



University of Southampton

Wide Lane Sports Centre
New Sport Pitches and Security Fences

DESIGN AND ACCESS STATEMENT

293368-ARUP-ZZ-XX-RP-V-002_P02

29th March 2023



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Revision History

22.03.2023	P01	First issue
29.03.2023	P02	First issue



1. Introduction

Arup have been appointed by the The University of Southampton to develop proposals at the Wide Lane Sports Ground for two, new 3G artificial grass pitches including associated infrastructure such as fencing to the pitch perimeters. In addition new security fencing is proposed in proximity to the existing sports pavilion and gym pavilion.

This Design and Access Statement (DAS) has been prepared in support of the planning application for the proposed development as described above and should be read in conjunction with the adjacent drawings and reports.

Drawing and Document List

Site Location Plan:	293368-ARUP-ZZ-XX-DR-L-1000
Existing Site Plans:	293368-ARUP-ZZ-XX-DR-L-0100 - 0101
Proposed GA Plans:	293368-ARUP-ZZ-XX-DR-L-0200 - 0201
Proposed Softworks Plans:	293368-ARUP-ZZ-XX-DR-L-0300 - 0301
Typical Detail (AGP fence):	293368-ARUP-ZZ-XX-DR-L-0600
Typical Detail (Security fence):	293368-ARUP-ZZ-XX-DR-L-0601
Electrical Containment Plans:	293368-ARUP-ZZ-XX-DR-E-0200 - 0201
Flood Risk Assessment:	293368-ARUP-ZZ-XX-RP-C-001
Tree Constraints Plan (EnviroArb-Solutions):	EAS-026-WL-02 v2
Tree Condition Survey and Report (EnviroArb-Solutions):	EAS-026
Preliminary Ecological Appraisal (John Wenman Ecological Consultancy)	R3270/b

2. Site Context

2.1 Existing Site

Site location

The sports ground is located in Eastleigh, to the west of Southampton Airport and Southampton Airport Parkway railway station. It is bordered by Wide Lane to the east, the A335 to the south, Monks Brook to the west and Lakeside Country Park to the north. The site proposed for development sits towards the centre of the Wide Lane Sports Ground.

Existing facilities

The existing sports ground covers an area of 76 acres, and comprises the following facilities:

- Grass pitches for a range of sports including rugby, football and cricket
- 2 floodlit Synthetic turf pitches
- 8 floodlit tennis courts
- Pavilion with changing facilities and bar
- Gym and Sports Performance Centre

There is a need to develop the Wide Lane site in order to accommodate improved rugby and football facilities for use by the University and the wider community. Currently the grass pitches within the red line boundary do not meet the intensive demand of the University and have significant maintenance issues relating to poor drainage. This means the pitches in this location are unusable for extended periods of time throughout the wetter months.

The provision of new AGPs will provide increased usage in comparison to the existing grass surfaced pitches on the existing playing fields, for the benefit of the University and wider community, to gain the maximum usage during the day and throughout the seasons.

Existing security fencing

Currently there is no perimeter fencing at the Wide Lane site, therefore a new security fence is required.

There is a desire to ensure people are funneled through the pavilion building to ensure only people who have paid are able to access the pitches.



Figure 01: Aerial view of Wide Lane Site (red line - site boundary, blue line - ownership boundary)



View towards existing artificial sports pitches and sports pavilion



Existing aggregate paths in proximity to the existing artificial pitches



Existing chain link fence, with concrete posts, adjacent to the car park



Existing chain link fence, with low gate close to the main access off Wide Lane

2.2 Site Constraints

Existing sports pitches

There are a number of existing grass pitches, including football, rugby and two cricket pitches. A key requirement of the proposal was to ensure the maximum number of existing grass pitches are retained.

Existing trees - Tree Root Protection Areas

The site contains a mix of mature and maturing trees, set mostly within linear groups around the boundaries and through the centre of the site.

A tree condition survey, report and constraints plan has been prepared by an accredited Arboriculturalist for the Wide Lane site. The majority of trees growing at the site are in moderate condition and health, with the majority of trees running east - west through the centre of the site being Category B trees. Species to the south of the proposed pitches include largely Lombardy poplar and Silver birch, and to the east include White poplar and London plane.

The tree root protection areas (RPA) are identified on the Tree Constraints Plan (see standalone Tree Constraints Report and drawing). Tree protection fencing will be required to ensure the RPAs are protected in accordance with BS 5837 ‘Trees in relation to design, demolition and construction – Recommendations’

Ecology

A Preliminary Ecological Appraisal (PEA) was carried out in order to assess the ecological value of the site and identify any ecological constraints associated with the proposals.

Designated Sites

The site is not statutorily or non-statutorily designated for its wildlife interest and therefore the proposals will have no direct impact on protected sites.

The site is within the impact risk zone for the River Itchen SAC/SSSI; however the scope of works is small and will involve the additional of artificial sport pitches similar to those already present on site. There will not be a significant change in the recreational use of the site, and therefore this will not lead to an increase on pressure on the SSSI/SAC.

Habitats

The site features intact lowland, mixed deciduous woodland and intact hedgerows, both defined as a habitat of Principal Importance (HPI) for biodiversity. The site has areas of other woodland, mixed scrub and a line of trees bisecting the centre of the site, which are habitats that could be of some

ecological importances for a range of locally occurring species. The modified grassland, area of gravel, and sealed surfaces of the car park and artificial sports pitches are of low-to-negligible ecological value to local species.

The proposals will only involve the removal of modified grassland - a habitat of low ecological importance - and will not lead to the loss of any areas of principal habitats. The proposals will be carried out adjacent to the line of trees that cross the site, which could be of some ecological importance to local species and therefore precautions should be taken to reduce any impacts on the tree roots during the works.

Bats

The mature trees around the site, including several oak trees to the west of the site, were noted as having potential roost features for a range of bat species recorded in the local area. The woodland, line of trees, hedgerows and nearby habitats are of high suitability for roosting, commuting and foraging bat, and the site as a whole, is likely to act as a resource of some importance to bats locally.

The woodland and trees on site are all to be retained and unaffected by the proposals, so there will be no loss of habitat for potential roosting or foraging bats.

Please refer to the PEA for full detailed Ecology information.

Flooding and Drainage

An area of Flood Zone 3 is located directly around Monks Brook but does not encroach into the site. The Flood Zone 2 encroaches on to a portion of the existing grassed playing fields, however the proposed artificial pitches are located in Flood Zone 1.

Utilities

No public utilities were identified in the existing grassed playing field. However, Southern Water utility records show a water main running along Wide Lane in the vicinity of the Wide Lane site entrance.

The existing buildings are served by utilities and there will be a private network that serves the buildings.

The existing artificial sports pitches have a positively drained storm drainage system and electrical supply to the flood lights. As with the building utilities, the location, type, route, depth and diameter of these utilities are currently unknown although some information is provided in the topographical survey.

The topographical survey shows a single drainage network running north from the artificial pitches however the route beyond the survey extents, outfall destination and capacity is currently unknown.

Three of the pitches to the north of the existing artificial pitches have had a system of land drainage installed.



3. Artificial Grass Pitch Design Proposal

3.1 Description and Purpose

A total of three existing grass pitches, including two football (youth / training only) and one rugby pitch will be replaced by the artificial pitches. The AGPs will be more flexible and capable of supporting a wider range of pitch arrangements than the existing grass pitches as detailed in section 3.2.

Planning permission is sought to re-develop existing grassed pitches into two new 3G artificial pitches with associated features as listed below.

- Installation of two 3G Artificial Grass Pitches (AGP). One pitch will be Football only and the other a combined Football and Rugby pitch.
- Installation of new wire mesh fencing to the perimeter of the AGPs.
- Installation of new hard standing areas to the southern edge of the AGPs, with porous asphalt surfacing for pedestrian access, goal storage, dugout areas.
- Installation of a mowing strip to the perimeter of the pitches.
- Installation of aggregate paths leading from the existing aggregate paths to the proposed AGPs.
- Ecological enhancements

3G Pitch definition

‘Third Generation (3G) Pitches consist of long synthetic fibres infilled with a combination of rubber and / or sand granules specific to the performance characteristics required for individual sports.’

Purpose and Use

The new AGPs will contribute to the improvement of sporting facilities for rugby and football match play and training. They will provide increased usage in comparison to the existing grass pitches, for the benefit of the University and the wider community, and will ensure maximum flexibility and usage during the day and during the evenings.

The new AGPs will be capable of supporting a variety of pitch arrangements within the same enclosed playing area. The Football Association’s (FA) technical guidance encourages the introduction of multiple pitch markings to gain the maximum football developmental outcomes and benefit from the site footprint.

3.2 Pitch size and layout

AGP pitch sizes

Two AGP are proposed one for football and one combined rugby and football.

Football pitch

Principal playing area plus run off: 106 x 70m (does not include the goal recesses and dugout)

Football and Rugby pitch combined

Principal playing area plus run off and in-goal: 126x 80m (does not include the goal recesses and dugout)

Pitch arrangement options / over markings

The AGPs will be capable of supporting the following pitch arrangements:

Football pitch

Main pitch:
1 no. Over 18 and Adult (11V11) 100x64m

Over markings:
2 no. Under / Youth U11 / U12 (9V9) 64x46m - *smaller than recommended size but acceptable for match play use.*
4 no. Training areas 48x30m

Football and Rugby pitch combined

Main pitch:
1 no. Rugby - Senior (7 / 10 / 15 a -side) 100 x 70m

Over markings (for football):
1 no. Over 18 and Adult (11V11) 100x64m
2 no. Under / Youth U11 / U12 (9V9) 64x46m - *smaller than recommended size but acceptable for match play use.*
4 no. Training areas 48x30m

Over markings are to be finalised at detailed design.

Location

- The proposed AGPs will replace three existing grass pitches.
- The proposed location takes the following considerations into account:
- Close proximity to changing accommodation and other support facilities
 - Close proximity to existing artificial pitches which incorporate existing services (electricity and drainage).
 - Convenient proximity to existing aggregate paths, so players, spectators and maintenance equipment do not have to cross natural turf.
 - Convenient proximity to vehicular parking
 - Location in flood Zone 1
 - Reduced impact on existing trees and tree RPAs
 - Minimal Ecological impact to Monks Brook and adjacent woodland.
 - Minimal disruption to existing grass pitches

Access paths to pitches

Aggregate paths (to match existing) are proposed to lead from the existing path to the main AGP entrances. Areas of new hard standing are proposed to the main entrances along the southern boundary. This is in line with Sport England and FA guidance to ensure debris and mud isn’t walked onto the pitches.

New hard surface treatments around the AGPs is restricted to porous asphalt and aggregate paths (to match existing) and is required for pedestrian access, goal storage, ‘dug out’ spectator space, and vehicular access for maintenance operations.

Guidance

- The following guidance has been used to develop the 3G AGP pitch proposals, along with technical advice from sports pitch specialists and suppliers.
- Sport England: *Artificial Surfaces for Outdoor Sport, Updated guidance for 2013*, Sport England. Jointly developed by National Governing Bodies, including the Football Association (FA) and The Rugby Football Union (RFU).
 - *The FA Guide to 3G Football turf pitch design principles and layouts.*
 - World Rugby - *Laws of the game Rugby Union 2022* and *World Rugby Regulation 22.*

3.3 AGP surface finish

The pitches will be surfaced in a 3G artificial turf comprising a synthetic turf, partially in-filled with a granular fill, giving the overall appearance of grass.

Pitch build up

The below sets out the pitch type / system, and complies with the FIFA / World Rugby and therefore BUCS guidance.

Football only build up (FIFA)

- 50mm turf or 60mm turf
- Installation on tarmac base

Multi-sport (combined) build up (FIFA/World Rugby)

- 50mm turf (dual yarn)
- Installation on in situ shock pad (25mm)

Artificial Turf system

Football only turf system (FA / FIFA)

LigaTurf RS+R 260 18/4 by Polytan or equivalent and approved

- 50mm turf

Multi-sport (combined) turf system (FA / FIFA/World Rugby)

LigaTurf Cross R 250 13/8 by Polytan or equivalent and approved

- 50mm Dual yarn turf (straight and texturized)



AGP pitch turf

3.4 AGP Perimeter fence

A double wire mesh fence (5.08m high) will form the AGP pitch perimeter to the football and combined AGP pitches. The fence and gate mesh is finished in a polyester powder coat, RAL6005 Dark Green or RAL9005 Black, with double leaf and single leaf entrance gates to match the adjacent fence.

Refer to drawing 293368-ARUP-ZZ-XX-DR-L-0201 and 293368-ARUP-ZZ-XX-DR-L-0600 for further information



AGP pitch perimeter mesh fence



AGP single leaf (pedestrian) and double leaf (maintenance access) gates to match adjacent fence



4. Lighting

4.1 Description and Purpose

The two new artificial sports pitches are intended to be used by the University and their benefit extended for use by the public. To facilitate this, the pitches will need to be designed with floodlighting to increase the hours of play available, thereby extending university and community use of the new facilities.

As previously stated, the site has areas of woodland, mixed scrub and a line of trees bisecting the centre of the site, which are habitats that could be of some ecological importance for a range of locally occurring species and the high suitability for roosting, commuting and foraging bats. Before floodlighting can be considered, we understand that an ecological survey will be required, and it is understood that this will take a number of months.

Allowing for the Future Installation of Floodlighting

To allow the pitches to be developed and put into use by the University and public as quickly as possible, the pitches will be developed without lighting at this stage. However, cable containment provision is proposed to be installed at this stage, allowing the future installation of pitch lighting while avoiding the bulk of the disruptive ground works associated with the installation of cable trenches. The provision of floodlighting to the new artificial pitches would then form a separate future planning application, following receipt of the results of the ecological survey.

4.2 Containment for Future Cable Installation

It is proposed that no electrical installation is carried out under these works. Instead, only the electrical containment for the future floodlighting installation will be installed. This will consist of several twinwall high density polyethylene (HDPE) electrical ducts complying with ENATS 12-24 Class 2 routed from the property’s main LV switchgear to the future location of two LV feeder pillars, one adjacent to each of the new pitches.

Ducts will also be run from the future location of each feeder pillar along the length of both sides of both new fields to allow for future lighting supply cabling from the feeder pillar locations to future lighting columns.

Cable Duct Excavation

It is proposed that the cable ducts are buried along their length in trenches, dug into soft ground and existing aggregate pathways, as shown on the Proposed GA Plans (293368-ARUP-ZZ-XX-DR-L-0200-0201), and buried at a depth of 450mm.

Ducts will be supplied with draw wires and end caps. Draw wires will be secured to a buried stake and their exact location noted to inform the future electrical installation.

4.3 Future Lighting Installation

Future cable installation will require the electrical contractor to excavate the ducts at strategic locations to allow the cables to pulled through intervening sections of duct. The ducts will need to be cut open, the cables pulled through, and the cut sections rejoined and reburied.

Two new feeder pillars will be installed at the locations shown on the drawings. These will house LV switchgear and, if required, the lighting control system for the pitch floodlighting.

Floodlighting will be installed on lighting columns along the length of each pitch. The quantity, location, height, base specification, etc., of the floodlighting columns will subject to future design following receipt of the ecological survey results, and will form a separate planning application. The survey outcome may require the floodlighting design to incorporate measures to mitigate ecological disturbance.

5. Drainage

Flood Risk

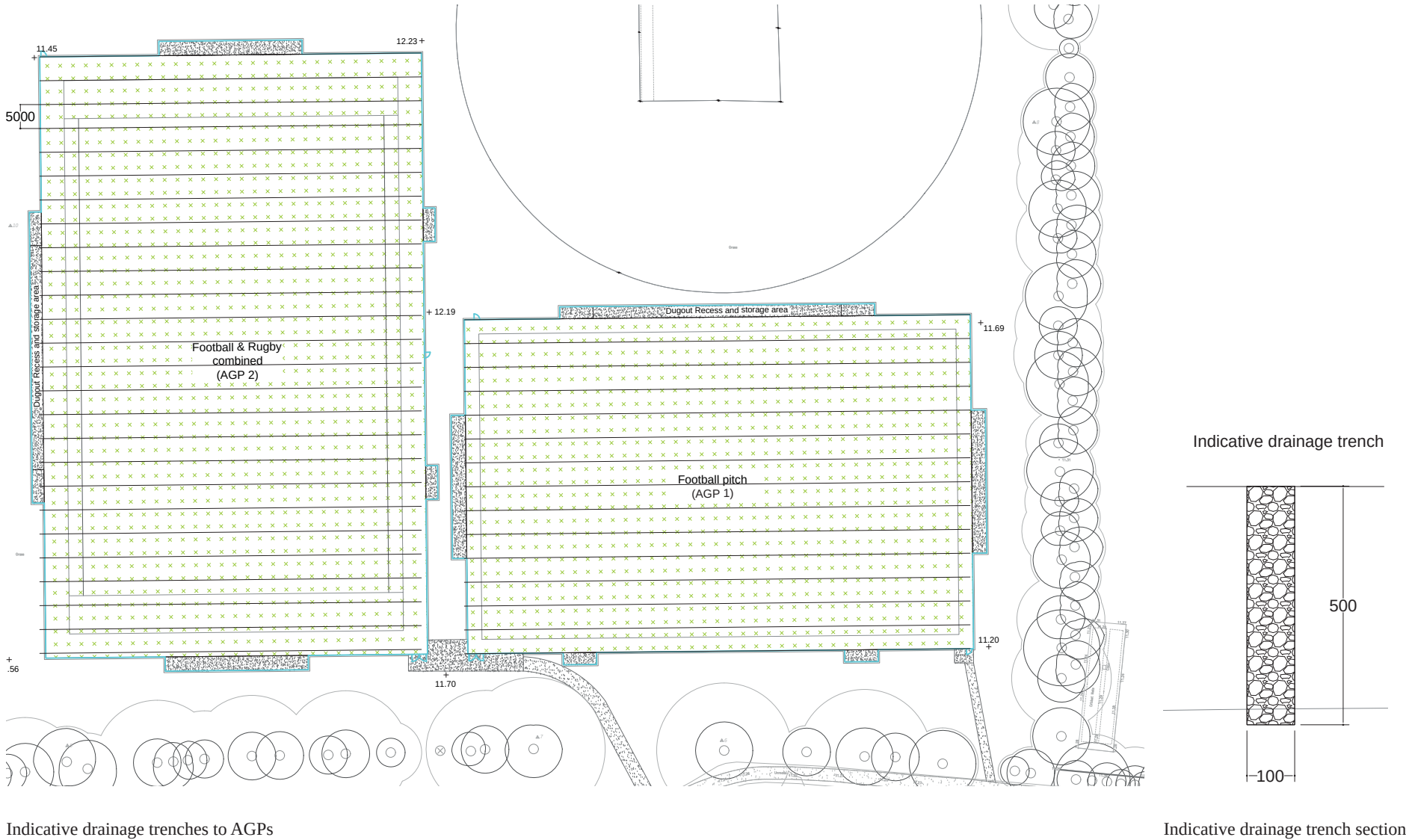
As noted previously, the new pitches have been located outside of Flood Risk zones 2 and 3 therefore the risk of flooding from fluvial sources is low. Refer to the Flood Risk Assessment for further details.

The proposed pitches will be permeable, as the existing, therefore there is no increase in flood risk from the proposed works.

Drainage

A positive drainage system will be installed for each of the new pitches to infiltrate water through a series of land drains. Preliminary permeability information indicates drainage trenches 100mm wide, 500mm deep at 5m centres along the length of the pitch would provide sufficient capacity to accommodate the 1 in 100 year event, with climate change allowances.

Detailed design of the drainage will be undertaken by the pitch specialist as the design is developed.



6. Security Fence & Gates

A new wire mesh fence (2.04m high) will form a secure line to the Wide Lane sports facility, and ensure visitors are funneled through the sports pavilion on arrival.

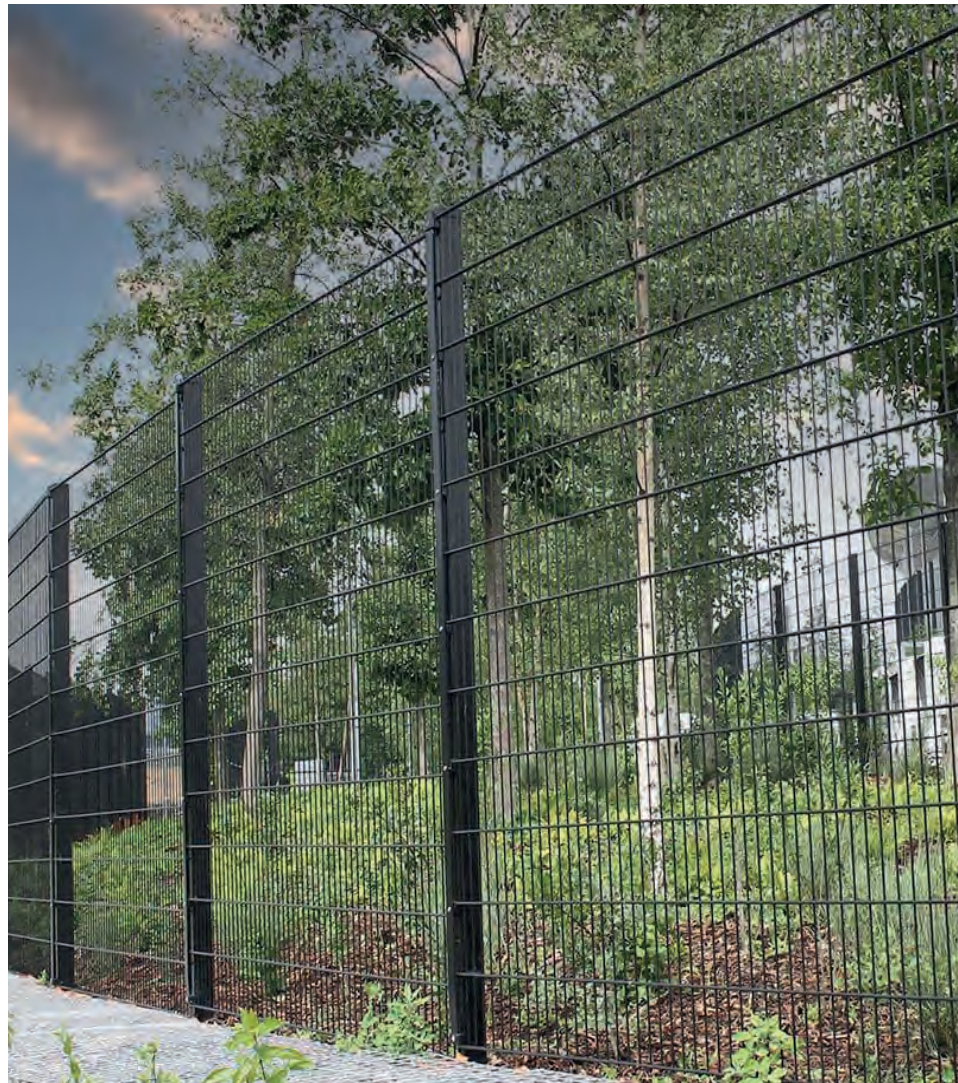
The new security fence is positioned either side of the sports pavilion, and will replace part of the existing chain link fence in proximity to the gym pavilion in order to provide a secure fence line.

The open mesh fence and gates is finished in a polyester powder coat, RAL9005 Black. Double leaf and single leaf entrance gates are proposed to replace existing gates and also to ensure emergency access and access on open days can be accommodated.

Refer to drawing 293368-ARUP-ZZ-XX-DR-L-0201 and 293368-ARUP-ZZ-XX-DR-L-0601 for further information on fence locations and details.



Security mesh fence ('Zaun - Duo 8 SR1' Perimeter security fence or equivalent)



Security mesh fence ('Zaun - Duo 8 SR1' Perimeter security fence or equivalent)

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