



Title: Call for Sites Civils Assessment Summary

Date: 12th August 2020

1.0 Introduction

- 1.1 Jubb Consulting Engineers (Jubb) have been appointed by Rainier Developments Ltd to provide flood risk, drainage and utilities advice in relation to the proposed development at Land off Bedford Road, Roxton.
- 1.2 The site is located to the south-east of Bedford Road, on the northern edge of the existing developed area of Roxton. The site includes two parcels of land which are referred to as Parcel A and Parcel B, which are located to the north and south respectively.
- 1.3 This technical note provides a summary of the findings for both parcels of land.

2.0 Parcel A

2.1 Flood Risk

- 2.1.1 The proposed site is identified as lying outside of the fluvial and tidal flood risk zone according to the Environment Agency's published flood map for planning. The EA flood risk for planning map identifies the site within Flood Zone 1 – very low probability of flooding (land assessed as having a less than 1 in 1000 annual probability of river or sea flooding).
- 2.1.2 The National Planning Policy Framework planning practice guidance states that all types of development are suitable for this flood zone.
- 2.1.3 Several small isolated areas within the site are identified as being at low risk of surface water flooding. It is anticipated that these areas are a result of modelled run-off from the site being retained within isolated low points. However, this is not a significant risk to the site, and it is expected that the development proposals and drainage infrastructure will alleviate these areas of flood risk.
- 2.1.4 No other sources of flooding have been identified for the proposed site. This includes flooding from overland flows, existing sewers, groundwater and artificial sources.

2.2 Drainage

- 2.2.1 Anglian Water own and operate the existing local public foul and surface water sewer networks supplying the local area. Anglian Water asset plans confirm there is no existing drainage apparatus located within the proposed site boundaries.
- 2.2.2 Within the surrounding area, Anglian Water asset plans show there is an existing foul rising main located immediately to the north-west of the site. This conveys flows to an existing 150mm diameter foul sewer running within High Street, which collects and conveys flows from the nearby residential properties to the south through Roxton.

- 2.2.3 As the site is not currently positively drained, a new foul and surface water sewer network will be designed to collect and convey flows from the proposed development.
- 2.2.4 Current legislation and guidance require developers to manage surface water run-off from new developments, to mitigate flood risk to the site and the surrounding area and provide a sustainable means of disposing of run-off from impermeable areas of the site. Surface water run-off from the new development should be managed via the design of a sustainable drainage system (SuDS). The possible drainage options considered for the site include the use of infiltration methods and discharging to a local watercourse.
- 2.2.5 Due to the characteristics of the underlying ground conditions, it is anticipated that the use of infiltration methods will not be suitable for the discharge of flows from the site. Consequently, an alternative option of discharging to a local watercourse is the preferred option.
- 2.2.6 The nearest watercourse is the Rockham Ditch located to the north of the site. Two possible points of discharge have been considered including a direct connection to the ditch or utilising an existing concrete drainage channel which runs along Bedford Road and into the Rockham Ditch.
- 2.2.7 It is proposed to attenuate flows onsite, before discharging flows at a restricted predevelopment rate. Onsite attenuation will be provided via an attenuation basin which will also provide ecological and water quality benefits through the dilution, filtration and settlement of pollutants. Additional SuDS features will be included throughout the development where possible, to provide further ecological, water quality and amenity benefits.
- 2.2.8 It is proposed that the new development will discharge foul flows to the existing public sewer infrastructure located within High Street.
- 2.3 Utilities
- 2.3.1 Local service providers have been approached to obtain asset information and maps to detail existing plant and its location in respect of the proposed development.
- 2.3.2 The asset information confirmed that no existing utility infrastructure is located within the proposed site.
- 2.3.3 Within the surrounding area, existing asset plans identified a large network of existing potable water, electric and telecoms infrastructure located within close proximity to the site. Cadent Gas have confirmed that there is currently no existing gas infrastructure located within reasonable proximity to the site. Therefore, it is proposed that the development will utilise electric heating and cooking appliances.
- 2.3.4 All utilities are available at the site. It is proposed the subject site will be supplied by utilising a new connection to the existing apparatus in the nearby vicinity, with new supplies running to and throughout the site.

3.0 Parcel B

3.1 Flood Risk

- 3.1.1 The proposed site is identified as lying outside of the fluvial and tidal flood risk zone according to the Environment Agency's published flood map for planning. The EA flood risk for planning map identifies the site within Flood Zone 1 – very low probability of flooding (land assessed as having a less than 1 in 1000 annual probability of river or sea flooding).
- 3.1.2 The National Planning Policy Framework planning practice guidance states that all types of development are suitable for this flood zone.
- 3.1.3 A small isolated area within the site is identified as being at low-high risk of surface water flooding. It is anticipated that this area is a result of modelled run-off from the site being retained within an isolated low spot. However, this is not a significant risk to the site, and it is expected that the development proposals and drainage infrastructure will alleviate this area of flood risk.
- 3.1.4 No other sources of flooding have been identified for the proposed site. This includes flooding from overland flows, existing sewers, groundwater and artificial sources.

3.2 Drainage

- 3.2.1 Anglian Water own and operate the existing local public foul and surface water sewer networks supplying the local area. Anglian Water asset plans confirm there is no existing drainage apparatus located within the proposed site boundaries.
- 3.2.2 Within the surrounding area, Anglian Water asset plans show there is an existing 150mm diameter foul sewer located immediately to the north-east of the site, within High Street and Bedford Road. This sewer collects and conveys flows from the nearby residential properties to the south through Roxton.
- 3.2.3 As the site is not currently positively drained, a new foul and surface water sewer network will be designed to collect and convey flows from the proposed development.
- 3.2.4 Current legislation and guidance require developers to manage surface water run-off from new developments, to mitigate flood risk to the site and the surrounding area and provide a sustainable means of disposing of run-off from impermeable areas of the site. Surface water run-off from the new development should be managed via the design of a sustainable drainage system (SuDS). The possible drainage options considered for the site include the use of infiltration methods and discharging to a local watercourse.
- 3.2.5 Due to the characteristics of the underlying ground conditions, it is anticipated that the use of infiltration methods will not be suitable for the discharge of flows from the site. Consequently, an alternative option of discharging to a local watercourse is the preferred option.
- 3.2.6 It is anticipated that the development will discharge flows to the existing network of drainage ditches which run along the north and north-east site boundary and throughout the wider area. With flows ultimately conveyed to the Rockham Ditch to the north-east of the site.
- 3.2.7 It is proposed to attenuate flows onsite, before discharging flows at a restricted predevelopment rate. Onsite attenuation will be provided via an attenuation basin which will also provide ecological and water quality benefits through the dilution, filtration and settlement of pollutants. Additional SuDS features will be included throughout the development where possible, to provide further ecological, water quality and amenity benefits.
- 3.2.8 It is proposed that the new development will discharge foul flows to the existing public sewer infrastructure located within High Street.

3.3 Utilities

- 3.3.1 Local service providers have been approached to obtain asset information and maps to detail existing plant and its location in respect of the proposed development.
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- 3.3.3 Within the surrounding area, existing asset plans identified a large network of existing potable water, electric and telecoms infrastructure located within close proximity to the site. Cadent Gas have confirmed that there is currently no existing gas infrastructure located within reasonable proximity to the site. Therefore, it is proposed that the development will utilise electric heating and cooking appliances.
- 3.3.4 All utilities are available at the site. It is proposed the subject site will be supplied by utilising a new connection to the existing apparatus in the nearby vicinity, with new supplies running to and throughout the site.