
Job Title

Collyhurst Village Marketing Suite

Report Type

Drainage Note

Prepared for

Far East Consortium International
Limited

Date

13 May 2022

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Drainage Note

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Civic Job No.	1226-08
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Issued	13/05/22 P01
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Revised	18/05/22 P02 31/05/21 P03
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1. Introduction

1.1 Purpose

Civic Engineers has been commissioned by Far East Consortium International Limited to produce this drainage technical note to accompany a planning application for a temporary marketing suite and car park associated with the residential development at Collyhurst Village. Collyhurst Village received planning permission on 21st June 2021 (reference 129393/VO/2021 and is a residential-led mixed-use development site in the Collyhurst area of Manchester, to the northeast of the city centre. Planning permission was also granted for a package of site enabling works (reference 128788/FO/2020) in February 2021 and the site has now been cleared and remediated ready for redevelopment.

1.2 Site Location

The Collyhurst area of Manchester is approximately 2.4km northeast of the city centre. The sales area is to be located in the north-western corner of the site adjacent to Rochdale Road and Marston Street. The site location is shown Figure 1 in below.

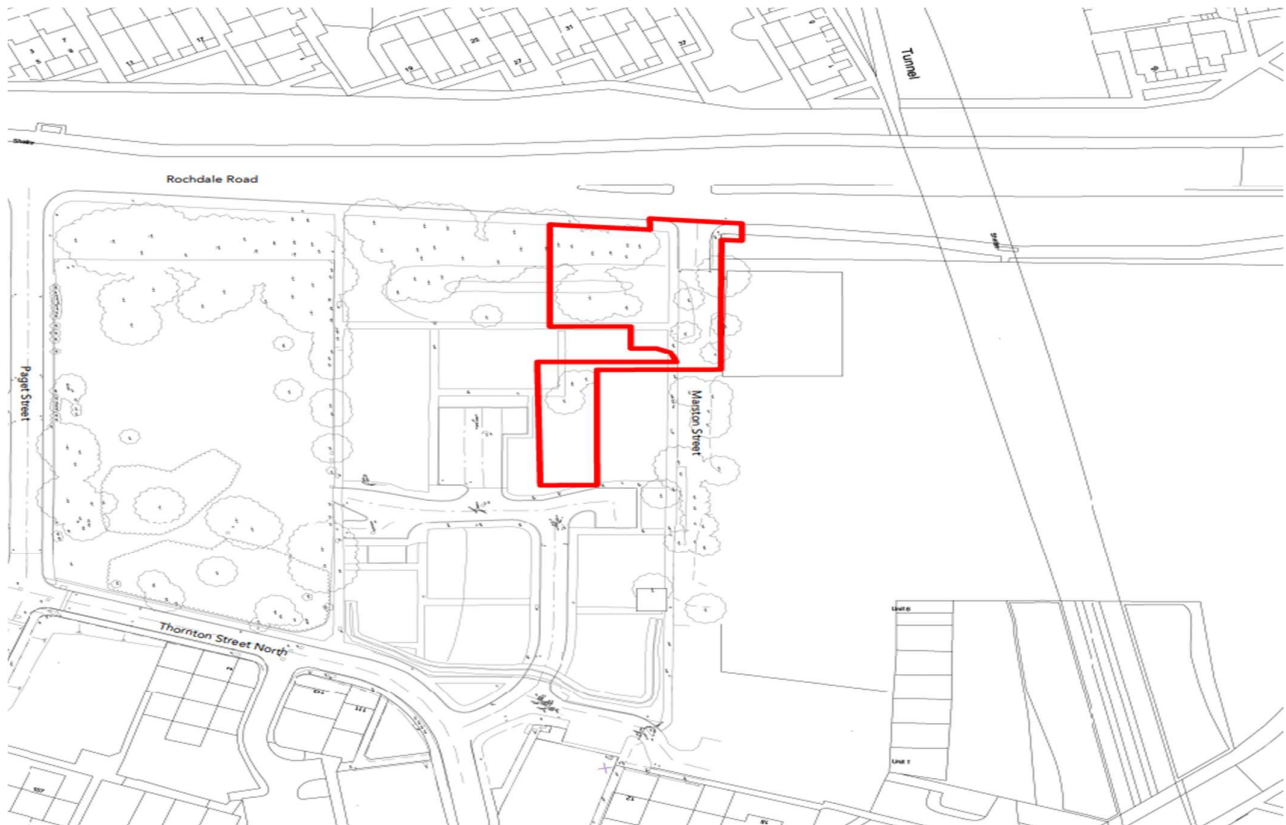


Figure 1 - Site Location Plan

1.3 Development Proposals

The development proposals are described as follows.

Application for the temporary planning permission for the erection of a marketing suite, car parking, landscaping, drainage infrastructure and other associated works.

The proposed surface water runoff generated from the access road will discharge into an infiltration trench/basin that is 26 x 7 x 1m deep. During the critical 100year+40% climate change event the maximum water level in the trench/basin will be 506mm.

The infiltration trench/basin will act as an attenuation feature whilst discharging the proposed surface water runoff via infiltration into the surrounding ground. Figure 3 below identifies a how the trench/basin will look.

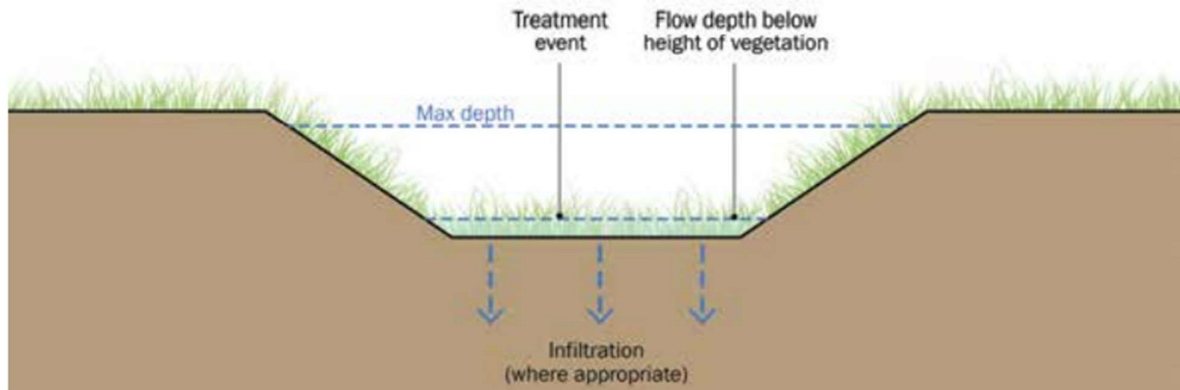


Figure 3 - Typical conveyance/attenuation feature taken from CIRIA SuDS Manual

An infiltration rate of 0.0108m/h has been specified based on the expected below ground strata being Till, this value has been taken from the CIRIA SuDS Manual Table 25.1 which is represented in Figure 4 below.

TABLE 25.1 Typical infiltration coefficients based on soil texture (after Bettess, 1996)			
Soil type/texture	ISO 14688-1 description (after Blake, 2010)	Typical infiltration coefficients (m/s)	
Good infiltration media - gravel - sand - loamy sand - sandy loam	Sandy GRAVEL Slightly silty slightly clayey SAND Silty slightly clayey SAND Silty clayey SAND	$3 \times 10^{-4} - 3 \times 10^{-2}$ $1 \times 10^{-5} - 5 \times 10^{-5}$ $1 \times 10^{-4} - 3 \times 10^{-5}$ $1 \times 10^{-7} - 1 \times 10^{-5}$	
Poor infiltration media - loam - silt loam - chalk (structureless) - sandy clay loam	Very silty clayey SAND Very sandy clayey SILT N/A Very clayey silty SAND	$1 \times 10^{-7} - 5 \times 10^{-6}$ $1 \times 10^{-7} - 1 \times 10^{-5}$ $3 \times 10^{-8} - 3 \times 10^{-6}$ $3 \times 10^{-10} - 3 \times 10^{-7}$	
Very poor infiltration media - silty clay loam - clay - till	– – Can be any texture of soil described above	$1 \times 10^{-8} - 1 \times 10^{-6}$ $< 3 \times 10^{-8}$ $3 \times 10^{-9} - 3 \times 10^{-6}$	
Other rock* (note mass infiltration capacity will depend on the type of rock and the extent and nature of discontinuities and any infill)	N/A	$3 \times 10^{-9} - 3 \times 10^{-5}$	

Figure 4 - Typical Infiltration Co-efficient based on Soil Texture

Based on the specified infiltration rate, the half drain down time is expected to be 2.1 days,

The above surface water management strategies will be agreed with the LLFA prior to construction and implementation.

2.1.1 Maintenance of Infiltration Trench/Basin

In order to ensure that the infiltration trench/swale remains effective for the duration it is required, a maintenance regime will be in operation, below indicates a typical maintenance schedule taken from CIRIA SuDS Manual.

TABLE 13.2 Operation and maintenance requirements for infiltration basins		
Maintenance schedule	Required action	Typical frequency
Regular maintenance	Remove litter, debris and trash	Monthly
	Cut grass – for landscaped areas and access routes	Monthly (during growing season) or as required
	Cut grass – meadow grass in and around basin	Half yearly: spring (before nesting season) and autumn
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
Occasional maintenance	Reseed areas of poor vegetation growth	Annually, or as required
	Prune and trim trees and remove cuttings	As required
	Remove sediment from pre-treatment system when 50% full	As required
Remedial actions	Repair erosion or other damage by reseedling or re-turfing	As required
	Realign the rip-rap	As required
	Repair or rehabilitate inlets, outlets and overflows	As required
	Rehabilitate infiltration surface using scarifying and spiking techniques if performance deteriorates	As required
	Relevel uneven surfaces and reinstate design levels	As required
Monitoring	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect inlets and pre-treatment systems for silt accumulation; establish appropriate silt removal frequencies	Half yearly
	Inspect infiltration surfaces for compaction and ponding	Monthly

Figure 5 - Maintenance Schedule for Infiltration Trenches/Basins

The maintenance should be undertaken with an appropriate organisation for the duration that the temporary sales unit is in place.

2.2 Foul Water Management

The sales suite building will be connected to an effluent tank that will require a regular emptying regime for the duration it is in-situ.

It is anticipated that there will be a maximum of 10 persons working/visiting the sales suite at any one time.

Based on an average flow rate of 60L/s per day taken from the British Flows and Loads table for an open industrial (construction) site, it is anticipated the effluent tank will need to attenuate 22m³ and will need to be emptied every 37 days. It shall be emptied by a licensed waste disposal contractor and shall be disposed of in the correct manner.

Appendix A – Drainage GA



- Standard Notes
1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings and the specification.
 2. This drawing should not be scaled.
 3. All dimensions are to be verified by the contractor on site.
 4. All discrepancies should be reported to the C.A. prior to the commencement of the works.

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Notes and Keys

-  - PLANNING REDLINE BOUNDARY
-  - SURFACE WATER CATCHMENT TO DRAIN TO SOFT LANDSCAPING
-  - SURFACE WATER CATCHMENT TO DRAIN TO INFILTRATION/SOAKAWAY FEATURE DEPENDENT ON INFILTRATION RATES
-  - PROPOSED FW FEATURES
-  - PROPOSED SW FEATURES

AREA 1
SURFACE WATER TO DRAIN VIA INFILTRATION AND EVAPOTRANSPIRATION THROUGH THE SOFT LANDSCAPING FEATURES

AREA 2
SURFACE WATER TO DRAIN VIA INFILTRATION INTO A TEMPORARY INFILTRATION TRENCH/BASIN

A 0.0108m/h INFILTRATION RATE HAS BEEN SPECIFIED BASED ON BELOW GROUND STRATA BEING TILL - RATE TAKEN FROM CIRIA SUDS MANUAL

INFILTRATION TESTING TO CONFIRM INFILTRATION RATE

SURFACE WATER INFILTRATION TRENCH/BASIN 26 x 7 x 1m.

BASED ON SW CATCHMENT AREA FROM ACCESS ROAD, MAX WATER LEVEL DURING 100YR+CC EVENT IS 506mm.

A 0.0108m/h INFILTRATION RATE HAS BEEN SPECIFIED BASED ON BELOW GROUND STRATA BEING TILL - RATE TAKEN FROM CIRIA SUDS MANUAL

INFILTRATION TESTING TO CONFIRM INFILTRATION RATE.

PLANTING AND SOILS TO LANDSCAPE ARCHITECTS SPECIFICATION

TRENCHES FORMED TO DIRECT SW TOWARDS INFILTRATION TRENCH/BASIN. MOT TYPE 3 TO BE WRAPPED IN A GEOTEXTILE TO MITIGATE SILT BUILD UP

SALES SUITE FOUL WATER DRAINAGE TO DISCHARGE TO A KLARGESTER OR OTHER SIMILAR APPROVED CESSPOOL SYSTEM
CAPACITY 22,000l BASED ON 10 PERSONS PER DAY UTILISING THE SALES SUITE AT A FLOW RATE OF 60l PER DAY TAKEN FROM BRITISH FLOWS AND LOADS

REQUIRES EMPTYING ON AVERAGE EVERY 37 DAYS BASED ON ABOVE SIZING AND FLOWS

Date	Rev	Description	Drawn	Chkd
31.05.22	P04	LATEST SITE PLAN ADDED	CW	TC
18.05.22	P03	REDLINE BOUNDARY AMENDMENT	TC	RJW
13.05.22	P02	AMENDED FOLLOWING COMMENTS	TC	RJW
06.05.22	P01	INITIAL ISSUE	TC	RJW



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Project
COLLYHURST VILLAGE
SALES AREA

Title
DRAINAGE GA

INFORMATION						
Project Number	Scale @ A1	Date Created	Drawn	Checked	Suitability	
1226-08	1:150	MAY '22	TC	RJW	S3	
Drawing Number					Revision	
1226-08-CIV-XX-XX-D-D-30001					P04	

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