TECHNICAL NOTE

Client	Wrexham Association Football Club
Project	Darland Academy
Report Date	03/10/24 – Rev B
Title	SAB Application Surface Water & Foul Water Strategy

Overview

This technical note sets out the strategy for managing the foul water and surface water for recent development undertaken at Darland Academy on behalf of Wrexham Association Football Club (WAFC). This note is intended to form the technical aspects of the retrospective SAB application for the development.

Description of the development

Two new single storey buildings have been constructed at Darland High School to provide additional facilities for the WAFA youth academy.

The buildings are identical in size with a footprint of 345.6m^2 (albeit with differing internal layouts), each formed with 12 modules sized at 9.6m x 3m. One, located adjacent to the existing Cadet Hut forms offices and gym space, with a small changing provision to support any gym use, whilst the other building forms changing rooms to support use of the wider football training regime.

An extract from the proposed site plan is shown below. Further drawings are provided in Appendix A, including:

- Site location plan
- Proposed site plan
- Immediate site plan.



Figure 1 – Extract from the proposed site plan showing the general position of the two new buildings

The office building is located in a soft landscaped area, and trial holes within this area identified clay within 350mm of the surface. Part of the area was covered by impermeable long-jump run-up areas, with a compacted rubber crumb to top surface overlaying a depth of tarmac. This area appears to drain directly into the adjacent brook located immediately beyond the hedge line shown in the image below.



The changing room structure is built on an existing hard-standing area adjacent to the school Science Block. This area has been constructed as a future 3G pitch area with a well-compacted substrate and proof-rolled top surface as shown in the image below.



Both buildings are finished with a Firestone welded roof system, with rainfall directed to the back of the main run of modules and to the front two corners of the 'side-on' modules where

run-off will be collected by gutter and directed to five downpipes per structure, locations as shown below.

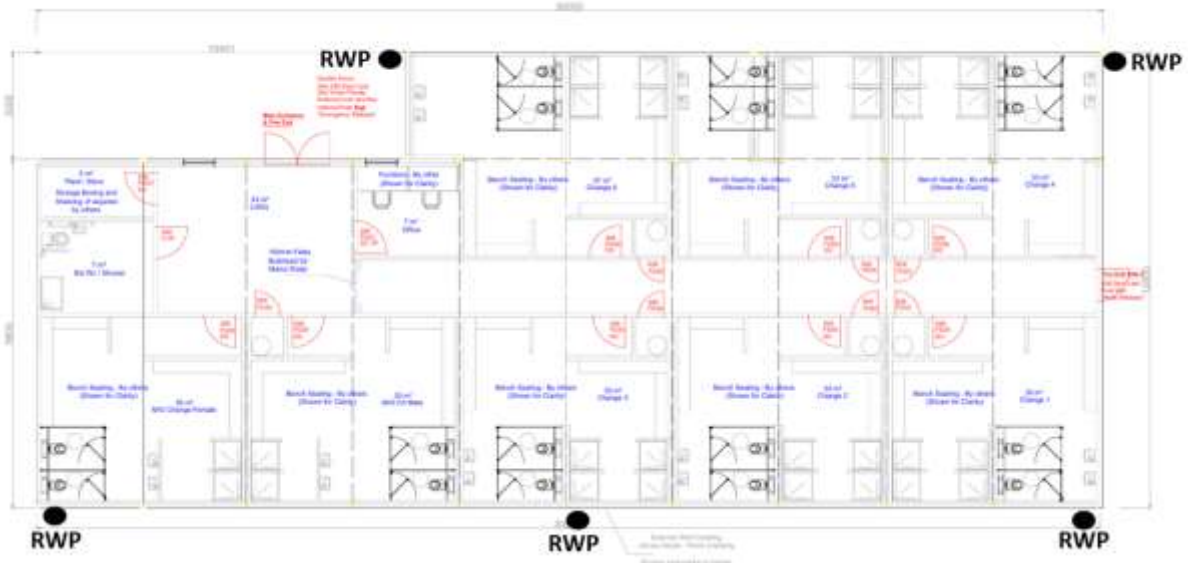


Figure 2 – Plan showing the positions of the RWP's in relation to the building

Surface Water drainage

The NRW Flood Risk Assessment Wales (FRAW) map for surface water and small watercourses indicates that the proposed development site is at a very low risk of surface water flooding, as per extract of the map below. The surface water strategy has been developed accordingly.



Figure 3 – Extract from FRAW plan

Changing Room building

The above ground RWP's will connect to a new underground drainage system, which carries the surface water to a connection point with the surface water discharge from the adjacent Science Block, with this then being collected in an attenuation tank where the grey water is then used for toilet flushing within the Science Block. Any outfall from the Science Block attenuation is then directed into the drainage system.

The use of a grey water collection system for toilet flushing within the Changing Room facility was considered but, following discussions with Building Control, it was felt that this might reduce the capacity available for school use and hence shouldn't be implemented.

Office / Gym building

Above ground RWP's will connect to a new underground drainage system that is subsequentially discharged into the nearby brook. This approach was discussed and agreed with Building Control, on the basis that any risk of overflow is already managed by means of a high-level discharge drain that would take any excess water into the drainage system as a fail-safe mechanism.

Refer to appendix B, and specifically drawing WAFC-WHE-DA-XX-DR-C-000001 for further details.

Foul Water drainage

Changing Room building

The waste water from this building is taken to an underground drainage system running down both sides of the building with chambers and inspection points as required. The drainage runs are taken to a chamber to the south-west of the building where it is connected to the school drainage system via a 150mm pipe, connection at a point with an invert level of 1800mm and a drain diameter of 450mm.

Office / Gym building

The waste water is generated from two changing rooms, a DDA compliant WC, a staff kitchenette area and an area for washing machine and cleaner's sink. All waste water is taken to an underground system into a pumping station where it is pumped to a chamber adjacent to the Changing Room building and falls through gravity into the mains drainage as indicated above.

Refer to appendix B, and specifically drawing WAFC-WHE-DA-XX-DR-C-000002 for further details.

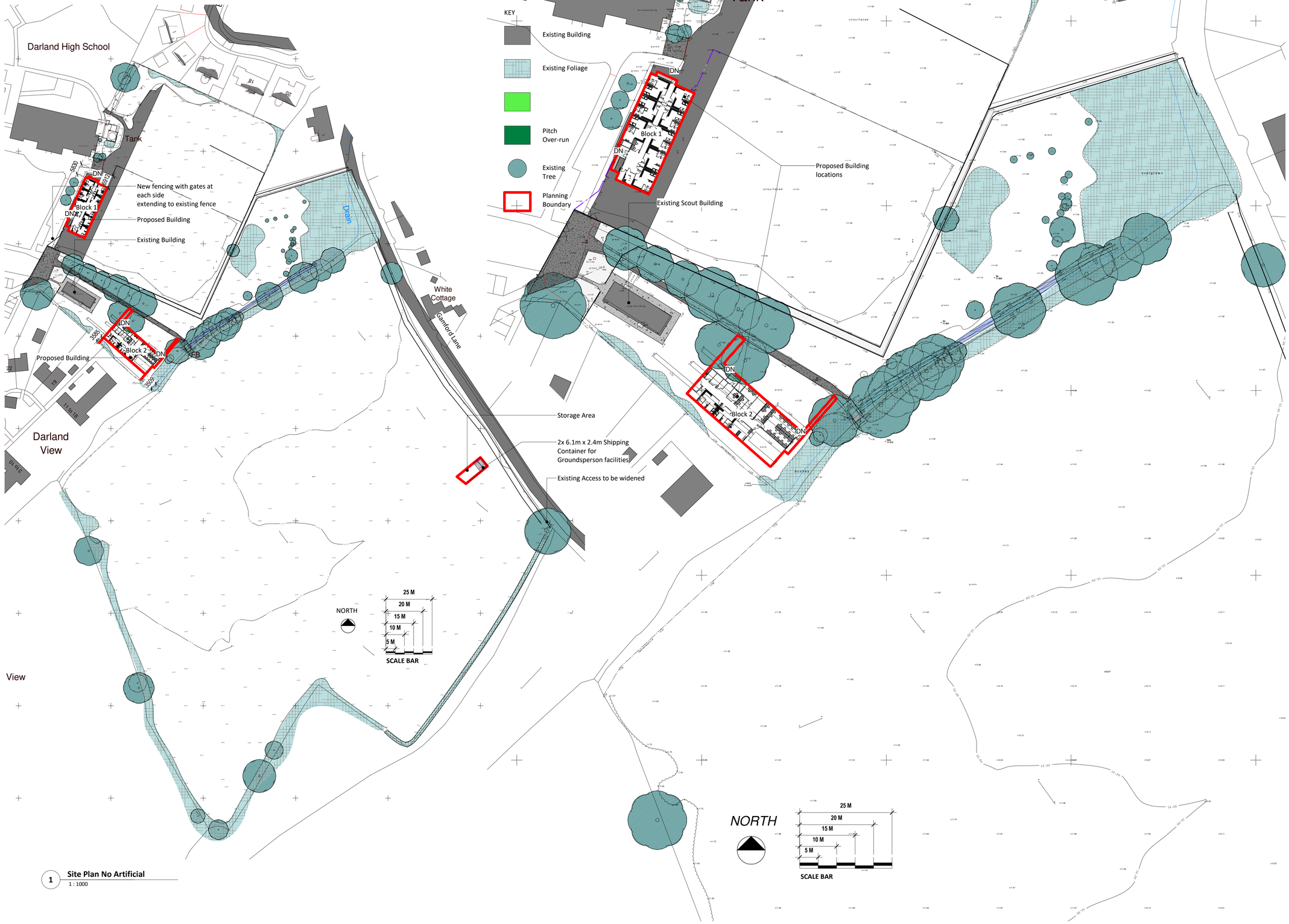
We would note that the Youth Training Academy buildings and the school are expected to operate at different times with the Academy facilities being operational outside school hours, and there is therefore no concern over potential capacity of the main drainage system.

Inspection of the foul drainage installation has been carried out by Building Control to their satisfaction.

Willis Hazell ENGINEERS

Appendix A

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1 **Site Plan No Artificial**
1 : 1000

2 **Building Plan No artificial**
1 : 500

NOTES
All dimensions and levels to be checked on site

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rev no.	rev date	rev by	description
P03	02.10.2024	WR	REVISED PLANNING
P02	23.09.2024	WR	Additional shipping containers added
P01	10.09.2024	WR	FIRST ISSUE

project
Wrexham Youth Academy

location
Darland High School

Employer
Wrexham AFC

client
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key plan

drawing title
Site Plan

AFL job number 211516 | scale @ A1 | drawn WR | checked JR | rev date 02.10.2024

dwg purpose PLANNING | status S0 | rev P03

bim project origin zone level type role 5-digit no.
WYA-AFL-ZZ-ZZ-DR-A-20008

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Existing Building

Existing Foliage

Existing Tree

Planning Boundary

Main Entrance

NORTH

SCALE BAR

25 M
20 M
15 M
10 M
5 M

KEY

Proposed Block 1
ST01
11.273

Proposed Block 2

New fence with gate between new buiildning and existing fance

New fence with gate between new buiildning and existing fance

Existing Gates
S1
11.449

Existing Trees to be retained

Existing Cadet Building

New tarmac path from existing path to mainentrance and fire escape

Existing Path

Main Entrance

S2
11.397

S3
11.249

S4
11.264

S5
11.504

S2A
11.413

mesh fence ht 2.0

mesh wire fence ht2.0

mesh wire fence ht2.0

grass
unsurfaced
tarmac
paved
clad building
bush
bushes
brambles
sand
concrete
track
TP
TH
MH
IC
DN
RS
SL
Stay

1 Blocks 1 & 2 - Immediate Site Plan
1 : 200

NOTES
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rev no.	rev date	rev by	description
P04	02.10.24	WR	REVISED PLANNING
P03	23.09.24	WR	Additional shipping containers added
P02	02.08.24	WR	PLANNING ISSUE
P01	19.07.24	WR	DRAFT PLANNING ISSUE

project
Wrexham Youth Academy

location
Darland High School

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key plan

drawing title
Wrexham Academy Blocks 1 & 2 Immediate Site Plan

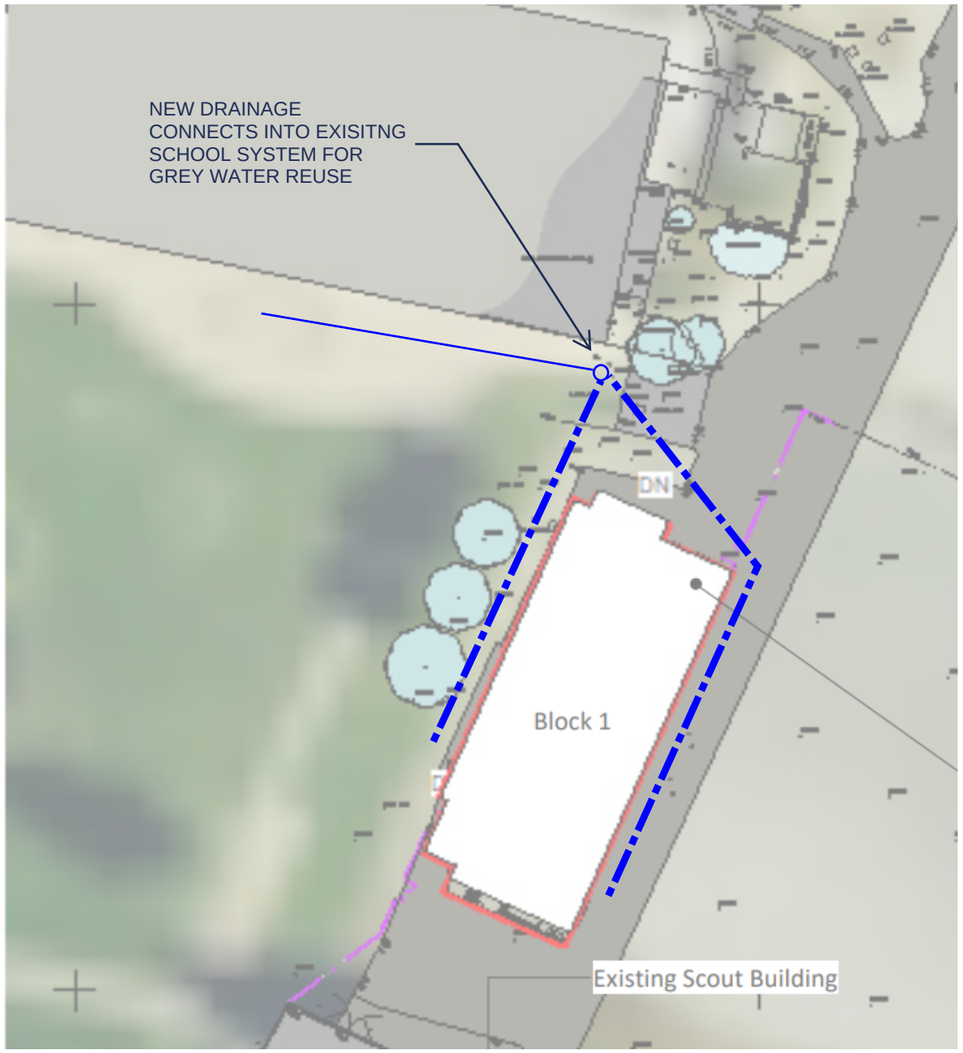
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dwg purpose PLANNING | status S0 | rev P04

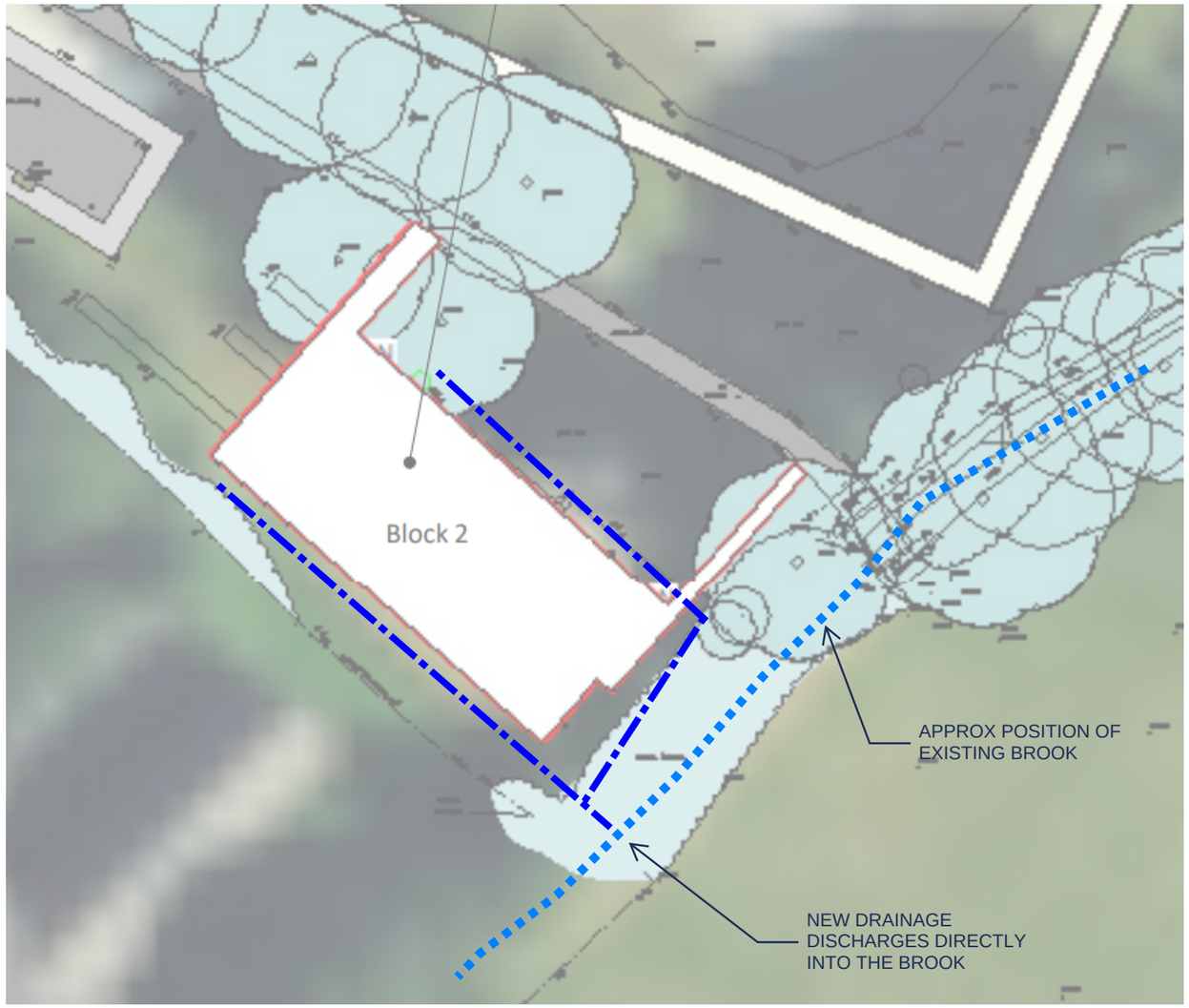
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WYA-AFL-ZZ-ZZ-DR-A-20006

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Appendix B



CHANGING ROOM BUILDING



OFFICE / GYM BUILDING

NEW SURFACE WATER DRAINAGE

EXISTING SURFACE WATER NETWORK

Notes

Rev	Date	Drawn	Description	Chk'd	App'd
P01	22/08/24	RH	SAB APPLICATION ISSUE		

Civil & Structural Engineer
Willis Hazell ENGINEERS

Client
WREXHAM ASSOCIATION FOOTBALL CLUB

Project Name
WREXHAM ASSOCIATION FOOTBALL CLUB
DARLAND ACADEMY

Drawing Title
UNDERGROUND DRAINAGE
SURFACE WATER DRAINAGE
GENERAL ARRANGEMENTS

Status
PRELIMINARY

WHE Project Number
1009

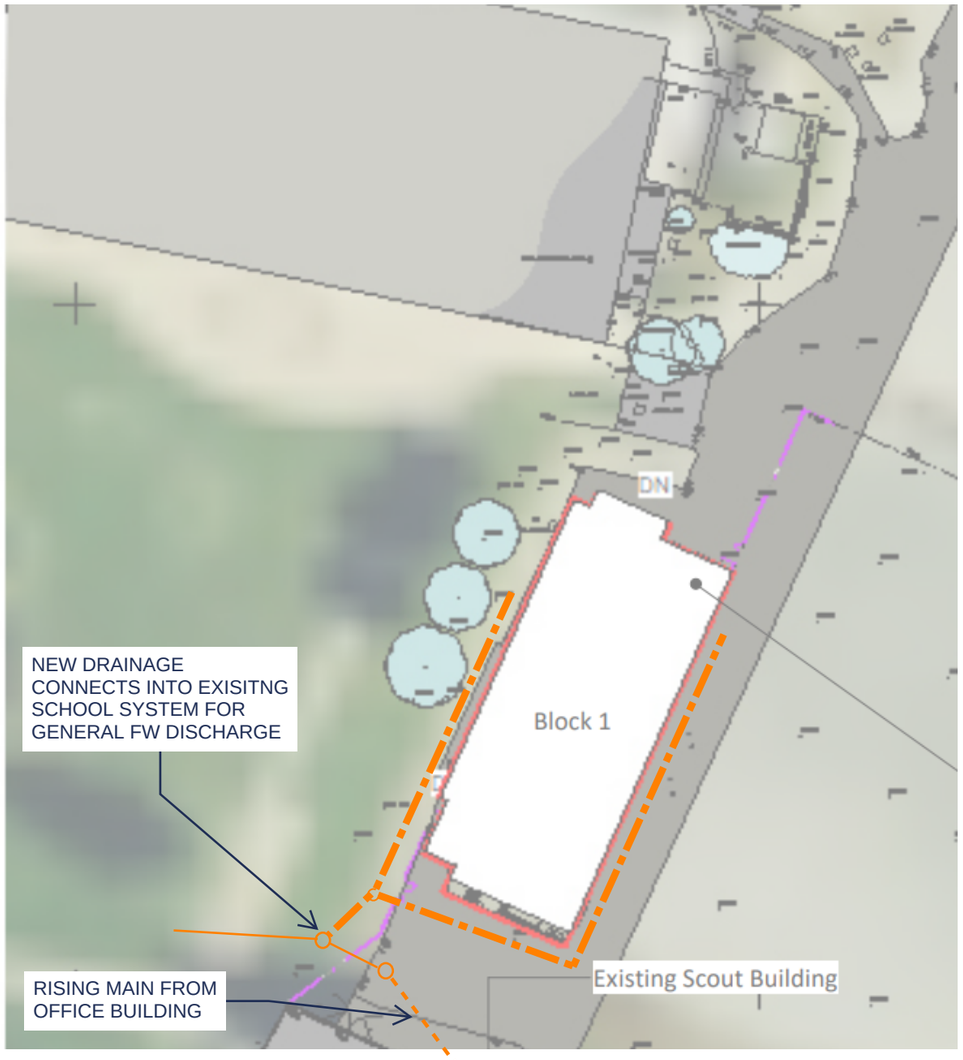
Suitability Status
S3 - Review & Comment

Scale @ A3
NTS

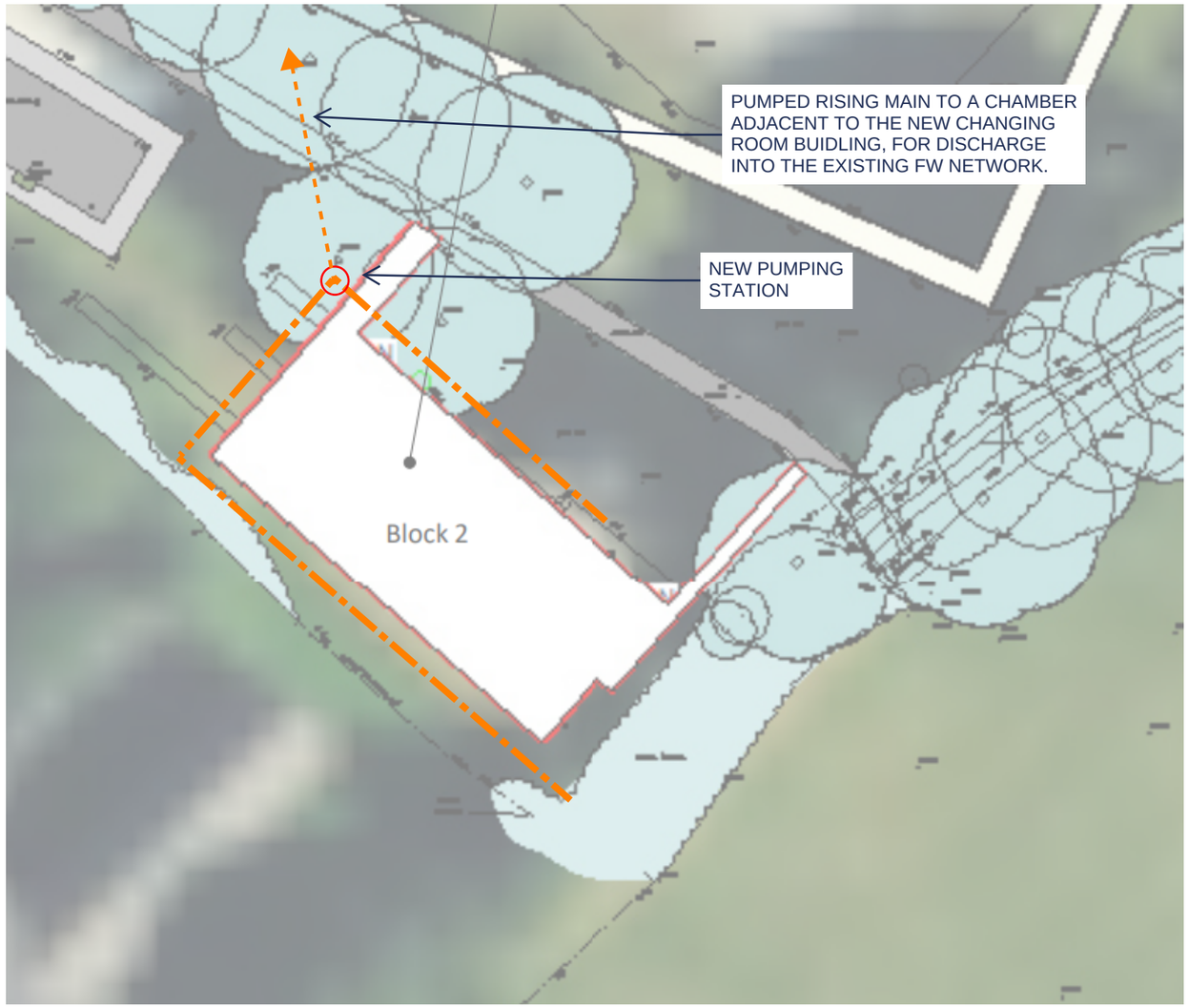
Rev
P01

Drawing Number
WAFC-WHE-DA-XX-DR-C-000001

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CHANGING ROOM BUILDING



OFFICE / GYM BUILDING

NEW FOUL WATER DRAINAGE

EXISTING FOUL WATER NETWORK

Notes

Rev	Date	Drawn	Description	Chk'd	App'd
P01	22/08/24	RH	SAB APPLICATION ISSUE		

Civil & Structural Engineer: Willis Hazell ENGINEERS

Project Name: WREXHAM ASSOCIATION FOOTBALL CLUB DARLAND ACADEMY

Status: PRELIMINARY

WHE Project Number: 1009

Suitability Status: S3 - Review & Comment

Client: WREXHAM ASSOCIATION FOOTBALL CLUB

Drawing Title: UNDERGROUND DRAINAGE FOUL WATER DRAINAGE GENERAL ARRANGEMENTS

Scale @ A3: NTS

Rev: P01

Drawing Number: WAFC-WHE-DA-XX-DR-C-000002

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