

**Additional note updating JNM Engineering Flood Risk
Assessment ref. SUDS**

June 2019

From: James Mewis <james.mewis@jnmengineering.co.uk>
Sent: 07 June 2019 11:00
To: Mail
Cc: alex@howardsharpendpartners.com; info@jnmengineering.co.uk
Subject: Lucas Lane
Attachments: concept drainage REV A.pdf

Dear Robert

JNM Engineering were commissioned by White Ridge Architects to complete a concept drainage design on their outline planning application (our drawing is attached) at Lucas Lane. The principle of the design was to determine a feasible drainage design which incorporated SuDS principles. As part of the design SuDS hierarchy of surface water discharge was followed, resulting in discharge to a nearby water course as soakaways proved not to be a variable solution.

A controlled discharge of 5 l/s is proposed from the site to minimise downstream flooding of the receiving ditch course. The discharge rate was calculated from a greenfield runoff rate of 5 l/s/ha from the proposed impervious area of highways, drives and dwellings.

The proposed attenuation feature has been designed not to flood in the worst case 1 in 100 year storm event + 35% for climate change giving a 50 year design life appropriate for the area when related to the Wallingford Procedure maps. It should be noted that as the proposed layout produced by White Ridge Architects is concept only and no detailed design of the attenuation feature has been prepared by them or us. The size of an attenuation feature is determined by the rainfall event, normally 1 in 100 year + 35% for this area, the area of impervious surfacing draining to the feature and the controlled discharge proposed to the outfall. As the proposed layout is concept only a detailed design of the pond is not appropriate as the final detailed site proposals would differ greatly to the concept layout. However, assuming the concept layout is correct and the impervious areas draining to the pond are also correct, the size of the proposed pond is approximately drawn to scale on the attached plan. The batter slopes of the pond are to be a maximum of 1 in 3 with all surfaces to be grass. A maintenance contract would be set up to maintain a depth of the grass between 50mm and 200mm length within the pond to protect against erosion and debris build up. RoSPA compliance does not relate to attenuation feature within a housing development. This guidance is for private gardens and would not transfer to public areas as risk to public safety would be increased if this guidance was followed for such a large attenuation feature. CIRIA RP992 is the appropriate health and safety document for SuDS features. This document contains a risk assessment should the health and safety executive deem it necessary. The size of the proposed feature would however provide little risk as it is overlooked, shallow and with batter slopes relatively assessable.

Site topography is only to be raised by 750mm within Lucas Lane. This is to ensure the pipe exiting the attenuation feature has a minimum cover of 900mm to the soffit of the proposed pipe to achieve outfall to the ditch. This is a highway requirement and is not related to the drainage design.

At detailed design of the site the pond can be any shape or topography as long as it achieves the required volume to suit the appropriate design criteria. However if you require more public open space the concept layout design would need to be altered to accommodate this.

I hope this answers your queries.

Kind regards,

James Mewis

Director

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