

Planning Department,
South Dublin County Council,
County Hall,
Town Centre,
Tallaght,
Dublin 24.

26th October 2022

Re: Response to Additional Information Request for Planning Application Reg. Ref. SD22A/0290

Applicant: Rockface Development Ltd.

Dear Sir/Madam,

Please find enclosed our engineering related response documents in relation to your Additional Information Request reg. ref. SD22A/0290 dated 22nd August 2022 to proposed development at Kingswood Road, Citywest Business Campus, Dublin 24. Our enclosed documents form part of an overall planning compliance submission by Planning Consultant Thornton O'Connor.

The items raised in the additional information request are addressed as follows:

Item 1:

SUDS - The applicant has not proposed any SuDS (Sustainable Drainage Systems) features for the proposed development. The applicant proposes to use attenuation tanks (underground surface water attenuation) in order to manage surface water drainage throughout the site, this is not acceptable to the Public Realm Section and is contrary to relevant policies under Section 8.4.0 Sustainable Urban Drainage Systems of the CDP 2016-22 in particular G5 Objective 1 and G5 Objective 2. The applicant is required to submit a drawing in plan and cross-sectional views clearly showing proposed Sustainable Drainage Systems (SuDS) features for the development.

- a. A drawing to show how surface water shall be attenuated to greenfield run off rates. It is unclear how much attenuation in total is provided for the development. Submit a report and drawing showing how much surface water attenuation in m3 is provided for the development. Also submit a drawing showing where the surface water attenuation will be provided for the development.***
- b. The applicant shall show natural SUDS features for the development such as Green roofs, swales, tree pits, permeable paving, and other such SuDS and show what attenuation capacity is provided by such SuDS.***
- c. The applicant is requested to submit a comprehensive SUDS Management Plan to demonstrate that the proposed SUDS features have reduced the rate of run off into the existing surface water drainage network. A maintenance plan should also be included as a demonstration of how the system will function following implementation.***
- d. Demonstrate how the proposed natural SUDS features will be incorporated and work within the drainage design for the proposed development.***

- e. Tree pits incorporating SUDS features should include a deep cellular water storage/attenuation area below the surface which acts as a soak away allowing surface water to infiltrate into the ground.*
- f. The applicant is requested to refer to the recently published 'SDCC Sustainable Drainage Explanatory, Design and Evaluation Guide 2022' for acceptable SUDS tree pit details.*
- g. The applicant should try where possible to reduce the need for the proposed Stormtech attenuation system. The applicant should note that the planning authority does not look favourably on the inclusion of such measures, with a clear preference for natural SuDS measures. Where additional SuDS can be provided the size of proposed Stormtech attenuation system shall be reduced in equivalent m3 capacity accordingly*

Response:

In order to comply to County Development Plan, following SuDS elements have been incorporated to current development proposal:

- Permeable surfacing (to the access road to the carparking);
- Grasscrete surfacing (to the car parking bays and to the fire tender route);-
- Green walls (to each side of proposed building);
- Tree Pits (at the car parking area for source control as per landscaping details);
- Swales (at the car parking area for source control);
- Pond/basin;
- Trapped Road Gullies (as a first defence for silts and debris within surface runoff);
- Restricted discharge (to the outlets of all attenuation systems for quantity/regional control);-
- Silt trap and petrol interceptor (to the inlets of all attenuation systems for pollution prevention).
- Underground attenuation system (minimised for the specific site in question),

Due to the industrial nature of the proposed development, the yard surfacing for HGV access and marshalling must be concrete. An area of pervious surfacing is provided to the car park area where traffic loads are relatively light, grasscrete surfacing is also proposed for carparking bays and fire tender access area. These measures reduce the site hardstanding area to what we believe to be the maximum possible extent, considering the warehouse facility operational requirements and overall project viability.

Plans, sections and other details of proposed SuDS devices and surface water arrangement on site are shown on the enclosed drawings ref D1736 – D3 - Drainage & Watermain Layout PL2 and D1736 – D4 – SuDS and Drainage Details PL2.

- a. Drawing ref D1736 – D3 – Drainage and Watermain Layout contains the information on provided SuDS elements, attenuation storages and their volumes, greenfield runoff rates etc.
- b. Surface Water attenuation including climate change factors, infiltration of the first 5mm of every rainfall event, surface water quantity control through restricted discharge from site and surface water quality control by incorporating trapped gullies, proprietary silt traps, petrol interceptors and a surface water attenuation system that incorporates an "isolator row" which is essentially another form of debris & silt filtration prior to restricted discharge to the nearby stream.

Other Suds devices provided within this revised development include:

- extensive permeable surfacing to the carparking areas promoting infiltration of surface water (permeable surfacing not used to HGV yards as possible hydrocarbon pollutants could exist which should not be allowed infiltrate to the soil below).

- Rainwater harvesting will now be installed within each warehousing unit to provide grey water for use in WC's and possible wash down areas.
 - Green Walls have been introduced to the elevations as requested by the Local Authority. These elements of green walls are positioned to face all sides of the proposed building.
 - Tree pits have been introduced to the carparking areas to promote the infiltration and natural reuse of surface water runoff in these areas.
 - Green walls have been introduced as noted above. While warehousing units have extensive roof areas, the use of green roof material on composite insulated cladding panels is not a suitable pairing. Also the aesthetic benefit of these green roofs cannot be realised where a parapet forms part of the building design. Parapets enhance the appearance of large industrial units by providing clean sleek lines to the full building height eliminating the risk of under design where vast areas of roof are visible to the observer.
- c. Developments provided for warehousing/distribution facilities require robust industrial structures coupled with hard wearing durable large yard areas. Consideration was given to SuDS devices which incorporate infiltration at source however we have opted for a solution that ensures managed filtration from HGV yards prior to any infiltration to ground or discharge from site. In such an industrial environment, items such as swales & infiltration trenches were deemed unsuitable due to possible pollution risks to the groundwater from constant HGV activity. Permeable and grasscrete surfacing are proposed to the areas with a light traffic load such as carparking bays, fire tender routes while swales will trap any excess of runoff from these areas.
- Run-off from the hardstanding areas will be collected by trapped road gullies and rainwater goods throughout the development and directed to on-site surface water attenuation facilities. These facilities will attenuate the 1 in 30-year storm event plus allow sufficient additional volume to attenuate the 1 in 100-year 6-hour event.
- The restricted discharge from site will be limited by proprietary flow control devices. The flowrate through these devices will be set to the specific limit calculated as per SuDS guidance demonstrated in our originally submitted Drainage Design Report.
- d. The treatment train approach was applied to both the storm water network and the attenuation design to ensure that both runoff quality and quantity are appropriately addressed. An array of techniques was used to fulfil requirements of each element of the treatment train:
- Pollution prevention
 - Source control
 - Site control
 - Regional control

Please refer to enclosed Drainage Design Report for more detailed information.

The proposed surface water management solution for the subject site provides both runoff Quality and Quantity Control. Quality control is provided by ensuring all surface water runoff is dealt with on site as described earlier in this document with reference to the specified underground attenuation systems with in-built "isolator row", proprietary silt traps & petrol interceptors. Quantity control is also provided through the surface water underground attenuation system and pond/basin coupled with the downstream flow control device.

This assessment involved consideration of construction levels for cut and fill plus associated levels for the open pond/basin. Due to several factors in design such as shallow levels of attenuation pond and vast areas of same governed by outfall levels and economic site cut/fill levels, the inclusion of a degree of underground attenuation was unavoidable incorporating water quality and quantity control measures.

- e. Tree pits proposed throughout the development will have cellular water storage below the surface, detail shown on the enclosed drawing ref D1736 – D4 – SuDS & Drainage Details.
- f. SDCC Sustainable Drainage Explanatory Design and Evaluation Guide 2022 has been used as a guidance document and incorporated SuDS devices were proposed to include the details as shown in the document.
- g. Proposed site is divided into sub-catchments and provided are 2 no attenuation facilities on site, both designed to collect surface water runoff from dedicated sub-catchments.

Practical depths of ponds / basins being relatively shallow, leads to large surface areas to provide the required attenuation volume. For this reason, coupled with the nature of warehousing facilities demanding large open space buildings and large yards to be viable, a 3/4 of the roof has been selected to provide a pond / basin as demonstrated in the drainage design report and drainage layout. The full roof runoff could not be accommodated through the pond due to industry demands for yards space nor could direct runoff from the yard be allowed to pass through the basin to avoid infiltration of an area with a hydrocarbon pollution risk. For the above reasons, the proposed facility is provided with a dual attenuation system working in tandem, i.e.:

- a) the pond / basin for a 3/4 of the clean roof runoff and,
- b) "StormTech" underground system with integrated isolation row filter, silt trap & petrol interceptor for predominantly the external yard where HGV's access and dock to the building.

Operation potential of the yard area as currently proposed has been compromised, however we have strived to balance SuDS devices with operational efficiency industry demands.

Regarding water quality control measures, the underground tanks can be cleaned out by suction hose/tanker if required from a series of standard maintenance inspections. In the case of the isolator row, the chamber is backwashed with a proprietary power jet wash and its water removed by suction hose/tanker. Maintenance plan for the pond / basin will be implemented to ensure proper functioning, i.e., periodic visual inspections for the basin to ensure it is free from litter and debris, inlet and outlet structural integrity check, removal of sediment accumulation, and re-establish of permanent vegetation on eroded areas also.

Water quantity control is provided downstream of the attenuation facility and pond/basin by providing the flow control device set up to limit flow to corresponding sub-catchment Q_{BAR} (sum of sub-catchments discharge rates not exceeding Greenfield runoff rate). The proposed vortex style flow control device discharge rate will be installed on the outfall of the last surface water manhole prior exiting site, shown on the accompanying Drainage and Watermain Layout drg. ref. D1736 – D3. The discharge from site, i.e. the restricted flow will discharge to an existing open channel at Kingswood Avenue to the site's western corner and ultimately to the Camac River, approximately 1km downstream.

Item 2:

The following items are required to allow for a full assessment of the development in relation to roads and access:

- **A revised layout of the proposed vehicle access locations, showing the layouts for right turning into the development.**
- **A revised layout clearly specifying the sq.m of the HGV parking to be provided**
- **From the submission it is not clear if any areas are to be taken in charge by the local authority. A drawing is required clearly showing any areas to be taken in charge by the local authority.**
- **A drawing showing AutoTRAK manoeuvres for large vehicles accessing and egressing, including articulated lorries, emergency vehicles, bin lorries.**

- ***A drawing identifying the location of refuse collection points.***
- ***A revised layout not less than 1:100 scale showing upgraded footpaths and cycle ways on Kingswood Way and Kingswood Road, including pedestrian crossings at car and HGV entrances. Footpaths should be a minimum of 2m in width. This may require alterations to the red line boundary and additional consent from the local authority in relation to works outside the ownership boundary of the applicant.***

Response:

- Please refer to drawing ref D1736 - D2-2 - Swept Paths rev.PL2 for swept path analysis demonstration on right turning into the development and manoeuvres on site for HGV's, pumping appliance trucks and bin lorries.
- Refuse collection point is located at southern building corner in the concrete yard and it has been marked at accompanying drawing ref D1736 - D2 – Site plan rev.PL2.
- Please note, there is no HGV parking provided on site, trucks entering the development will unload the goods in the docking area and exit the site. If HGV parking is necessary, the docking bays will be used for this purpose.
- No area within the line of the extend of planning application will be taken in charge by the Local Authority, development is privately owned.
- Please refer to drawing ref D1736 - D2 – Site Plan rev.PL2 for upgraded 2.0m wide footpaths on Kingswood Road and Kingswood Avenue and to drg ref D1736 – D2-1 – Pedestrian Crossing Details rev.PL2 for enlarged and detailed views of proposed crossings on site.

Item 7:

The applicant is requested to amend the north-east elevation to provide additional warehouse wall screening, to soften the impact of the warehouse at this location.

Response:

Please refer to drawings ref D1736 – GA-A06 – Elevations rev.PL2 and D1736 - GA-A07 - Contiguous Elevations rev.PL2 for location and details of additional green wall screening proposed throughout building elevations for the review of the Local Authority. While the green wall elements are provided to assist achieving required minimum Green Space Factor Score for subject site, we believe the introduction of additional green wall to the front (north-east) elevation will provide additional warehouse wall screening softening the appearance of the warehouse as requested.

Enclosed drawings and documents with this letter are as follows:

D1736	D1	Site Location Map	PL2
D1736	D2	Site Plan	PL2
D1736	D2-1	Pedestrian Crossing Details	PL2
D1736	D2-2	Swept Paths	PL2
D1736	D3	Drainage & Watermain Layout	PL2
D1736	D4	SuDS & Drainage Details	PL2

D1736	GA-A01	Ground Floor Plan	PL2
D1736	GA-A02	First Floor Plan	PL2
D1736	GA-A03	Second Floor Plan	PL2
D1736	GA-A04	Ancillary Offices & Staff Facilities Block	PL2
D1736	GA-A05	Section	PL2
D1736	GA-A06	Elevations	PL2
D1736	GA-A07	Contiguous Elevations	PL2
D1736	-	Drainage Design Report	PL2

I trust the above is in order and look forward to your future correspondence.

Yours sincerely,



Elena Dragoje

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