We require more information and improved proposals before recommending approval of the variation of condition application for the following reasons:

Reference	
1	Details of the green roofs and their minimum 150mm substrate for storage have not been provided.
2	The area of the green roofs has been reduced since the full application.
3	Further details have not been provided on the proposed water use of the rainwater harvesting tank.
4	The applicant should undertake further testing to confirm that the increased levels of the basement will not impact upon groundwater flows.
5	The tank volume in the calculations is 627m3 and not 612m3 as stated in the report. No calculations have been submitted for the 1 in 30 year event.
6	Maintenance tasks and frequencies have not been be provided for the pump station, as well as consideration for the risks should the pump fail.
7	A waterproofing strategy has not been provided for the basement.
8	A Flood Risk Emergency Plan has not been provided.
9	A detailed Ground Investigation Report has not been provided to confirm the ground and groundwater conditions.
10	The applicant has not shown that published modelled flood extent plus 300 mm freeboard will not overtop potential ingress points at the proposed ground/basement levels.

11 Flood mitigation and resilience plans have not been provided together with detailed pump arrangements to account for the risk of flooding at the lower level.

12 The applicant has not provided further analysis and detail into the consideration of the basement being within a LFRZ considering the extent of predicted flooding at this location.

13 There is potential for water ingress at the loading bay on Wicklow Street and at the residential reception, therefore mitigation options such as flood gates should be considered

To address the above, please can the applicant submit information which:

Provides details of the green roofs and their minimum 150mm substrate for storage. – TO BE CONDITIONED (this was not in the docs sent recently)

It should be confirmed why the area of green roof has been reduced.

Provides detail on the proposed water use of the rainwater harvesting tank. – TO BE CONDITIONED

Demonstrates that the increased levels of the basement will not impact upon groundwater flows.
It should be clarified why the proposed tank volumes between the report and calculations do not align. Calculations should be provided to demonstrate that there will be no flooding in the 1 in 30 year event.

Provides maintenance tasks and frequencies for the pumping station, with a contingency plan should the pump fail.

Provides a waterproofing strategy for the basement, including detailed drawings showing the proposed mitigation. – TO BE CONDITIONED

Provides a Flood Risk Emergency Plan. – TO BE CONDITIONED

Provides a detailed Ground Investigation Report to confirm the ground and groundwater conditions. – TO BE CONDITIONED

Shows that published modelled flood extent plus 300 mm freeboard will not overtop potential ingress points at the proposed ground/basement levels.

Demonstrates appropriate flood mitigation and resilience plans, together with detailed pump arrangements to account for the risk of flooding at the lower basement level. – TO BE CONDITIONED

Demonstrates further analysis and detail into the consideration of the basement being within a LFRZ considering the extent of predicted flooding at this location.
Shows where flood gates may be incorporated into the design at the loading bay on Wicklow Street and at the residential reception. – TO BE CONDITIONED

Response

The green roofs will typically intercept the first 5mm and more of rainfall providing interception storage however this will not provide the primary surface water attenuation for the development. It is used to to enhance the wider sustainability benefits for the site.
The consented scheme had c.943m² of green roof denoted (under condition 41). This is clarified (in the c.73 submission) as a split between c.838m^2 of intensive green roof with substrate of 150mm depth and c.105m^2 of extensive green roof to the roof of the retained building (due to load capacity of existing roof structure). This is a total of c.943m^2 of green roof and no change from the existing consented scheme
In accordance with the London Plan 2021, Policy SI 13 - Sustainable drainage - the use of rainwater harvesting systems are the highest priority on the drainage hierarchy - 1) rainwater use as a resource (for example rainwater harvesting, blue roofs for irrigation)
The proposed basement will be formed within a piled wall which will control the upper groundwater inflow. The increase in depth will not provide a greater impact that the current scheme as the existing basement extends into the London Clay and hence no further flow impediment is created. Additionally, the site ground investigation will include groundwater level monitoring during the investigation works and in the following 12months to confirm both shallower and deeper groundwater profiles.

Please see attachments - results updated to show volume of 612m3 which corresponds to those stated in the report
This shall be developed during detailed design. Pump stations will have dual pumps, duty & standby, to provide back up in the event of failure of a pump, alongside telemetry to ensure if failure occurs those are notified.

waterproofing strategy is as follows:
Raft Slab There are two layers of waterproofing to the new raft slab:
-Providing an external waterproofing membrane below the basement slab.
-Providing a waterproofing admixture within the concrete mix used for the basement raft and slab. This is often incorporated as a 250-300mm layer of concrete cast monolithically with the raft or basement slab.
In both cases injectable hydrophilic water stops will be provided at all construction joints in the basement slab and at the junction with the piled wall.
Perimeter wall The waterproofing system will consist of:
-A secant piled wall
-A waterproof membrane on gunite (a sprayed concrete).
-A reinforced concrete lining wall is provided with a waterproofing admixture such as Xypex or Adprufe. This wall is designed for the hydrostatic water pressure which may occur should a water main develop a leak or become damaged.
A Flood Risk Emergency Plan / Flood Warning & Evacuation Plan (FWEP) will be provided for the development in due course which is to be included as part of the O&M Manual for the development on handover

A detailed Ground Investigation report (GIR) will be prepared once the full Site Investigation works are undertaken on site. This will be issued to all relevant parties.

Exceedance flow paths are provided in the FRA in Appendix G showing pavements surrounding the building fall towards the road along where entrances are proposed.

Please refer to the response to item 6 above regarding minimising risk relating to the pump stations. Also refer to the exceedance flow paths showing flows away from the building.

The site is located in Flood Zone 1 and the LFRZ extent of predicted flooding is in our opinion due to the adjacent underground train lines.
Again as stated for item 10 exceedance flow paths are provided in the FRA in Appendix G showing pavements surrounding the building fall towards the road along where entrances are proposed.