

PROJECT No.:- P3001502

DATE 06/10/22

PROJECT NAME:- Hyde Road School

TITLE:- Sports Pitch Drainage

1.0 Introduction

The following design note outlines what site constraints may impact the ability of the Sports Pitches to Drainage and the solutions to mitigate these.

2.0 Topography

The original site topography in the pitch locations was relatively flat, due to the site's usage largely as a grade level carpark (reference should be made to Survey Operations topographical survey). There were some falls to achieve drainage of the carpark and a general upward slope from north to south.

However, as part of the site strip and cut and fill process to enable the new school project, the levels have been amended to ensure Sport England compliant gradients are achieved over both pitches. As such, coupled with a Sport England compliant build up, the topography of the pitches will not adversely affect their performance.

3.0 Ground Conditions

A Phase II intrusive site investigation has been undertaken for the site by Hydrock (18170-HYD-XX-XX-RP-GE-0001 June 2021). This included assessment of ground permeability and infiltration rates.

Results indicate poor infiltration performance (see chapter 6.7 of 18170-HYD-XX-XX-RP-GE-0001) thus direct infiltration of any sports pitch drainage was not deemed viable and an alternative solution was necessary to ensure suitable drainage rates and pitch performance.

4.0 Drainage Solution Criteria

Given the poor ground permeability and low infiltration rate, a positively drainage solution directly connected to the public sewer network was deemed the best solution to ensure acceptable drainage rates and therefore pitch performance.

The local drainage authority, United Utilities, allowed this connection if two criteria were met: -

- 1) The drainage system of the pitches was to be self-contained and not allow any potentially contaminated ground water or land drainage to enter the system. To achieve this, the pitch drainage and build up needed to be wrapped in an impermeable membrane.
- 2) A maximum discharge rate of 5l/s from each pitch was permitted. This led to the introduction of an attenuation layer below the pitches which allowed the pitches to drainage, whilst limiting the rate discharged to the system.