storm with a 40% provision for climate change such that flooding does not occur in any part of a building or in any utility plant susceptible to water, and shall demonstrate a minimum 50% reduction in total run-off rate as stated in the approved document.*
>
> *Plot A 24.2 l/s discharge rate*
> *Plot B 35.7 l/s discharge rate*
> *Plot C 101.1 l/s discharge rate*
>
> *Details shall include for the relevant plot a site-specific lifetime maintenance plan, overland flow routes for exceedance events, an interim drainage strategy for the demolition and construction phase, and final discharge approvals, and shall thereafter be retained and maintained in accordance with the approved details.*
>
> *Reason: To reduce the rate of surface water run-off from the buildings and limit the impact on the storm-water drainage system in accordance with policies CC1, CC2 and CC3 of the Camden Local Plan.*

The drainage design presented in the enclosed information which follows is consistent with the strategy submitted within the Flood Risk Assessment and SuDS Strategy (FRA) dated 31/08/2017. Although there have been some changes to the detail, the core principles of the approved Sustainable Drainage Strategy, as well as the number of new outfalls and overall rates of discharge have all been retained. The total rate of discharge from Plot A for the 100 year storm with 40% provision for climate change is designed to be 23.0 L/s (less than the 24.2 L/s limit in the planning condition) and is split between a new outfall to Regent's Canal (21.0 L/s) and a new connection to the Thames Water (TW) combined sewer in St Pancras Way (2.0 L/s). The discharge to the canal has been approved in principle with the Canal and River Trust (C&RT). The discharge to Thames Water public sewer is agreed on principle that it provides a greater than 95% reduction in discharge rate from the pre-development conditions, which has been shown to be the case (2.0 L/s down from an estimated 48 L/s from the existing Plot A site).

The deviations from the strategy on Plot A, as presented in the FRA, are summarised in the following table:

	FRA strategy (Planning)	**Updated design (Post-planning)**	**Description of change/Impact**
Combination biodiverse/blue roof (Level 05 and 07):	13.9 m³ storage	71.6 m³ storage	A large increase in blue roof area and attenuation storage has been provided on levels 05 and 07, resulting in a significantly increased share of surface water runoff being able to discharge by gravity to the canal.
Cellular attenuation tank buried under cycle store:	34.2 m³ storage	4.0 m³ storage (podium blue roof at Level 00 at south of building) + 4.5 m³ storage (below ground concrete attenuation tank at south west corner under footway)	The reduction in storage below ground level is due to the significantly reduced catchment area being served by the Thames Water sewer as a result of the increased blue roof provision at roof level.
Controlled outflow to combined sewer:	19.8 L/s discharge rate	2.0 L/s discharge rate	Large reduction in discharge rate to the combined sewer due to diversion to canal, resulting in reduced pressure on the public sewer network.
Controlled outflow to Regent's Canal:	4.4 L/s discharge rate	21.0 L/s discharge rate	Large increase in discharge rate to the canal, diverting runoff from the combined sewer, reducing the risk of flooding elsewhere. Combined Plot A discharge rate reduced slightly.

The deviations presented above all contribute to an improvement over the drainage strategy submitted in the FRA by reducing the overall discharge rate and significantly reducing the discharge to the TW sewer, whilst avoiding any necessity for a pumped surface water system.

The surface-water drainage network has been designed to ensure a robust and maintainable system which will last for the lifetime of the development, assumed to be 100 years. The drainage network will remain in private ownership, and will be maintained by an appointed maintenance company on behalf of the developer.

Please find attached the following information:

1. Drawing 20038-0201-RevC – Proposed Surface-Water Drainage. This provides the detailed layout of the surface-water drainage network for the whole site including chamber locations and sizes. The network incorporates the following key elements which are indicated on the drawing.
2. Drawing 20038-0601-RevC – Surface Water Drainage Details. This provides various details of the drainage system shown in the plan drawing.
3. Drawing 20038-0301 and 20038-0302. These provides long sections through the surface water drainage system to the Thames Water sewer.
4. A site-specific lifetime maintenance plan is required to maintain the various parts of the drainage system. For the blue roofs, this will be specific to the supplier and therefore should be provided once the supplier has been confirmed. The project is currently out to tender. Similarly for the channel drains, the maintenance plan should be based on the chosen manufacturer's guidance. The drainage system, flow controls and blue roofs will be maintained in perpetuity, in accordance with manufacturer's recommendations, by a maintenance company who will be appointed by the site owner in due course.
5. During exceedance events greater than the 100-year storm including 40% allowance for climate change, overland flow routes will follow the slope in the landscaping which falls away from the canal towards St Pancras Way. The majority of Plot A is occupied by the building footprint, and any rainfall on the roof exceeding the design storm event will bypass the blue roof flow restrictors via the overflows, surcharging the building pipe network and spilling out the monodrain along the canal into the canal.
6. Microdrainage outputs for the 100-year storm with 40% provision for climate change.

I hope that the attached information is sufficient for you to discharge Planning Condition 22 for Plot A, at least to allow construction activities on site to begin.

Please feel free to call if you have any queries.

Yours sincerely,

Gabriel Eve
MEng (Civil and Environmental)
Engineer