

# Equivalent Quality Assessment

Client: Knowsley Council

Project: Grace Park and New Hutte Neighbourhood Centre

Location: Halewood, Liverpool

Report date: 13/01/2026

Consultant: Joe Woodcock

Revision: 0

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## ISSUE INFORMATION

This assessment has been produced in good faith for exclusive use by Knowsley Council in relation to the proposed playing field improvement works of natural sports surfaces at “*New Hutte Neighbourhood Centre*, and potential redevelopment of existing playing fields at ‘*Grace Park*’, Halewood, Liverpool. STRI accept no liability or responsibility whatsoever in respect of any use of this assessment beyond the scope of its application by any third party. The assessment is the property of STRI and may not be copied nor reproduced without prior written approval of STRI except for the purposes of dealing specifically with the management and implementation of this project.

|            |                                               |
|------------|-----------------------------------------------|
| Client:    | Knowsley Council                              |
| Project:   | Grace Park and New Hutte Neighbourhood Centre |
| Location:  | Halewood, Liverpool                           |
| STRI Ref:  | J007834                                       |
| Doc Title: | Equivelent Quality Assessment                 |

## REVISION RECORD

Revision record (Revision ‘0’ being the original)

| Revision Record |               |                                  |              |
|-----------------|---------------|----------------------------------|--------------|
| Revision Number | Date of Issue | Reason for Revision and Comments |              |
| 0               |               | Original issue                   |              |
|                 |               |                                  |              |
|                 |               |                                  |              |
|                 |               |                                  |              |
|                 |               |                                  |              |
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| Date            | 05/01/2026    | Date                             | 13/01/2026   |

Signed

Joe Woodcock  
Design Consultant

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## EXECUTIVE SUMMARY

STRI has been appointed by Knowsley Council to undertake an Equivalent Quality Assessment (EQA) in relation to the proposed development at Grace Park, Merseyside. As part of the wider redevelopment of the site, a portion of the existing natural turf playing field will be lost, however, the proposals include the provision of one full-size artificial grass pitch (AGP) and a 5v5 AGP as part of the Grace Park redevelopment works.

The loss of existing natural turf playing field provision will require appropriate mitigation to satisfy Sport England's Playing Fields Policy and local authority planning policy. The site identified to mitigate for the loss of natural turf playing field provision at Grace Park is the playing field at the New Hutte Neighbourhood Centre. This site is an existing playing field, however, it is reported to suffer from waterlogging during the winter months, rendering it largely unplayable. As such, the New Hutte site has been identified for improvement works to increase playability and to provide mitigation for the loss of natural turf provision at Grace Park.

Each site is discussed in detail in the report below, but this section highlights the key information for quick reference. Please note that information in this report is based on the findings of our site assessments at the time of the visits and any costs related information is indicative only and based on our understanding of the requirements of the project (in accordance with policy). It does not, however, constitute a full design and specification or detailed quantification of the costs which would follow in due course.

### Summary Assessment of Grace Park (Existing)

- Overall, the existing youth football pitches and entire playing field area were in poor condition at the time of the visit. Both marked out pitches and areas used for training purposes were dominated by broadleaf weeds in particular clover. Both pitches showed signs of excessive use given the current makeup of the pitches. The high presence of clover would also correlate with the poor grass cover observed in both football pitch areas with a maximum of 5% grass cover recorded in all goalmouth areas and a maximum of 25% grass cover recorded in other areas of both pitches.
- A representative sample of the existing topsoil was analysed as part of the assessment with the site topsoil noted to be in the sandy loam category. The high presence of fine particles (23% silt and 17% fine sand) within the topsoil would indicate that the existing site topsoil does have poor drainage properties therefore the absence of a site wide drainage system is inhibiting drainage potential and impacting surface quality.
- Performance Quality Standard (PQS) testing was undertaken across the youth football pitches at Grace Park to assess the existing playing surface quality against the FA guideline parameters, as outlined in Appendix 2 of this report. Overall, the pitches passed 4 out of the 7 PQS tests undertaken, with infiltration, surface evenness, and ground cover failing to meet the required standards.
- It is reported by the client that the current youth football pitches at Halewood Town Junior Football Club are used for approximately 8-10 hours per week. The current football pitches are of type 1 Sport England standard which means that the entire area is undrained with no comprehensive drainage system to take any excess water away from the pitch surface. The current Sport England guidelines show that a type 1 pitch can indicatively sustain no more than 2 hours of adult usage and more than 3 hours of junior usage (under 15) per week. The current over usage of the existing pitches given their construction type will also result in a deterioration of pitch conditions with regards to grass cover and drainage due to compaction.
- The two youth football pitches on the site did hold some surface water within the top 10 mm of the pitch profile however this is thought to be linked to the poor drainage properties of the existing topsoil and the poor grass coverage in high wearing areas which has caused the surface to become sealed. When observing the site, it was noted that more agronomic practices such as Verti-Draining, topdressing, fertilising, scarification and potential site wide drainage scheme would improve the condition of the football pitches and surrounding areas however this this would only increase the

usage capacity by a small percentage compared to that of the proposed artificial pitches. The indicative maximum usage of what is currently existing (type 1 pitches) at Halewood Town Junior Football Club and what is proposed (two 3G artificial pitches) can be seen below in a comparison table.

| Pitch location                               | Maximum theoretical hours of usage (weekly) | Existing hours of usage (weekly) |
|----------------------------------------------|---------------------------------------------|----------------------------------|
| Northern natural grass junior football pitch | 3                                           | 8-10                             |
| Southern natural grass junior football pitch | 3                                           | 8-10                             |
| Proposed full size 3G artificial pitch       | 60                                          | N/A                              |
| Proposed min 5v5 artificial pitch            | 60                                          | N/A                              |

## Summary Assessment of New Hutte Neighbourhood Centre Playing Field (playing field area to be improved for playability)

- The existing playing field area at New Hutte can accommodate a junior 9v9, 5v5 and 7v7 football pitches with the proposed layout seen within Appendix 1 of this report. However in order to accommodate the pitches the 7v7 junior pitch would have to be played within the 9v9 pitch as there is not sufficient space for 3 independent pitches within the playing field area. The proposed layout also avoids a potential clash with a proposed play park that could be located within the south of the playing field area.
- The site assessment has concluded that if the area is to be brought back into use for winter sports, it would be recommended that a network of primary drainage would be required to provide a drained playing field area. The LandIS Soilsclapes Viewer indicates that the existing soils are “Slowly permeable seasonally wet” which further increases the need for a primary drainage system to be implemented across the playing field area. A primary drainage system would mean that the playing field area will be able to sustain a high number of hours in relation to usage.
- The existing topsoil was tested by STRI and shows that a sandy loam material is present across the playing field area with a high number of fine particles present such as silt (21)%. The high number of fine particles shown in results show that drainage potential is limited particularly if winter sports are going to be played along with increasing the usage levels therefore further highlighting the need for a primary drainage system to support any increased usage of the playing field area. An orange clay subgrade was observed underlying the existing topsoil material further decreasing drainage potential.
- The topography of the playing field area was judged to be within Sport England gradient guidelines with no isolated areas noted to be steep or shallow in relation to topography. Surface evenness was good in all areas of the playing field area as well. This would mean that no major earthworks are required to bring any of the playing area within Sport England gradient guidelines. The majority of the playing field area did slope from west-east however there were some minor falls in different directions once closer to the eastern boundary of the site. Minor re-grading works may be required to create more of a consistent fall in a single direction if any primary pipe drainage is to be installed as part of any future works. The requirement for minor re-grading would be picked up at the detailed design stage.
- If a primary drainage system is to be implemented across the playing field area, a relevant connection point would need to be confirmed prior to any works commencing. The existing pond could potentially be used to the east of the site however this was overgrown at the time of the visit so further investigations would be required to understand if this pond is deep enough and has the capacity to hold any pitch drainage. A ‘French drain’ was also discovered in the south of the playing field area however further investigation would be required to understand if a pipe drain is located underneath the MOT aggregate material or the stone is simply there to act as a soakaway. Another potential option is to connect into the wider scheme connected to the building located within the south/west of the site with manholes discovered at the time of the visit however these were not opened.
- Before any works are to be carried out, the extent of the existing drainage infrastructure and potential outfall options would need to be determined. It would be recommended that a primary drainage system is to installed in particular the area demarcated by the red line in figure 4 below. This is because this is where the pitches will be marked out and is also historically the wettest part of the playing field area. A play park is also to be potentially developed within the area marked blue of the proposed layout seen within appendix 1 of this report. The area of playing field area located directly adjacent to the south of the car park could be extended.
- A secondary drainage system may have to be implemented further down the line dependent on any increased usage levels however this can be done outside of any original scope of works.
- Any works access can be gained via Lichfield Road however it would need to be agreed with the council and the neighbourhood centre that the car park located to the back of the building would not be used by the public and closed for plant equipment and materials storage.
- It would be anticipated that the works would take approximately 1-2 weeks to complete dependent on suitable ground and weather conditions with the playing field recommended to be unused for approximately 8-10 weeks prior to completion of the works to allow appropriate seed establishment along the drain line areas.

## Indicative Cost Estimates (natural turf playing field only)

The indicative capital costs for the drainage improvement works at New Hutte Neighbourhood Centre are set out below.

| Site                                                                                                                                                                          | Indicative Capital Costs £ (including 10% contingency) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| New Hutte Neighbourhood Centre - Pitch development works<br>(Selective herbicide application, primary drainage installation, seeding of the drain line areas) and all prelims | £52,000.00                                             |

## Performance Comparison Summary

For information, the following provides a summary of the existing and recommended construction types alongside the weekly hours of use which could be expected.

|                                            | Grace Park         | New Hutte Neighbourhood Centre        |
|--------------------------------------------|--------------------|---------------------------------------|
| Existing surface type                      | Type 1 – undrained | Type 1 – undrained                    |
| Proposed surface construction type         | N/A                | Type 2 – primary pipe drainage system |
| Existing theoretical hours of use          | Up to 3 hours      | Up to 3 hrs                           |
| Proposed theoretical hours of use (weekly) | N/A                | 4.5 hrs (natural turf)                |

## 1.0 INTRODUCTION

### Appointment Information

STRI have been appointed by Knowsley Council to undertake an *equivalent quality assessment* in relation to the proposed development of the Grace Park, Halewood.

### Context

STRI has been appointed by its client, Knowsley Council, to carry out an Equivalent Quality Assessment (EQA) for two sites located in Halewood, Liverpool. STRI has recently completed two separate reports for these sites; however, Sport England has requested that an EQA be submitted as part of the planning application, combining the two reports previously prepared by STRI.

### Aims and Objectives

STRI have been commissioned to undertake assessments of the two sites at Grace Park and New Hutte Neighbourhood Centre sites and to produce a report that provides:

1. An assessment of the existing *performance characteristics* of all sites, based on detailed site analysis (Quality).
2. Consideration of all sites capability / capacity to be improved / enhanced, and recommendations as to how that could be achieved.

### Report Structure

To meet the aims and objectives summarised above, this report is structured as follows:

**Section 1** – The existing playing field at Grace Park (Quality)

**Section 2** – The area for consideration at New Hutte Neighbourhood Centre (Quality).

## 2.0 THE EXISTING PLAYING FIELD AT GRACE PARK

### Desk Based Study

#### Location

|                       |                                      |
|-----------------------|--------------------------------------|
| Site address:         | Leathers Lane, Merseyside, Liverpool |
| Site postcode:        | L26 0TX                              |
| Site grid reference:  | SJ 44756 85242                       |
| Local authority area: | Knowsley Council                     |



**Figure 1: Aerial photo of site from Google Maps**

- 2.1 Hereafter, the area within the scope of this report as illustrated in Figure 1 above shall be referred to as '*the existing playing field site*'.

#### Site Information

- 2.2 The following information has been obtained from publicly available sources including aerial photography, historical mapping, and Defra MAGICMap.

|                             |                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Existing land use:          | Used by Halewood Town Junior Football Club                                                                                                                                                                                                                                                                                      |
| Existing sports facilities: | At the time of the visit, two youth football pitches were marked out with a training area noted in the south of the site. One youth football pitch was marked out in a north-south orientation with the other pitch marked out in an east-west orientation. The total playing field area is approximately 19,850 square metres. |

|                    |                                                                                                                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Historic land use: | Historical Google images showed a school had been situated in the area where the current Halewood Town Junior Football Club pitches are located. It is believed that the school was demolished circa. 13 years ago. |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Site Access

- 2.3 The site can be accessed directly off Leathers Lane to the east of the site.

## Climate

- 2.4 The following information has been obtained from the Met office website using data from Crosby, the nearest official Met Office climate station, approx. 13 miles from the site, covering the period from 1991 – 2020.

### Annual Rainfall (mm)

| Jan             | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 69              | 57  | 53  | 50  | 52  | 64  | 65  | 72  | 77  | 90  | 82  | 92  | 824  |
| England average |     |     |     |     |     |     |     |     |     |     |     | 870  |

## Hydrology

- 2.5 The following information (below) has been obtained from publicly available sources including aerial photography, the WWF Rivers Map, and the Environment Agency Statutory Main River Map.

|                                     |                                                        |
|-------------------------------------|--------------------------------------------------------|
| Main rivers:                        | No main rivers are located close to the site boundary. |
| Water bodies near site:             | No water bodies are located near site.                 |
| Water bodies within site boundary : | No water bodies within the site boundary.              |
| Distance to coastline:              | N/A                                                    |

## Topography

- 2.6 The existing playing field site levels and gradients were assessed by reviewing topographic survey information provided to STRI by the client.

- 2.7 The existing site levels and gradients were assessed by reviewing topographic survey data made available to STRI.

The highest spot levels were recorded to be circa 24 m which were located in the south of the site with the lowest spot levels recorded in the north of the site and were recorded to be circa 23 m.

The overall gradient was calculated to be circa 1:100 in both an east-west direction and a north-south direction therefore no significant gradient was present which would aid shedding of surface water.

***(Note: Sport England and FA guidance states the playing surfaces should be no steeper than 1:80 – 1:100 along the line of play and 1:40 – 1:50 across the line of play. The current gradients across the existing playing field site are in line with these guidelines).***

## Existing Usage

- 2.8 The client has advised that the youth football pitches at Halewood Town Junior Football Club currently experience approximately 8–10 hours of use per week. These pitches are classified as Sport England Type 1, meaning they are undrained and do not benefit from a dedicated drainage system to remove surface water. Sport England guidance indicates that Type 1 pitches are typically capable of sustaining no more than around 2 hours of adult use or up to 3 hours of junior (under-15) use per week. As such, the current level of usage exceeds the recommended capacity for this pitch type and is likely to contribute to a decline in playing surface quality, including reduced grass cover and impaired drainage performance as a result of increased compaction.

| Pitch Type                                       | Adult Hours of Use | Maintenance                                                                                                                                                                                                                      |
|--------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 – Undrained                                    | Under 2            | Aeration and sand dressing when conditions allow.                                                                                                                                                                                |
| 2 – Pipe drained                                 | 2-3                | Aeration and sand dressing when conditions allow.                                                                                                                                                                                |
| 3 – Pipe drained with mole drains                | 2-4                | Aeration when conditions allow. Sand dressing not essential, but beneficial. Re-moling every 3 – 5 years.                                                                                                                        |
| 4 – Pipe drained with sand grooves               | 3-6                | Aeration and regular sand top dressing (approx 60 - 80 tonnes per annum). Higher drainage rates mean that some irrigation may be necessary during dry periods.                                                                   |
| 5 – Pipe drained with slit drains                | 3-6                | Aeration and regular sand top dressing (approx 60 - 80 tonnes per annum). Higher drainage rates mean that some irrigation may be necessary during dry periods.                                                                   |
| 6 – Pipe drained with topsoil and drainage layer | 3-6                | Some increase in maintenance required. Aeration and sand dressing essential. Increased requirement for irrigation.                                                                                                               |
| 7 – Pipe drained with suspended water table      | 4-6                | Higher levels of fertiliser and irrigation to maintain hard-wearing turf. Top dressing with rootzone compliant material. Surface aeration work. Artificial upper rootzone reinforcement can be installed for greater durability. |

Summary of the pitch drainage types with typical hours of use – Sport England, Natural Turf for Sport, 2011

- 2.9 The figures in the above table are a general guide. The playability of a natural grass surface depends upon a combination of prevailing weather conditions, the physical characteristics of the soil profile, maintenance inputs and the general agronomic condition.

## On-site Assessment/PQS

### PQS Testing

Below is a summary of the PQS testing that has taken place at the Grace Park site across the existing youth football pitches.

2.10

| Element                               | Limits                                     | Method of use                                                                      | Pass/Fail |
|---------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------|-----------|
| Sward height mm                       | 20 – 60 PS<br>20 – 75 SM                   | BS 7370: P3 A3                                                                     | Pass      |
| Hardness in g                         | 35 – 200                                   | STRI method of test using a 0.5kg Clegg Impact Hammer from a drop height of 0.55 m | Pass      |
| Broad leaved weeds %                  | <10                                        | BS 7370: P3 A6                                                                     | Pass      |
| Water infiltration rate mm/hr         | >5                                         | BS 7370: P3 A8                                                                     | Fail      |
| Evenness – 2-metre straight edge      | < 20 mm                                    | BS 7370: P3 A4                                                                     | Fail      |
| Slope – direction of play/across play | < 1.25 %<br>< 2.5 %                        | BS 7370: P3 A5                                                                     | Pass      |
| Ground cover%                         | > 70 for SH 25 – 30<br>> 80 for SH 30 – 35 | BS 7370P: P3 A6                                                                    | Fail      |

*Figure 4 – PQS Testing Results*

- The youth football pitches at Grace Park passed 4 out of 7 PQS tests carried out across the site.
- Water infiltration was poor, with surface water observed pooling on the pitches at the time of the visit.
- Surface evenness was satisfactory in some areas; however, it was poor in the northern sections of the site, resulting in a fail.
- Ground cover also failed, which is likely related to overuse of the pitches combined with the site's limited drainage capacity.

## Existing Vegetation

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General:             | Existing vegetation was poor across the entire site and across the two existing youth football pitches with broadleaf weeds such as Clover ( <i>Trifolium</i> ), Daisy ( <i>Bellis perennis</i> ), Dandelion ( <i>Taraxacum</i> ) and Ribwort Plantain ( <i>Plantago lanceolata</i> ) present. The main grasses present included a mix of Annual meadow grass ( <i>Poa annua</i> ) and Perennial ryegrass ( <i>Lolium perenne</i> ) however the majority of vegetation cover was clover.                                                                                                  |
| Agronomic condition: | The agronomic condition of the two youth football pitches was poor at the time of the visit with grass cover averaging approximately 5% within goalmouth areas and approximately 25% in other areas of the pitches. The poor grass cover is thought to be related to the high percentage of clover which is not a hard wearing type of vegetation along with wet surface conditions. At the time of the visit, it was also observed that the disease 'rust' was present within the Perennial ryegrass population which would indicate a lack of fertility within the Ryegrass population. |
| Invasive species:    | There were no invasive species identified within the existing playing field site at the time of the appraisal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Trees

- 2.11 No trees were located within the site boundary, with mature trees found only along the perimeter of the site.

## Ground Conditions

- 2.12 Sub-surface ground conditions were relatively dry at the time of the visit across the marked out football pitches however this is thought to be due to the limited rainfall received in the area over the past two weeks. Surface conditions were wet at the time of the visit particularly within the areas where grass cover was limited, i.e. within goalmouth areas. Any significant rainfall would result in poor ground conditions and poor playability for football.

At the time of the visit various areas appeared to be unused by the club due to poor ground conditions which has led to limited layout options for the club and limited usable space. The areas that are not used due to poor ground conditions can be seen within Figure 2 below demarcated within the red lines.



**Figure 2 – Unusable areas by the club due to poor drainage (approximately 4250 sqm of unusable playing field)**

## Site Soil Conditions

### Soil Profiles

### Visual Assessment

- 2.13 A series of trial pits were excavated by hand at various locations (see Figure 3 below) to confirm the nature of the underlying soil profile. In summary, there was a consistent sandy loam topsoil across all three test pits excavated. The depth of topsoil was measured to be on average 260 mm and grass rooting extended to a maximum of 190 mm with no large stones observed along with no contamination in the form of glass or pottery.

The brown sandy loam topsoil was overlaying a grey clay subgrade.



**Figure 3 – Trial hole locations (Grace Park)**

## Laboratory Soil Analysis

- 2.14 One representative sample of topsoil was collected from the site for particle size analysis to determine the mineral and organic matter composition of the existing playing field site topsoil. Full particle size analysis reports are included in Appendix 1.

| Sample location:             | Representative topsoil sample |
|------------------------------|-------------------------------|
| Laboratory reference number: | A20958/1                      |
| Soil texture:                | Sandy loam                    |
| Sand (%)                     | 67                            |
| Silt (%)                     | 23                            |
| Clay (%)                     | 15                            |
| LOI (loss of ignition)       | 15                            |

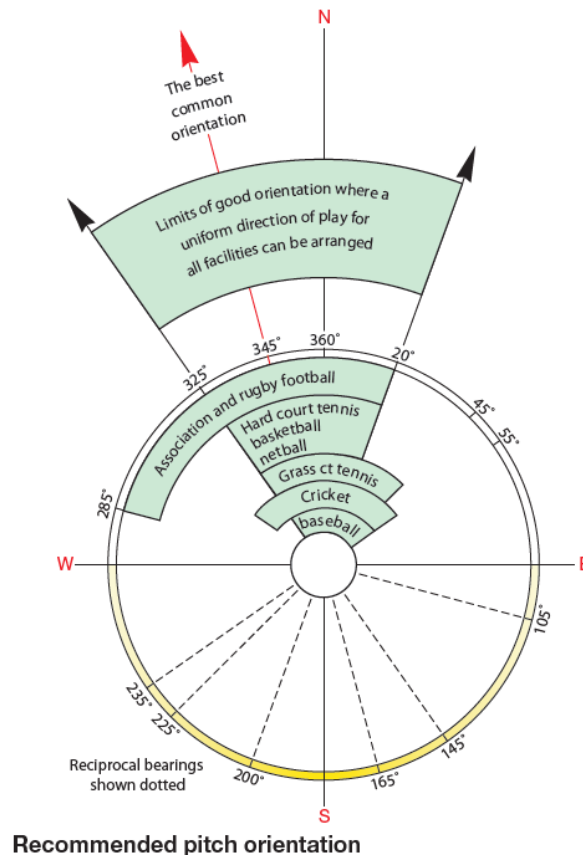
- 2.15 Laboratory analysis confirms that the former playing field site topsoil falls into the sandy loam textural classification. Fine sand dominated the overall sand percentage with a reduced number of course particles that would be conducive to a free draining playing field.

## Drainage

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface conditions:         | Surface conditions were wet at the time of the visit, with areas identified as unusable in Figure 4 of this report found to be saturated. Grass height was excessive around the playing field margins (outlined in figure 4), largely due to the difficulty of mowing these areas under the prevailing saturated ground conditions.                                                                                                                                                                                                                                                    |
| Existing drainage features: | A desktop study shows that no site wide drainage is thought to have been installed across the site at any time. An open ditch was located to the west of the football club site however no drainage was observed to be in-letting into the ditch at the time of the visit and is thought to be there to aid surface water removal. This would therefore classify the two existing youth football pitches as Type 1 Sport England pitches. Even if a piped drainage system is present or was installed historically, it is considered to be non-functional and therefore null and void. |

## Orientation

- 2.16 With respect to pitch orientation, Sport England has published guidance on optimum pitch orientations for a range of sports to minimise the impact of glare from the sun. For winter sports pitches, the limits of orientation are 285° and 20°.
- 2.17 Analysis of Google Earth imagery indicates that pitch orientation varies depending on the requirements of the junior football club; therefore, no single statutory layout was consistently observed across the available historical imagery.



**Figure 4: Recommended orientation**

#### Existing structures

- 2.18 An electrical substation was located to the south of the site along with a small Clubhouse area for the football club however it was reported that these will be removed as part of the proposed redevelopment plans. The substation currently limits any pitches been marked out within the east of the playing field area along with the clubhouse area to the east.

### 3.0 THE PROPOSED AREA FOR IMPROVEMENT AT NEW HUTTE

#### Introduction

3.1 The following section provides an assessment of the proposed land for improvement works at New Hutte Neighbourhood Centre.

#### Existing Site Conditions

#### Desk-Based Study

#### Location

|                       |                                |
|-----------------------|--------------------------------|
| Site address:         | New Hutte Neighbourhood Centre |
| Site postcode:        | L26 1TT                        |
| Site grid reference:  | SJ 44467 84806                 |
| Local authority area: | Knowlsey Council               |



**Figure 5: Aerial photo of site from Google Maps**

3.2 Hereafter, the area within the scope of this report as illustrated in Figure 1 shall be referred to as 'the site'.

The site demarcated within the red line above was directly bound to the north and east by vegetation that was overgrown along with some mature trees particularly within the east of the site. Directly beyond these areas was residential housing.

Located directly south and west of the site was the New Hutte Neighbourhood Centre building along with some car parking. This car parking area was the only location in which the playing field could be accessed via car or foot traffic. The nearest road to access the site was located to the west (Lichfield Road).

## Site Information

- 3.3 The following information has been obtained from publicly available sources including aerial photography, historical mapping, and Defra MAGICMap.

|                             |                                                                                                                                                                                                                 |     |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Existing land use:          | Playing field area                                                                                                                                                                                              |     |
| Existing sports facilities: | No winter sports pitches were marked out at the time of the visit however an informal Cricket pitch was marked out at the time of the visit. No formally constructed square or artificial surface was observed. |     |
| Historic land use:          | Playing field area                                                                                                                                                                                              |     |
| Land based designations:    | Area of outstanding natural beauty                                                                                                                                                                              | No  |
|                             | Local nature reserve                                                                                                                                                                                            | No  |
|                             | National nature reserve                                                                                                                                                                                         | No  |
|                             | Moorland line                                                                                                                                                                                                   | No  |
|                             | National park                                                                                                                                                                                                   | No  |
|                             | RAMSAR site                                                                                                                                                                                                     | No  |
|                             | Proposed RAMSAR site                                                                                                                                                                                            | No  |
|                             | SSSI                                                                                                                                                                                                            | No  |
|                             | Special area of conservation                                                                                                                                                                                    | Yes |
|                             | Special protection area                                                                                                                                                                                         | No  |
|                             | Community Forest                                                                                                                                                                                                | No  |
|                             | Biosphere reserve                                                                                                                                                                                               | No  |
|                             | Nitrate vulnerable zone (NVZ)                                                                                                                                                                                   | No  |
|                             | World heritage site                                                                                                                                                                                             | No  |
|                             | Registered battlefield                                                                                                                                                                                          | No  |
|                             | Registered parks and gardens                                                                                                                                                                                    | No  |

## Site Access

- 3.4 The playing field area can be accessed via the car park located to the south of the site. This car park is subsequently accessed via the main site entrance located off Lichfield Road to the west.

## Climate

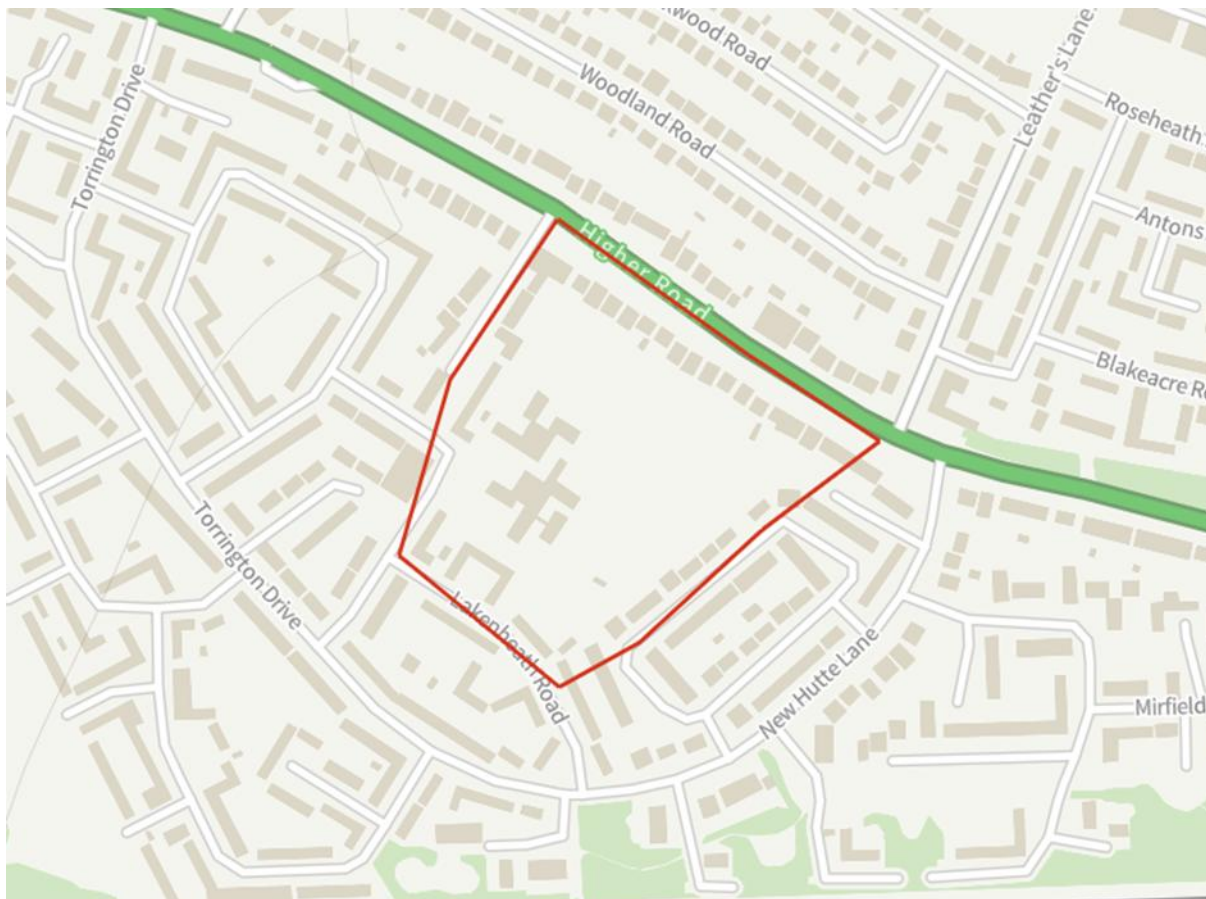
- 3.5 The following information has been obtained from the Met office website using data from Keele, the nearest official Met Office climate station, approx. 4 miles from the site, covering the period from 1991 – 2020.

### Annual Rainfall (mm)

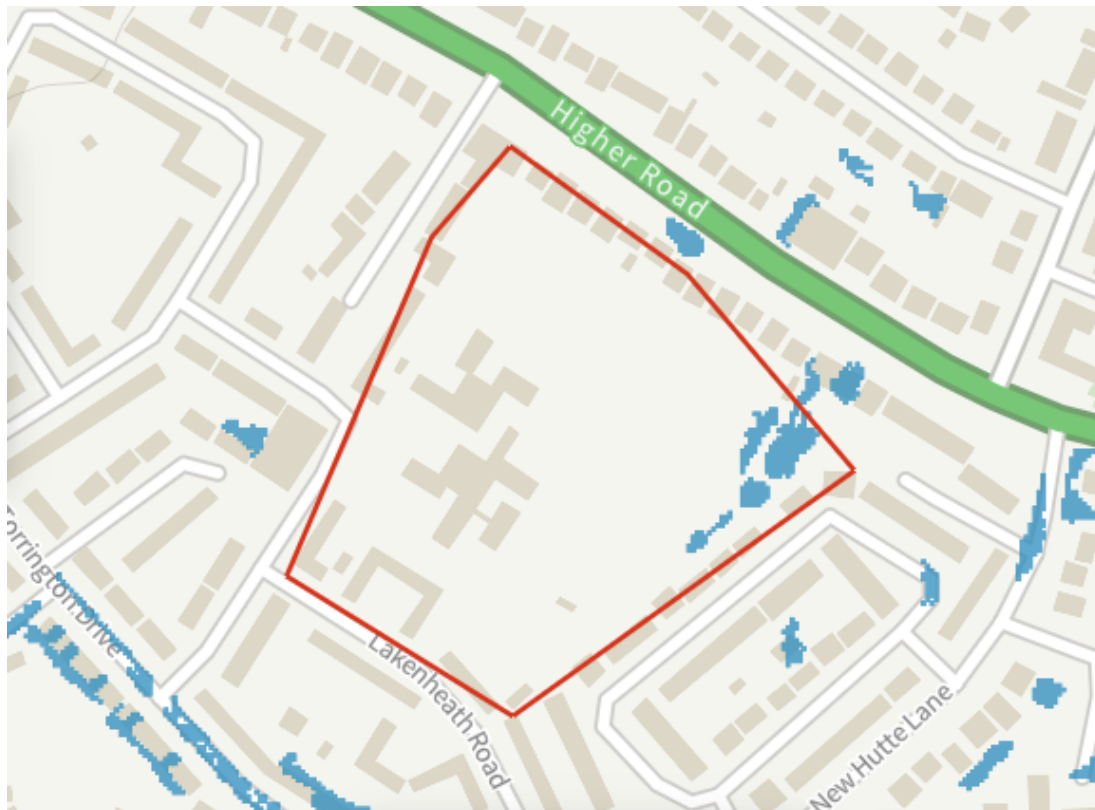
| Jan             | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 69              | 57  | 53  | 50  | 52  | 64  | 65  | 72  | 76  | 90  | 82  | 92  | 824  |
| England average |     |     |     |     |     |     |     |     |     |     |     | 950  |

## Flood Risk

- 3.6 The following information has been obtained from Environment Agency Flood Risk Maps (see figure 2). The site is located within flood zone 1 therefore there is a low probability of flooding.



**Figure 6: Flood risk for planning from Environment Agency (seas and river)**



**Figure 7: Surface water flooding within the east of the site**

## Geology

### Made Ground

3.7 The BGS mapping does not indicate any Made Ground on site.

### Superficial Deposits

3.8 The BGS mapping indicates that Till, Devensian deposits are present.

### Bedrock

3.9 The BGS mapping indicates that Wilmslow Sandstone Formation is located across the entire site period.

## Previous Ground Investigations

3.10 No ground investigation reports have been provided to STRI.

## Hydrology

3.11 The following information has been obtained from publicly available sources including aerial photography, the WWF Rivers Map, and the Environment Agency Statutory Main River Map.

|                                     |                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main rivers:                        | No main rivers are located within or close to the site boundary.                                                                                                             |
| Water bodies near site:             | A pond has been identified with the BGS map viewer located to the east of the playing field area. No pond was observed at the time of the site visit due restrictive access. |
| Water bodies within site boundary : | No water bodies are within the site boundary.                                                                                                                                |
| Distance to coastline:              | N/A                                                                                                                                                                          |

## Topography

- 3.12 The existing surface levels and gradients were assessed by reviewing a topographic survey provided to STRI by the client.

The overall gradient of the playing field area was falling in a west-east direction and averaged between 1:100-1:200. The gradient was falling from west-east however consistency was lacking towards the eastern boundary of the site with one area falling north and another area falling south.

***(Note: Sport England and FA guidance states the playing surfaces should be no steeper than 1:80 – 1:100 along the line of play and 1:40 – 1:50 across the line of play. The current gradients across the existing playing field site are in line with these guidelines)***

## Existing Usage

- 3.13 There is currently no existing winter sports usage across the existing playing field at New Hutte. The below table shows indicative hours of usage in comparison to the existing Sport England type construction. New Hutte is currently considered a Type 1 Sport England construction.

| Pitch Type                                       | Adult Hours of Use | Maintenance                                                                                                                                                                                                                      |
|--------------------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 – Undrained                                    | Under 2            | Aeration and sand dressing when conditions allow.                                                                                                                                                                                |
| 2 – Pipe drained                                 | 2-3                | Aeration and sand dressing when conditions allow.                                                                                                                                                                                |
| 3 – Pipe drained with mole drains                | 2-4                | Aeration when conditions allow. Sand dressing not essential, but beneficial. Re-moling every 3 – 5 years.                                                                                                                        |
| 4 – Pipe drained with sand grooves               | 3-6                | Aeration and regular sand top dressing (approx 60 - 80 tonnes per annum). Higher drainage rates mean that some irrigation may be necessary during dry periods.                                                                   |
| 5 – Pipe drained with slit drains                | 3-6                | Aeration and regular sand top dressing (approx 60 - 80 tonnes per annum). Higher drainage rates mean that some irrigation may be necessary during dry periods.                                                                   |
| 6 – Pipe drained with topsoil and drainage layer | 3-6                | Some increase in maintenance required. Aeration and sand dressing essential. Increased requirement for irrigation.                                                                                                               |
| 7 – Pipe drained with suspended water table      | 4-6                | Higher levels of fertiliser and irrigation to maintain hard-wearing turf. Top dressing with rootzone compliant material. Surface aeration work. Artificial upper rootzone reinforcement can be installed for greater durability. |

## PQS Testing

Below is a summary of the PQS testing that has taken place at the New Hutte site across the natural turf playing field area.

3.14

| Element                               | Limits                                     | Method of use                                                                      | Pass/Fail |
|---------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------|-----------|
| Sward height mm                       | 20 – 60 PS<br>20 – 75 SM                   | BS 7370: P3 A3                                                                     | Pass      |
| Hardness in g                         | 35 – 200                                   | STRI method of test using a 0.5kg Clegg Impact Hammer from a drop height of 0.55 m | Pass      |
| Broad leaved weeds %                  | <10                                        | BS 7370: P3 A6                                                                     | Pass      |
| Water infiltration rate mm/hr         | >5                                         | BS 7370: P3 A8                                                                     | Pass      |
| Evenness – 2-metre straight edge      | < 20 mm                                    | BS 7370: P3 A4                                                                     | Pass      |
| Slope – direction of play/across play | < 1.25 %<br>< 2.5 %                        | BS 7370: P3 A5                                                                     | Pass      |
| Ground cover%                         | > 70 for SH 25 – 30<br>> 80 for SH 30 – 35 | BS 7370P: P3 A6                                                                    | Pass      |

- All PQS tests were successfully passed following the PQS testing carried out.
- Hardness was at the lower end of the acceptable range, averaging 40 gravities, with infiltration just meeting the required standard at 13 mm/hour.
- Ground cover also passed; however, it should be noted that the playing field is not currently used for winter sports. Grass cover would be expected to pass under minimal use, and any significant activity is likely to have a negative impact on coverage

## On-site Appraisal

### Surface Levels

#### Topography and Surface Gradients

- 3.15 In addition to the desk-based appraisal of the topographic survey information gathered, general surface levels were assessed visually during the on-site appraisal.

### Surface Evenness

- 3.16 Surface levels were good in all areas of the playing field area with no major deviations noted in any areas that could impact health and safety.

### Existing Vegetation

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General:             | Existing vegetation was noted to be mown playing field area with a variety of broadleaf weeds observed such as clover ( <i>Trifolium</i> ), Daisy ( <i>Bellis perennis</i> ) and Yorkshire Fog ( <i>Holcus lanatus</i> ). Grass height was recorded to be approximately 40 mm and appears that the playing field area is regularly mown with no excess grass clippings observed.                                        |
| Agronomic condition: | The agronomic condition of the playing field area was moderate with a high number of broad leaf weeds dominating the surface therefore indicating that little to no key maintenance practices are carried out such as aeration, sand topdressing, fertilising, scarifying and selective herbicide applications. This is to be expected though as the playing field area is only currently used on a recreational basis. |
| Invasive species:    | There were no invasive species identified within the site at the time of the visit.                                                                                                                                                                                                                                                                                                                                     |

### Trees

- 3.17 Some mature trees were located along the northern and eastern boundaries however was primarily overgrown vegetation along this boundary. A higher number of mature trees were located along the eastern boundary.

### Ground Conditions

- 3.18 Ground conditions were very dry at the time however is important to state that the visit was carried out during the summer month of June where rainfall is naturally lower than other times of the year. It has been reported by the client that the ground conditions are soft during the winter months particularly within the eastern area of the playing field area.

### Site Soil Conditions

#### Soil Profiles

#### Visual Assessment

- 3.19 A series of trial pits were excavated by hand at various locations (see figure 3 below) to confirm the nature of the underlying soil profile. In summary, there was a consistent dark brown sandy loam topsoil across all three test pits excavated. The depth of topsoil was measured to be on average 200 mm and grass rooting extended to a maximum of 90 mm.

The dark brown sandy loam topsoil was overlaying an orange clay subgrade with a clear distinction apparent between the topsoil layer and subsoil layer. No waterlogging was noted in any of the test pits excavated and no contaminants were noted in the form of pottery or glass.



**Figure 8 – Trail Pit Locations**

#### Laboratory Soil Analysis

- 3.20 One representative sample of topsoil was collected for particle size analysis to determine the mineral and organic matter composition of the site topsoil. Full particle size analysis reports are included in Appendix 1.

| Sample location:             | Representative topsoil sample |
|------------------------------|-------------------------------|
| Laboratory reference number: | A21232/1                      |
| Soil texture:                | Sandy loam                    |
| Sand (%)                     | 57 (21% fine sand)            |
| Silt (%)                     | 28                            |
| Clay (%)                     | 15                            |
| Loss of ignition             | 7                             |

- 3.21 Laboratory analysis confirms that the site topsoil falls into the sandy loam textural classification. The soil has a relatively high proportion of fine particles ('fines') comprising of 28% silt and 15% clay. The relatively high proportion of fine particles mean that hydraulic conductivity is likely to be poor particularly for winter sports usage.

## Drainage

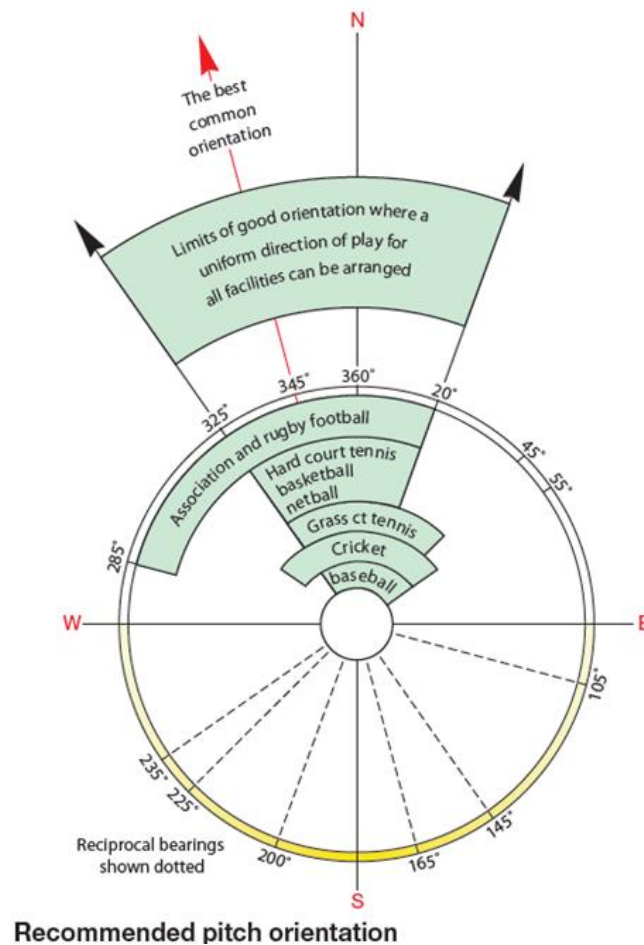
|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Existing drainage features:           | <p>Observations made through google time lapse showed that there are no indications of any existing drainage across the playing field area in the form of droughted turf lines. No observations were also made when attending the site that showed any drainage networks across the playing field area.</p> <p>A 'French drain' was observed within the south of the playing field area located in the corner and measured approximately 10 – 15 metres running adjacent to the eastern boundary. This drain appeared to be backfilled with a large MOT aggregate material however it is unknown if any pipe work is underneath the aggregate material.</p>                                                                                                                                                                                                                                                                                                  |
| Potential drainage outfall locations: | <p>As discussed within the table in Section 2.9, a pond was identified when looking at the BGS map viewer within the east of the site. This pond was not identified on site due to restrictions on access through fencing and overgrown vegetation. This area would need to be cleared to observe the depth of the pond and to understand its capacity for holding any water from any proposed pitch drainage system.</p> <p>A 'French drain' was also located in the southern corner of the playing field area however it would need to be understood if any pipe work is located underneath the MOT aggregate material.</p> <p>Manholes were discovered however not opened at the time of site visit and are thought to be connected/related to the building within the south/west of the site. This wider scheme could also be used as a connection point however the relevant permissions would have to be sought before any connection can be made.</p> |



***Figure 9 – Indicative location of the ponded area demarcated in blue***

#### Orientation

- 3.22 Below is the recommended Sport England guidance for pitch orientation which would need to be considered for the proposed winter sports surfaces at New Hutte.



**Figure 10: Recommended Orientation**

### Existing Structures

- 3.23 No existing structures were located within the site boundary however a main building was located the south/west of the site.

### Utilities

- 3.24 A full utilities search was not included in the scope of this report. The presence of any existing services should be confirmed in advance of any works.

## Discussion

3.24 The following points should be considered as part of any potential improvement works of the existing playing field area.

- The existing playing field area at New Hutte can accommodate a junior 9v9, 5v5 and 7v7 football pitches with the proposed layout seen within Appendix 1 of this report. However in order to accommodate the pitches the 7v7 junior pitch would have to be played within the 9v9 pitch as there is not sufficient space for 3 independent pitches within the playing field area. The proposed layout also avoids a potential clash with a proposed play park that could be located within the south of the playing field area.
- PQS testing was undertaken across the New Hutte playing field to establish the existing Performance Quality Standard and to enable direct comparison with the Grace Park site. At the time of the visit, all Performance Quality Standard tests were passed in accordance with the FA benchmark criteria, as set out in Appendix 2 of this report. It is, however, important to note that water infiltration rates were recorded at the lower end of the pass threshold, with surface hardness also marginally achieving a pass.
- Despite all Performance Quality Standard tests passing, as set out in Appendix 2 of this report, it is important to note that the New Hutte playing field is not currently used for winter sports activity. As a result, test results such as grass cover and water infiltration are likely to be more favourable than would be expected under regular winter usage. It is therefore considered that, should the playing field be subject to consistent winter sports use, certain parameters may be at risk of failing without further improvement works.
- The site assessment has concluded that if the area is to be brought back into use for winter sports, it would be recommended that a network of primary drainage would be required to provide a drained playing field area. The LandIS Soilscales Viewer indicates that the existing soils are “Slowly permeable seasonally wet” which further increases the need for a primary drainage system to be implemented across the playing field area. A primary drainage system would mean that the playing field area will be able to sustain a high number of hours in relation to usage.
- The existing topsoil was tested by STRI and shows that a sandy loam material is present across the playing field area with a high number of fine particles present such as silt (21)%. The high number of fine particles shown in results show that drainage potential is limited particularly if winter sports are going to be played along with increasing the usage levels therefore further highlighting the need for a primary drainage system to support any increased usage of the playing field area. An orange clay subgrade was observed underlying the existing topsoil material further decreasing drainage potential.
- The topography of the playing field area was judged to be within Sport England gradient guidelines with no isolated areas noted to be steep or shallow in relation to topography. Surface evenness was good in all areas of the playing field area as well. This would mean that no major earthworks are required to bring any of the playing area within Sport England gradient guidelines. The majority of the playing field area did slope from west-east however there were some minor falls in different directions once closer to the eastern boundary of the site. Minor re-grading works may be required to create more of a consistent fall in a single direction if any primary pipe drainage is to be installed as part of any future works. The requirement for minor re-grading would be picked up at the detailed design stage.
- If a primary drainage system is to be implemented across the playing field area, a relevant connection point would need to be confirmed prior to any works commencing. As discussed within this report, the existing pond could potentially be used to the east of the site however this was overgrown at the time of the visit so further investigations would be required to understand if this pond is deep enough and has the capacity to hold any pitch drainage. A ‘French drain’ was also discovered in the south of the playing field area however further investigation would be required to understand if a pipe drain is located underneath the MOT aggregate material or the stone is simply there to act as a soakaway. Another potential option is to connect into the wider scheme connected to the building located within the south/west of the site with manholes discovered at the time of the visit however these were not opened.
- Before any works are to be carried out, the extent of the existing drainage infrastructure and potential outfall options would need to be determined.. It would be recommended that a primary drainage system is to installed in particular the area demarcated by the red line in figure 4 below. . This is because this is where the pitches will be marked out and is also historically the wettest part of the playing field area. A play park is also to be potentially developed within the area marked blue of the proposed layout seen within appendix 1 of this report. The area of playing field area located directly adjacent to the south of the car park could be extended.

- A secondary drainage system may have to be implemented further down the line dependent on any increased usage levels however this can be done outside of any original scope of works.
- Any works access can be gained via Lichfield Road however it would need to be agreed with the council and the neighbourhood centre that the car park located to the back of the building would not be used by the public and closed for plant equipment and materials storage.
- It would be anticipated that the works would take approximately 1-2 weeks to complete dependent on suitable ground and weather conditions with the playing field recommended to be unused for approximately 8-10 weeks prior to completion of the works to allow appropriate seed establishment along the drain line areas.



**Figure 11 – Priority area to be drained**

## Summary Risk Register

3.25 The following information provides a summary of the risks associated with potential playing field improvement works at New Hutte. The following does not constitute a designer risk register, instead it is intended for information purposes to assist in assessing the current condition of the site and the constraints to the development of new playing fields.

| Low risk |                              | Medium risk                                                    | High risk | RAG | Notes                                                                             |
|----------|------------------------------|----------------------------------------------------------------|-----------|-----|-----------------------------------------------------------------------------------|
|          |                              |                                                                |           |     |                                                                                   |
| Risk No. | Risk Description             | Detail                                                         |           |     |                                                                                   |
| 1        | Existing land use            | Unused playing field area                                      |           |     |                                                                                   |
| 2        | Historic land use            | Playing field area                                             |           |     |                                                                                   |
| 3        | Land designation             | No land designation know                                       |           |     |                                                                                   |
| 4        | Site access                  | Acesss is currently gained to the west of the site             |           |     |                                                                                   |
| 5        | Climate                      | Below the England average rainfall                             |           |     |                                                                                   |
| 6        | Flood risk                   | The proposed areas of development are located in flood zone 1  |           |     |                                                                                   |
| 7        | Hydrology                    | No waterbodies located within the site                         |           |     |                                                                                   |
| 8        | Topography                   | No major re-levelling works required                           |           |     |                                                                                   |
| 9        | Ground conditions            | Ground conditions were dry at the time of the visit            |           |     | Site visit carried out in summer                                                  |
| 10       | Contaminated land            | No contaminated land                                           |           |     |                                                                                   |
| 11       | Proposed usage               | Proposed usage levels unknown                                  |           |     |                                                                                   |
| 12       | Existing vegetation          | Existing vegetation is very poor with few fine species present |           |     | Good level of maintenancne should be carried out in the future                    |
| 13       | Trees                        | Trees located along the eastern boundary                       |           |     | Root protection zones would be required for works                                 |
| 14       | Site soil conditions         | Sandy Loam                                                     |           |     | Orange clay subgrade limiting drianage potential                                  |
| 15       | Exisitng structures          | No exisitng structures within the site boundary                |           |     |                                                                                   |
| 16       | Utilities                    | Presence of utilities unknown                                  |           |     | Full utilities survey to be undertaken.                                           |
| 19       | Drainage discharge locations | Drainage outfall unknown at this point                         |           |     | Further investigations would be required to understand the final outfall location |

## Recommendations

- 3.26 The following section provides detailed recommendations for the works required at New Hutte to ensure that any proposed sports surfaces are of appropriate quality.

### Recommended methodology for the proposed drainage works

The following recommendations are provided based on the information gathered during the site visit and provided by the Client. These recommendations do not form a specification of works and should not be used as such. The dimensions and depths of materials may be altered once the detailed design and specification of works is formulated. Minor re-grading may be required as part of the works and would be determined as part of any detailed design works.

#### Initial site works

- 3.27 The surface vegetation should be treated with a selective-based herbicide in line with current legislation and COSHH guidelines. This will treat any broadleaf weeds within the playing field area.

#### Pipe drainage installation

- 3.28 It is recommended that a primary pipe drainage system be installed comprising of a series of lateral drains running across each area. These would then connect into main carrier drains.

The lateral drains should be installed at specified intervals across the pitch areas to collect and discharge surface water.

Drain trenches would be formed using a chain trencher or tractor mounted wheel type trencher.

Lateral drains should connect into a network of main carrier drains to transport surface water to a suitable outfall location. All pipes should be connected using purpose made junctions.

Once the pipes have been laid and connected the trenches should be backfilled with a clean drainage aggregate.

The proposed drainage design should include the provision of silt chambers and inspection chambers at strategic locations along the line of the main carrier drains.

A sealed outlet drain would be installed, this extending from the final chamber to connect to the wider drainage scheme or the potential pond in the east of the site.

- 3.29 Drain trenches would be formed using a chain trencher or tractor mounted wheel type trencher, these being approximately 150 mm wide and typically 500-600 mm deep.
- 3.30 Main carrier drains for a scheme of this nature typically consist of 150 mm diameter uPVC perforated land drainage pipes. Once the pipes have been laid and connected the trenches should be backfilled with a clean 2-6 mm grade drainage aggregate.

#### Seeding

- 3.31 Once a suitable seed bed has been prepared, this would then be sown out with a seed mixture containing hard wearing cultivars of *Lolium perenne* (Perennial ryegrass).

## Timing and Establishment

- 3.32 The recommended works would be best timed for drier ground conditions which would normally be experienced during the summer period, with final seeding carried out in the late summer, early autumn period, (i.e., around late August or early September) to coincide with the more showery weather typically experienced at that time. Works would be anticipated to take 2 weeks to complete with a period of approximately 8-10 weeks before play can take place across the playing field.

## Additional Investigations and Surveys

- 3.33 The following table summarises any further investigations required to fully assess the feasibility of the proposed new sports surfaces at Pool Lane and to inform the next phases of the project.

| Further investigations                         | Required? | Comment                                        |
|------------------------------------------------|-----------|------------------------------------------------|
| Topographic survey                             | No        |                                                |
| Flood Risk Assessment (FRA)                    | No        |                                                |
| Geotechnical investigation                     | No        |                                                |
| Ground investigation report                    | No        |                                                |
| Infiltration testing/Drainage outlet solution. | Yes       | Potential if no viable outlet source is found. |
| Arborocultural survey                          | No        |                                                |
| Utility plans                                  | Yes       | Required as the design develops.               |

## Indicative Cost Estimates

The following indicative capital cost estimates are based on the current rates for similar works carried out by specialist sports turf contractors and are indicative only and intended to provide a rough estimate of project capital costs.

| Item                                                     | Indicative cost estimates |
|----------------------------------------------------------|---------------------------|
| Contract Preliminaries, Transport & General Requirements | £10,000.00                |
| Primary drainage installation                            | £38,000.00                |
| <b>Sub -Total (Including 10% contingency fee)</b>        | <b>£52,000.00</b>         |

\* No allowance for sports equipment, goals, flags, team shelters etc.

\*\* NB: all costs are subject to tendering, material price fluctuation and market conditions at the time of engaging with a contractor and may vary largely depending on supply and availability.

\*\*\* No allowance for associated car park, changing facilities or maintenance equipment area.

### Health and Safety

3.51 The following potential hazards are typical of sports development and maintenance works and have been identified during the site appraisal and in the preparation of this report.

- The presence of any underground and/or overhead services should be confirmed before commencing any pitch improvement works.
- Delivery and haulage of bulk materials on site.
- Movement of construction plant and maintenance machinery.
- Confirmed spaces.
- Dust.
- Excavations.

3.34 These hazards are common to most sports pitch develop work, but this does not constitute a complete list, and any additional issues should be identified before commencing work. It is recommended that a Designer Risk Assessment is carried out as part of the next stage of the project.

#### 4.0 PHOTO RECORD OF SITE CONDITIONS – GRACE PARK



## 5.0 PHOTO RECORD OF SITE CONDITIONS – NEW HUTTE



## APPENDIX 1 - LABORATORY ANALYSIS RESULTS



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### SOIL PARTICLE SIZE ANALYSIS

|              |                                                 |              |          |
|--------------|-------------------------------------------------|--------------|----------|
| CLIENT:      | KNOWSLEY COUNCIL -<br>GRACE PARK PLAYING FIELDS | DATE :       | 21/11/24 |
|              |                                                 | RESULTS TO : | JW       |
| DESCRIPTION: | TOPSOIL                                         | SAMPLE NO :  | A20958/1 |

| CATEGORY      | DIAMETER mm | % |
|---------------|-------------|---|
| Stones        | >8          | 6 |
| Coarse gravel | 8-4         | 3 |
| Fine gravel   | 4-2         | 1 |

Particle size distribution of mineral matter smaller than 2mm

|                                             |             |            |
|---------------------------------------------|-------------|------------|
| Very coarse sand                            | 2-1         | 2          |
| Coarse sand                                 | 1.0-0.5     | 4          |
| Medium sand                                 | 0.50-0.25   | 16         |
| Fine sand                                   | 0.250-0.125 | 23         |
| Very fine sand                              | 0.125-0.050 | 17         |
| Silt                                        | 0.050-0.002 | 23         |
| Clay                                        | <0.002      | 15         |
| Loss on ignition (% of oven-dry fine earth) |             | 3.5        |
| Calcium carbonate                           | %           | /          |
| SOIL TEXTURE                                |             | SANDY LOAM |

T = TRACE

THESE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED

## SOIL PARTICLE SIZE ANALYSIS

|              |                                               |              |          |
|--------------|-----------------------------------------------|--------------|----------|
| CLIENT:      | KNOWSLEY COUNCIL,<br>NEW HUTTE PLAYING FIELDS | DATE :       | 10/07/25 |
|              |                                               | RESULTS TO : | JW       |
| DESCRIPTION: | TOPSOIL                                       | SAMPLE NO :  | A21232/1 |

| CATEGORY      | DIAMETER mm | % |
|---------------|-------------|---|
| Stones        | >8          | 0 |
| Coarse gravel | 8-4         | 1 |
| Fine gravel   | 4-2         | T |

### Particle size distribution of mineral matter smaller than 2mm

|                                             |             |            |
|---------------------------------------------|-------------|------------|
| Very coarse sand                            | 2-1         | T          |
| Coarse sand                                 | 1.0-0.5     | 3          |
| Medium sand                                 | 0.50-0.25   | 16         |
| Fine sand                                   | 0.250-0.125 | 21         |
| Very fine sand                              | 0.125-0.050 | 17         |
| Silt                                        | 0.050-0.002 | 28         |
| Clay                                        | <0.002      | 15         |
| Loss on ignition (% of oven-dry fine earth) |             | 5.2        |
| Calcium carbonate                           | %           | NIL        |
| SOIL TEXTURE                                |             | SANDY LOAM |

T = TRACE

THESE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED

## APPENDIX 2 – PROPOSED LAYOUT

