

NEW ISLINGTON FREE SCHOOL
ANCOATS
MANCHESTER

STATEMENT ON DRAINAGE AND FLOOD RISK ISSUES
FOR
ISG PLC

Report Title:	Statement on Drainage and Flood Risk Issues for the New Islington Free School at Ancoats, Manchester.
Report Reference:	5796/DS/01
Client:	ISG PLC
Issue Date:	17 th December 2013
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STATEMENT ON DRAINAGE AND FLOOD RISK ISSUES

1.0 Introduction

- 1.1 WML Consulting have been commissioned by ISG PLC to produce a statement on drainage and flood risk issues for the proposed New Islington Free School, Ancoats, Manchester to accompany the forthcoming planning application.
- 1.2 This report has been produced for the private and confidential use of the client and their professional advisers, in accordance with the agreed brief. The report must not be reproduced in whole or in part or relied upon for use by any other parties for any purposes without the express written authority of WML Consulting. In particular, this report must not be used for purchase or investment purposes.
- 1.3 The proposed school is to be located on a "brownfield" site having an area of around 7,700 sq m (0.77 ha) and located off Old Mill Street, Ancoats. The site is bounded to the west by the Rochdale Canal, to the north by the Ashton Canal, to the east by an area of public open / amenity space and to the south by the Central Retail Park.
- 1.4 In its existing form the site is relatively level at around 50.00m AOD.

2.0 Flood Risk

- 2.1 A review of the Environment Agency's (EA) river and coastal flood mapping confirms that the development site lies within an area designated as Flood Risk Zone 1. Therefore it is considered to have a low probability as it infers an annual exceedance probability (AEP) of not greater than 0.1% (1 in 1000 year) flood risk.
- 2.2 From Table 2 of the NPPF Technical Guidance, the proposed development's Flood Risk Vulnerability classification can be confirmed as "more vulnerable". From Table 3 of the NPPF Technical Guidance, it can be confirmed developments classified as "more vulnerable" are considered appropriate in flood zone 1.
- 2.3 A Flood Risk Assessment should also consider the vulnerability of the development to flooding from the following other sources:
- Flooding from land: surface water run-off from adjacent land (urban or rural).
 - Flooding from groundwater: most common in low-lying areas underlain by permeable rock (aquifers).
 - Flooding from sewers: existing or proposed combined, foul or surface water sewers.
 - Flooding from reservoirs, canals, and other artificial sources.
- 2.4 From a review of the EA's surface water flood mapping the development site does not appear to be at risk from surface water flooding.
- 2.5 From a review of the topographic survey data it can be seen that the development is not located within a low-lying area, also from a review of the site investigation data it can be seen that the ground conditions at the site (made ground overlying clay) are not considered to be permeable, hence the development site does not appear to be at risk from groundwater flooding.
- 2.6 Due to the topography of the surrounding area, it is considered that the proposed development is not at significant risk of flooding from existing or proposed sewers.
- 2.7 From a review of the EA's reservoir flood mapping the development site does not appear to be at risk from reservoir flooding.
- 2.8 From a review of the canal flood risk section of the Manchester, Salford and Trafford Strategic Flood Risk Assessment (SFRA), it is considered that the proposed development is not at significant risk of flooding from canals.
- 2.9 From a review of the Ordnance Survey mapping for the area around the site, it is considered that the proposed development is not at significant risk of flooding from other artificial water sources.

3.0 Surface Water Drainage

- 3.1 In terms of the hierarchy of preferred methods for discharging surface water runoff from new developments, soakaways / infiltration should be considered first, then discharge to watercourses second, and lastly discharge to the public sewer network.
- 3.2 From the intrusive site investigation carried out at the site the ground conditions are predominantly clayey in nature and therefore soakaways or other infiltration techniques are considered not appropriate for the discharge of surface water runoff from the proposed development.
- 3.3 There are no true watercourses in the vicinity of the site, though as previously noted the site is bounded on its northern and western sides by the Ashton Canal and the Rochdale Canal respectively. However, due to the level of the site being relatively close to the water level within the adjacent canals, it is considered unlikely that the surface water runoff from the site could be discharged to the canals on a practical basis.
- 3.4 Hence it is currently considered that the surface water runoff from the proposed development should be discharged to the public sewer network.
- 3.5 United Utilities (UU) have been consulted in this respect and they have confirmed that the surface water runoff from proposed development can be drained to their existing combined sewer network at unrestricted rates.
- 3.6 However from the Manchester, Salford and Trafford Strategic Flood Risk Assessment (SFRA) the site is located within the Conurbation Core Critical Drainage Area (CDA).
- 3.7 From the SFRA, developments proposed within CDA's should adhere to the following guidance:-
- Development should aim to deliver Greenfield runoff on Greenfield sites up to a 1 in 100 year storm event, considering climate change.
 - Development should aim for a minimum reduction in surface water runoff rates of 50% for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100 year storm event, considering climate change.
 - Development should be designed so that there is no flooding to the development in a 1 in 30 year event and so that there is no property flooding in a 1 in 100 year plus climate change event.
- 3.8 From a review of the historical mapping, the majority of the proposed development site was previously occupied by the St Jude's C of E Primary School, of which an impermeable area of around 3,000 sq m lay within the boundary of the proposed New Islington Free School site.
- 3.9 Using the figure above an assessment has been carried out to confirm the previous site's run off rates. This assessment has confirmed the existing runoff rates to be as follows:-
- for the 1 in 1 year event = 34.9 l/sec
 - for the 1 in 100 year event plus 20% climate change allowance = 132.2 l/sec

- 3.10 Given the minimum runoff reduction rate of 50% as required by the SFRA, the maximum allowable runoff rates for the redeveloped site will be as follows:-
- for the 1 in 1 year event = 17.45 l/sec
 - for the 1 in 100 year event plus 20% climate change allowance = 66.1 l/sec
- 3.11 The proposed development site has a total area of around 7,700 sq m, on the assumption that 25% of this area will be soft landscaped, the proposed development will have an impermeable area of approximately 5,775 sq m. This represents a significant increase in (almost double) impermeable area when compared with the existing site.
- 3.12 Therefore, to meet the requirements of the SFRA the surface water discharge rate will need to be attenuated.
- 3.13 An assessment of the surface water discharge attenuation volume required has been carried out, from this assessment it would appear that an attenuation volume of around 115 cu m will be required. This storage volume could be accommodated in either a pond / wetland area or in a below ground tank.
- 3.14 From the results of this preliminary assessment the runoff rates for the redeveloped site would be as follows:-
- for the 1 in 1 year event = 16.5 l/sec
 - for the 1 in 100 year event plus 20% climate change allowance = 28.9 l/sec