

FRA and DRAINAGE STRATEGY NOTE

Client: Wales and West Utilities

Project: Buchanan Way, Newport

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Introduction

This Flood Risk Assessment and Drainage Strategy Note has been prepared to support a planning submission for the development of a new office block with associated facilities including access road and car parking at the former Celtic Springs Business Park car park, Newport, NP10 8FZ.

Existing Site

The development site is located within the Celtic Springs Business Park, on a former car park as demonstrated within Figure 1, with the site classified as a brown field site. The site is bound by highway along the northern and eastern boundaries and existing facility car parking along the southern and western boundary. The site will utilise the existing site access to serve the development site.

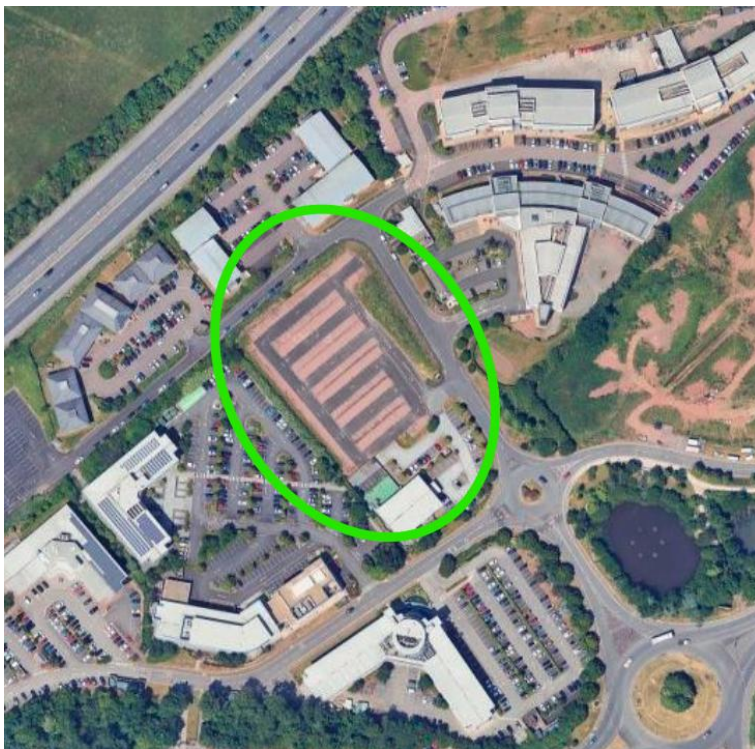


Figure 1: Aerial View of Site

The existing carpark is reasonably level, formed with a hard surface carriageway and gravel surfaced parking spaces. A Topographical survey of the development site is included in Appendix A. The site hard paved area is 4410m² and the area of gravel car parking spaces is 1890m².

It is evident from the topographical survey that the site is served by a positive drainage system, CCTV drainage survey is required to confirm the existing drainage serving the site. It is believed that the hard surfaces surface water strategy is designed to runoff into the gravel spaces which is collected via a series of pipework.

It is anticipated that the site drainage discharges to the offsite drainage system serving the wider Celtic Springs Business Park.

Development Proposals

It is proposed to redevelop the existing car park into a secured office with associated car parking, hardstanding and landscaped areas. The redevelopment would involve stripping most of the existing hard surfaces and replacing with soft landscaping.

From the 7th of January 2019 Schedule 3 of the Flood and Water Management Act has been implemented by the Welsh Government which requires any development of more than 1 unit or where the construction area is greater than 100m² to comply with the SuDS Approving Bodies (SAB's) design guidance and ministers' standards which will require all sites to adopt SuDs in their design. As this development site falls within this category the development site will require SAB approval.

Flood Risk Assessment

In July 2004 the Welsh Assembly Government published the Technical Advice Note 15: Development and Flood Risk (TAN 15), recently updated in March 2025 and which is a supplement to Planning Policy Wales, 2004. These documents provide guidance on how flood risk arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed.

TAN-15 recognises two key forms of development, New development and Redevelopment. This scheme is classified as a **Redevelopment** of an existing car park.

Vulnerability Classification

TAN-15 assigns one of three flood risk vulnerability classifications to developments, as shown in Table 1. Due to the nature of the development, the site is considered as **Less Vulnerable Development**.

Table 1 TAN-15 Vulnerability Classification

Development category	Types
Highly Vulnerable development	All residential premises (including hotels, Gypsy and Traveller sites, caravan parks and camping sites). Schools and childcare establishments, colleges and universities. Hospitals and GP surgeries. Especially vulnerable industrial development (e.g. power generating and distribution elements of power stations, transformers, chemical plants, incinerators), and waste disposal sites. Emergency services, including ambulance stations, fire stations, police stations, command centres, and emergency depots. Buildings used to provide emergency shelter in time of flood.
Less Vulnerable development	General industrial, employment, commercial and retail development. Transport and utilities infrastructure. Car parks. Mineral extraction sites and associated processing facilities (excluding waste disposal sites). Public buildings including libraries, community centres and leisure centres (excluding those identified as in Highly Vulnerable category and emergency shelters). Places of worship. Cemeteries. Equipped play areas. Renewable energy generation facilities (excluding hydro generation).
Water Compatible Development	Boatyards, marinas and essential works required at mooring basins. Development associated with canals. Flood defences and management infrastructure. Open spaces (excluding equipped play areas). Hydro renewable energy generation.

Flood Map for Planning

The Flood Map for Planning (FMfP) is the starting point for consideration of flood risk. The map uses flood zones to indicate the degree to which land is at risk of flooding from rivers, the sea, surface water and small watercourses. The FMfP displays predicted future flood risk with an allowance made for climate change over a 100-year lifetime of development. Proposals for development located partially or wholly in Flood Zone 2 or 3 must be supported by a Flood Consequences Assessment (FCA).

Flood Map for Planning - Flood Risk from Rivers and Sea

According to the NRW Flood Map for Planning, indicated in Figure 2, the site is shown to be in Flood Zone 1 - Flood Risk from Rivers and sea. This represents a less than 0.1% AEP (1 in 1000 year) chance of flooding from fluvial or tidal source in any given year, including the effects of climate change. Flood Zone 1 is shown as transparent on the FMfP. All forms of development are suitable within Flood Zone 1.



Figure 2: NRW Flood Risk for Planning (Rivers and Sea)

Flood Map for Planning - Flood Risk from Surface Water and Small Watercourses

The FMfP map - Flood Risk from Surface Water and Minor Watercourses indicates that the application site lies predominantly outside any flood risk areas in Flood Zone 1 with localised flooding collecting along Buchanan Way fronting the development. Based on the current FMfP map, the proposed building and new car park is not at risk of flooding from surface water and small watercourse and it is anticipated that site levels will remain as existing as to not change the existing flood route along the boundary of the site. The flood paths are shown to be in Flood Zone 2 for the FMfP. Flood Zone 2 shows areas predicted to have between 0.1% to 1% (1 in 100 to 1 in 100) chance of flooding in any given year, including climate change. The NRW Flood Map for Planning - Surface Water and Small Watercourse map is indicated in Figure 3.



Figure 3: NRW Flood Risk for Planning (Surface Water and Small Watercourse)

Drainage Strategy

Foul Drainage

It is proposed that all foul flows are to be collected within a gravitational network, and discharges into the existing public sewer along Buchanan Way. The final connection offsite will be offered for adoption with DCWW subject to S104 approval.

Surface Water Drainage

The primary objective of any surface water drainage strategy is to comply with The Flood and Water Management Act 2010 (Schedule 3) established in County Councils and requires new developments to include Sustainable Drainage Systems (SuDS) features that comply with national standards.

New developments of more than one dwelling or where the area covered by construction work equals or exceeds 100m² require approval before construction can commence from the SuDS Approval Body (SAB).

The proposed surface water system and associated flows should discharge by one of the following mechanisms, shown below in order of preference;

- S1 – Surface Water Runoff Destination
- S2 – Surface Water Runoff Hydraulic Control
- S3 – Water Quality
- S4 – Amenity
- S5 – Biodiversity
- S6 – Design of Drainage for Construction, Operation and Maintenance

S1 - Surface Water Runoff Destination

Collection for use

A number of raingardens have been proposed across the development, with surface water to be reused through the hydration of planting. Further to this, as per the Statutory National Standards for Sustainable Drainage Systems (SNSSuDS) guidance, G1.4, the site displays exemption for further requirements of rainwater harvesting as there is no foreseeable demand for non-potable water on the site throughout its design life.

Infiltration Methods

Soakaway testing in accordance with BRE365 will be required to confirm if the site is suitable for infiltration methods of surface water disposal. In the absence of soakaway testing, this reports demonstrates the viability of a positive surface water connection as a fallback option should soakaway testing fail to achieve a viable rate.

Discharge to Surface Water Body

As the site is served by a positive system which appears to discharge into existing ponds within the Celtic Springs Business Park, it is proposed to reuse the existing surface water system serving the site.

Discharge to Surface Water Sewer

It is evident that the site is served by a positive surface water drainage system and it is anticipated that this discharges into the surface water system serving Celtic Springs Business Park. CCTV drainage survey will be required to confirm the development site connectivity which will be reused post development.

Discharge to Combined Sewer

Based upon the above, the option should not be required.

S2 – Surface Water Runoff Hydraulic Control

This standard requires surface water to be managed to prevent as far as possible any discharge from the development for rainfall events less than 5mm. The surface water runoff rate and volume for up to a 1 in 100-year return period plus 30% climate change and 10% urban creep should be managed to protect people, properties, and the receiving water body. Refer to Appendix B for a Drainage Strategy Plan for the proposed development.

The development site is classified as brownfield, entirely hard paved and is served by a positive drainage system. The existing drained area is 6300m², post development the drained area will be reduced 2520m² providing 60% betterment in discharge rate and volume into the offsite system. As such it is proposed that the development site will have a free discharge offsite.

A SuDS train will be required to achieve water quality and interception for the site, this will include a combination of raingardens and permeable surfaces across the site.

S3 – Water Quality

This standard requires treatment of surface water runoff to prevent negative impacts on the receiving water quality and/or protect downstream drainage systems including sewers.

The aim of the surface water management strategy with regards to water quality is to use natural processes that promote biodiversity and long-term sustainability. As such, it employs a SuDS management train approach, providing drainage components in series.

In accordance with Table G3.1 from the Statutory Standards, the level of hazard will typically be classified as Low Hazard. Pollution is to be mitigated across the site, through a SuDS train consisting of onsite treatment through the use of planted raingardens and permeable surfacing.

S4 – Amenity

This standard requires that the design of the surface water management system should maximize amenity benefits.

The primary amenity focus of the SuDS scheme should be to improve the health and well-being of the users. The scheme will need to be based on natural forms that mimic natural landscapes found within the region. Other key amenity benefits should include improving air quality around the development, increasing carbon sequestration, and improving water quality through removal of pollutants.

S5 – Biodiversity

This standard requires that the surface water management system should maximize biodiversity benefits.

The SuDS scheme biodiversity strategy should revolve around the creation of significant and varied habitat to increase the overall biodiversity of the site and ecological value. The inclusion of plant species that will enhance the general eco system and simultaneously act as a water filtration system to clean pollutants and contaminants should be used and where possible provide meandering swales and a large detention basin to maximize the variety of habitats available.

S6 – Design of Drainage for Construction and Maintenance and Structural Integrity

The surface water drainage system should be designed with the overriding ethos of simplicity in construction, use and maintenance. This then allows a very simple translation from the principles described within standard S6, namely that all elements of the surface water drainage system should be designed so that they can be constructed, as well as maintained and operated easily, safely and cost-effectively.

Information with regards to the construction methodology and requirements of the proposed system will be developed as part of the detailed design stage of the project, likewise the maintenance requirements and regime of the proposed system will be developed into the full maintenance strategy for the site during the next phase of design development.

Summary

The development site is considered at low risk of flooding from rivers, sea and surface water and small watercourse.

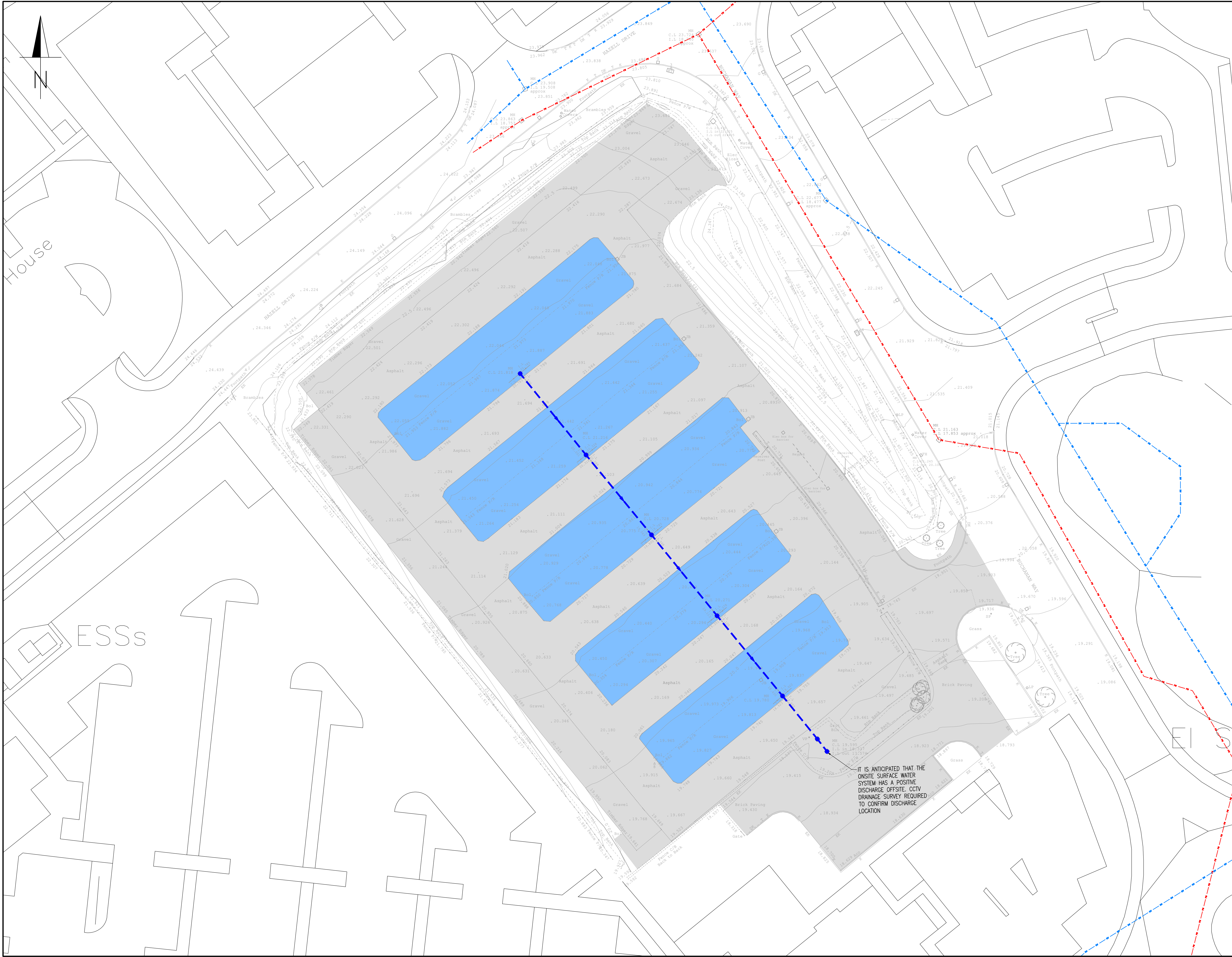
It is anticipated that the development site will be a fully gravitational surface water drainage system, and separate gravitational foul network. CCTV drainage survey will be required to confirm discharge point.

All on site sewer systems will be designed and constructed in accordance with the latest edition of "Sewers for Adoption" and any of the adopting authority's (DCWW) specific requirements.

The aim of the surface water drainage strategy is to mimic the natural catchment process as closely as possible, and the proposed system will need to be designed in accordance with the statutory "Sustainable Drainage Systems Standards for Wales" and any local authority's SAB requirements.

As the area of drained surfaces is significantly reduced post-development, a free discharge is proposed due to the betterment in surface water discharge rate and volume achieved, providing significant betterment in discharge rates for all storm events greater than a 1-year return period.

Appendix A
Existing Site Plan and Topography



GENERAL NOTES

- DO NOT SCALE THIS DRAWING.
- CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER.
- ANY DISCREPANCY TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.

KEY

- EXISTING HARD PAVED AREA (4411.65m²)
- EXISTING GRAVEL AREA (1887.19m²)
- INDICATIVE SURFACE WATER SYSTEM SERVING THE EXISTING CAR PARK
- EXISTING STORM SEWER
- EXISTING FOUL SEWER

Rev.	Detail	By	Date

Revisions

Reinforcement schedules nos.

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Client

WALES AND WEST UTILITIES

Project

SECURED OFFICE BLOCK, BUCHANAN WAY, NEWPORT

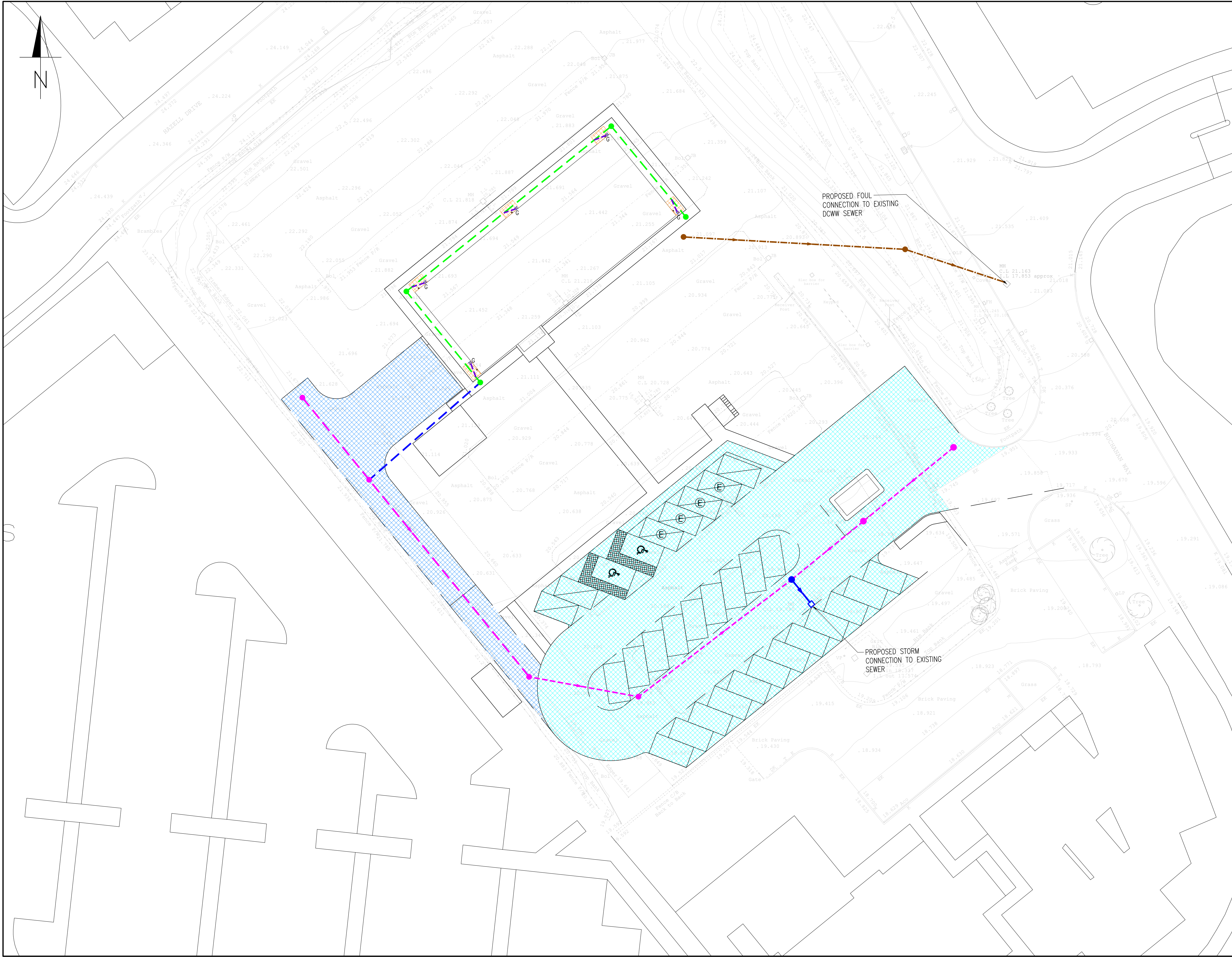
Drawing Title

EXISTING SITE PLAN AND UTILITIES

PRELIMINARY

Project No.	Drawing No.
C2348	SK-01
Scales	Date
1:250	21.10.25
Drawn	Checked
JQ	DH
Sheet Size	Revision
A1	—

Appendix B
Proposed Drainage Strategy Plan



GENERAL NOTES

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KEY

- SAB ADOPTABLE STORM DRAINAGE
- SAB ADOPTABLE PERFORATED PIPE DRAINAGE
- PRIVATE STORM DRAINAGE
- PRIVATE PERFORATED PIPE DRAINAGE
- DCWW ADOPTABLE FOUL DRAINAGE
- PERMEABLE SURFACED PARKING BAY CONSTRUCTION
- PERMEABLE SURFACED FOOTWAY CONSTRUCTION
- RAINGARDEN

Rev.	Detail	By	Date

Revisions

Reinforcement schedules nos.



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Client
WALES AND WEST UTILITIES

Project
**SECURED OFFICE BLOCK,
BUCHANAN WAY,
NEWPORT**

Drawing Title
DRAINAGE STRATEGY

PRELIMINARY

Project No. C2348	Drawing No. SK-02
Scales 1:200	Date 21.10.25
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