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Our Ref: GBC/2022/092710
Date: 30 November 2022

Application No: 20221179

Location: Land At, St Columbas Close, Gravesend, Kent

Proposal: Demolition of Nos. 1-12 St Patricks Gardens. Nos. 36-41 St Patricks Gardens and Nos. 28-42 even nos. only St Columbas Close, and the caretakers facility. Erection of 2no. 2 storey buildings, 1no. 3 storeys building and 1no. part 3 and part 4 storey building; to provide 46 residential dwellings (Class C3) residential use, with associated vehicle and pedestrian access, amenity space with hard and soft landscaping, car and cycle parking, refuse and recycling storage provision, and other associated works.

Thank you for your consultation on the above referenced planning application.

Kent County Council as Lead Local Flood Authority have reviewed the Flood Risk Assessment prepared by Ridge and Partners LLP dated 13th October 2022 and the Below Ground Drainage Strategy prepared by Ridge and Partners LLP dated 17th October 2022 and have the following comments:

1. It is understood from the report that the surface water will be managed using infiltration via two soakaways.

We note that the western soakaway fails to meet the 24 hour half drain time requirement. This is acceptable for the 100 year return event and as per the Ciria Susdrain guidance for larger return periods, the system has enough capacity after 24 hours to accommodate a 1 in 10 year return period event. However, for the lower return periods we would ask for network alterations (such as additional attenuation or soakaways) to be undertaken in order to meet the requirement if necessary.

2. The accompanying Phase 1 Preliminary Risk Assessment and Phase 2 Geo-Environmental and Geotechnical site investigation Report dated August 2022 prepared by RPS Consulting Services Ltd also highlights that the chalk stratum is highly variable and that any soakaways should be sited at least 5 to 10m from any structures. As part of the detailed design stage, we would seek for additional ground investigations to be undertaken that would include both infiltration testing (adhering to BRE:365 guidance) and further analysis within the areas proposed for infiltration. It is also advised that a geotechnical specialist confirms the required separation distance between the infiltrating feature and any

foundations. We would also recommend groundwater monitoring, as mentioned in section 5.5 of the Below Ground Drainage Strategy, is undertaken to support any use of soakaways. Monitoring for groundwater should be undertaken during the winter months, when groundwater is likely to be at its highest. This is to ensure an adequate separation distance between the base of the soakaway and any groundwater can be maintained.

3. Further to this, the site is located in a groundwater Source Protection Zone 2. Consultation with the Environment Agency early in the planning process is recommended to identify any constraints or specific requirements in this area that may impact the proposed SuDs methods.
4. We note that not all the buildings within the red line boundary are proposed to be connected to the new drainage system. Therefore, it is anticipated that the existing drainage regime will continue for those perspective areas. Whilst we would expect a continuation of the existing drainage regime, a CCTV survey should ideally be undertaken to confirm how these areas drain and whether any alterations are needed to reduce any potential flood risks.
5. We note that the Microdrainage calculations in the report use rainfall model FSR data rather than FEH data. As part of the detailed design stage, we would expect to see the drainage system modelled using 2013 FeH rainfall data in any appropriate modelling or simulation software. Where 2013 FeH data is not available, 26.25mm should be manually input for the M5-60 value, as per the requirements of our latest drainage and planning policy statement (June 2019).
6. As part of the hydraulic analysis we would also seek for the latest Environment Agency climate change analysis to be used (10th May 2022). As part of this update, revisions have been made to the 'Peak Rainfall Intensity Allowances' that are used in applying climate change percentages to new drainage schemes. The LLFA would now seek the 'upper end' allowance is designed for both the 30 (3.3%) and 100 (1%) year storm scenarios. The latest information on the allowances and map can be found at the following link:
<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Should the Local Planning Authority be minded to grant planning permission for this development, the LLFA would advise the following conditions are attached:

Condition:

Development shall not begin in any phase until a detailed sustainable surface water drainage scheme for the site has been submitted to (and approved in writing by) the local planning authority. The detailed drainage scheme shall be based upon the Below Ground Drainage Strategy prepared by Ridge and Partners LLP dated 17th October 2022 and shall demonstrate that the surface water generated by this development (for all rainfall durations and intensities up to and including the climate change adjusted critical 100 year storm) can be accommodated and disposed of within the curtilage of the site without increase to flood risk on or off-site.

The drainage scheme shall also demonstrate (with reference to published guidance):

- that silt and pollutants resulting from the site use can be adequately managed to ensure there is no pollution risk to receiving waters.
- appropriate operational, maintenance and access requirements for each drainage feature or SuDS component are adequately considered, including any proposed arrangements for future adoption by any public body or statutory undertaker.

The drainage scheme shall be implemented in accordance with the approved details.

Reason:

To ensure the development is served by satisfactory arrangements for the disposal of surface water and to ensure that the development does not exacerbate the risk of on/off site flooding. These details and accompanying calculations are required prior to the commencement of the development as they form an intrinsic part of the proposal, the approval of which cannot be disaggregated from the carrying out of the rest of the development.

Condition:

No building on any phase (or within an agreed implementation schedule) of the development hereby permitted shall be occupied until a Verification Report, pertaining to the surface water drainage system and prepared by a suitably competent person, has been submitted to and approved by the Local Planning Authority. The Report shall demonstrate that the drainage system constructed is consistent with that which was approved. The Report shall contain information and evidence (including photographs) of details and locations of inlets, outlets and control structures; landscape plans; full as built drawings; information pertinent to the installation of those items identified on the critical drainage assets drawing; and, the submission of an operation and maintenance manual for the sustainable drainage scheme as constructed.

Reason:

To ensure that flood risks from development to the future users of the land and neighbouring land are minimised, together with those risks to controlled waters, property and ecological systems, and to ensure that the development as constructed is compliant with and subsequently maintained pursuant to the requirements of paragraph 165 of the National Planning Policy Framework.

Condition:

Where infiltration is to be used to manage the surface water from the development hereby permitted, it will only be allowed within those parts of the site where information is submitted to demonstrate to the Local Planning Authority's satisfaction that there is no

resultant unacceptable risk to controlled waters and/or ground stability. The development shall only then be carried out in accordance with the approved details.

Reason:

To protect vulnerable groundwater resources and ensure compliance with the National Planning Policy Framework.

This response has been provided using the best knowledge and information submitted as part of the planning application at the time of responding and is reliant on the accuracy of that information.

Yours faithfully,

Emily Neale

Graduate Flood Risk Officer
Flood and Water Management