

**Lidl, Great North Road, Milford Haven**  
Pembrokeshire

**Flood Consequences Assessment  
& Drainage Strategy**

February 2024

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## Introduction

Waterco has been instructed to prepare a Flood Consequences Assessment (FCA) and Drainage Strategy in relation to a proposed redevelopment of a Lidl store at Great North Road, Milford Haven, Pembrokeshire, SA73 2NA.

The purpose of this report is to outline the potential flood risk to the site, the impact of the proposed development on flood risk elsewhere, and the proposed measures which could be incorporated to mitigate the identified flood risk (if any). This report has been prepared in accordance with the guidance contained in Planning Policy Wales (PPW) and Technical Advice Note 15 (TAN15): Development and Flood Risk.

This report also includes a Drainage Strategy. The aim of the Drainage Strategy is to identify water management measures, including Sustainable Drainage Systems (SuDS), to provide surface water runoff reduction and treatment.

This report has been prepared in accordance with the Welsh Government 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems' (2018) – herein referred to as 'the Statutory Standards for SuDS'.

## Existing Conditions

The site covers an area of approximately 7,304m<sup>2</sup> and is located at National Grid Reference (NGR) 190851, 206151. A location plan and an aerial image are included in Appendix A.

Online mapping (including Google Maps / Google Streetview imagery, accessed February 2024) shows that the site comprises an existing Lidl store, car park, 2no. residential properties and a former petrol filling station (currently used as a car rental business).

The site is bordered by residential properties to the north, Great North Road to the east, and residential properties to the south and west. Access to the site is provided from Great North Road to the east.

## Local Topography

A topographical and buried utilities survey has been undertaken by EDI Surveys Ltd in October 2020. The topographical survey shows that the site slopes from 50.47 metres Above Ordnance Datum (m AOD) in the south to 47.93m AOD in the north.

Topographic levels to m AOD have also been derived from a 1m resolution Natural Resources Wales (NRW) composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). The LiDAR data generally corroborates with the topographical survey.

Topographical information is provided as Appendix B.

## Ground Conditions

The British Geological Survey (BGS) online mapping (1:50,000 scale) indicates that the site is underlain by the

Milford Haven Group, comprising argillaceous rocks and interbedded subequal/subordinate sandstone. There are no records of superficial deposits at the site.

The geological mapping is available at a scale of 1:50,000 and as such may not be accurate on a site-specific basis.

There are no historical BGS borehole records within the immediate vicinity of the site.

According to NRW's Aquifer Designation data, obtained from the BGS GeoIndex online mapping [accessed February 2024], the Milford Haven Group is classified as a Secondary A Aquifer. Secondary A Aquifers are 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers'.

The Cranfield University 'Soilscapes' map [accessed February 2024] indicates that the site is underlain by 'Freely draining slightly acid loamy soils'.

### Site Investigations

A Phase 1 Site Investigation & Preliminary Risk Assessment has been undertaken in Remada Ltd in January 2021. The assessment includes a summary of previous investigations undertaken by Joynes Pike & Associates Ltd (reference: CH/AS/16070014/001, dated March 2007). The information pertinent to this report is reproduced below:

*'Six window sample holes (WS1 to WS6) were advanced using a tracked window sampling rig on the 9th February 2007 to depths ranging between 2.0m and 4.6m depth. Two hand dug pits were also advanced adjacent to the existing store building to depths of 0.52m and 1.1m below ground level.*

*Made Ground in the form of bituminous, hardcore or concrete hardstanding over a grey sandy gravel sub-base was encountered in all window sample holes from ground level to 0.4m depth. This same material was proven to 0.6m within TP1, and to beyond 0.52m within TP2 as a backfill adjacent to the existing foundation. Underlying the Made Ground materials, strata interpreted to be weathered Red Marls of the Old Red Sandstone Group was encountered and confirmed to the full depth of the investigation of 4.6m depth. The Red Marls were initially encountered weathered to a firm, variably sandy and gravelly clay, generally becoming stiffer and more gravelly with depth. The gravel encountered generally comprised of mudstone lithorelicts. Localised bands of clayey gravelly sand and clayey gravels were encountered in addition to borderline cohesive and granular soils.*

*All of the window sample holes were terminated at depths between 2.0m and 4.6m depth when effective refusal was reached....'*

Following completion of the Phase 1 Site Investigation & Preliminary Risk Assessment, a Phase 2 Ground Investigation was conducted by Remada Ltd. The findings of this investigation reveal the following:

*'The investigation comprised the drilling of eight (8 No) window sample holes (WS1 – WS10) and the execution of (4 No) CBR tests at locations indicated on Figure 2 on 23rd and 24th October 2020.*

*The ground conditions encountered within Remada's investigation supported those encountered during the previous investigation on-site. A thin veneer of made ground (<1m thick) was encountered underlain by firm, variably sandy and gravelly clay, generally becoming stiffer and more gravelly with depth. Localised bands of clayey gravelly sand and clayey gravels were encountered in addition to borderline cohesive and granular soils. The natural deposits on-site are considered representative of weathered Milford Haven Group bedrock...*

*... No groundwater strikes were recorded during the intrusive phase of this investigation.'*

## Local Drainage

Dŵr Cymru Welsh Water (DCWW) public sewer records have been provided by the Client in December 2023 and are included in Appendix C. The DCWW sewer records show that there is a 225mm public combined sewer crossing the southern extent of the site. The 225mm public combined sewer flows east and orientates north in Great North Road.

The DCWW sewer records also identify a 150mm private combined sewer (subject to transfer) in the north-western extent of the site which serves the existing residential properties on site (which are to be demolished).

As shown on the topographical and buried utilities survey (Appendix B), surface water from the existing Lidl Store and its associated car park discharges to the 225mm public combined sewer in the southern extent of the site. An invert level of 47.75m AOD is identified at the connecting manhole in the southern extent of the site.

Foul flows from the existing Lidl Store also discharge to the public combined sewer in the southern extent of the site.

## Development Proposals

The proposal is for a replacement Lidl Store and additional car parking (replacing residential properties and a former petrol filling station now occupied by an Enterprise Rental Car premises). Proposed development plans are included in Appendix D.

The proposed development will include hardstanding areas in the form of the Lidl Store, car parking and the access road. Hardstanding will comprise 6,018m<sup>2</sup> or 82.4% of the total site area. The remaining permeable, soft landscaped areas will occupy 1,286m<sup>2</sup> or 17.6% of the total site area.

Measurements have been taken from a pdf version of the 'Proposed Site Plan' and are approximate only.

## Flood Zone Category and Policy Context

### Flood Zone Category

The Welsh Government Development Advice Map, included in Appendix E, shows that the site is located within Flood Zone A – an area considered to be at little or no risk of fluvial or tidal flooding, with a less than 0.1% (1 in 1000) annual probability of flooding.

The NRW 'Flood Map for Planning' (Appendix E), shows that the site is located within an area outside of the extreme flood extent (Flood Zone 1), meaning it has a less than 0.1% annual probability of flooding.

### Development Vulnerability Classification

The proposed re-development is considered to be 'less vulnerable' development in accordance with Figure 2 of the Welsh Government's Technical Advice Note 15 – Development and Flood Risk (TAN15).

TAN15 states that less vulnerable development is acceptable within Flood Zone A. Therefore, the development is justified in this location.

### Local Policy

For Pembrokeshire County Council, the current Local Development Plan (LDP) was adopted on 28/02/2013 and will remain in force until the replacement LDP is adopted.

Pembrokeshire County Council's LDP contains the following policy relating to drainage:

#### *'GN.2 Sustainable Design*

*Development will be permitted where relevant criteria are met: ...3. It incorporates a resource efficient and climate responsive design through location, orientation, density, layout, land use, materials, water conservation and the use of sustainable drainage systems and waste management solutions...'*

The plan does not contain any specific policies in relation to flood risk.

The Carmarthenshire & Pembrokeshire Stage 1 Strategic Flood Consequence Assessment (SFCA) (September 2019) and the Western Wales River Basin Preliminary Flood Risk Assessment (PFRA) (December 2018) have been reviewed and inform this report.

## Consultation

A consultation request was submitted to Pembrokeshire County Council as the Sustainable Drainage Approval Body (SAB) in January 2024. In their response (Appendix F) the SAB have stated that:

*'...We have no adverse comments with regard to the principle of the SuDS strategy that is proposed although DCWW agreement to the connection and discharge rate of 3.8 l/sec will be required for full app.'*

- *Construction details required for all SuDS features at full app stage.*

- *All pipe runs to be shown on drainage drawing including gullies, silt traps, etc.*
- *Location plan required for full app*
- *Plan showing exceedance flood routes required for full app.*
- *Planting scheme required for the landscaped areas.*
- *Maintenance schedule required for SuDS features...'*

A pre-development enquiry request was submitted to DCWW in January 2024. In their response (Appendix C), DCWW have stated that:

*'...It is therefore recommended that the developer consult with Pembrokeshire County Council as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please note, DCWW is a statutory consultee to the SAB application process and will provide comments to any SuDS proposals by response to SAB consultation. Please refer to further detailed advice relating to surface water management included in our attached Advice & Guidance note...*

*...We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public combined sewerage system. We advise that the foul only flows should be connected to the combined sewer located in Great North Road...'*

## Sources of Flooding and Probability

### Fluvial

Castle Pill (watercourse) is located approximately 670m east of the site at its nearest point. Castle Pill flows south to join The Milford Haven (tidal waterbody) approximately 885m south-east of the site. The Milford Haven is located approximately 560m south of the site at its nearest point. Other watercourses in the area include Hubberston Pill which is located approximately 790m north-west of the site.

The NRW 'Flood Risk from Rivers' map (Appendix E) shows that the site has a less than 0.1% annual probability of fluvial flooding, including the effects of climate change.

The NRW 'Historic Flood Risk' map (Appendix E) indicates that the site is not located within a historical flood extent.

The site is situated a minimum of 38m above Castle Pill, Hubberston Pill and The Milford Haven, and as such would not be affected by a flood event of these watercourses.

The risk of fluvial flooding is therefore considered to be very low.

## Tidal

The site is situated at a minimum of 48m AOD and is significantly above sea level. The risk of tidal flooding is therefore very low.

## Surface Water

Surface water flooding occurs when rainwater does not drain away through the normal drainage system or soak into the ground. It is usually associated with high intensity rainfall events but can also occur with lower intensity rainfall or melting snow where the ground is saturated, frozen or developed, resulting in overland flow and ponding in depressions in topography. Surface water flooding can occur anywhere without warning. However, flow paths can be determined by consideration of contours and relative levels.

The NRW 'Flood Risk from Surface Water & Small Watercourses' map (Appendix E) shows that the site is predominantly at very low risk of surface water flooding, with a less than 0.1% annual probability of flooding, including the effects of climate change.

There are isolated areas in the south-eastern and southernmost extents of the site shown to be located within surface water Flood Zone 2 – defined as an area with between a 1% and 0.1% chance of flooding from surface water in a given year, including the effects of climate change.

The surface water flood risk identified on NRW mapping is associated with rainfall ponding in isolated topographic low points. The risk of surface water flooding in isolated low points would unlikely be realised when accounting for the function of the existing and proposed drainage system.

There are no distinct flow routes in the area which would direct any potential surface water flooding towards the site. It can therefore be concluded that the risk of surface water flooding is very low.

## Sewer

Flooding from sewers can occur when a sewer is overwhelmed by heavy rainfall, becomes blocked, is damaged, or is of inadequate capacity. Flooding is mostly applicable to combined and surface water sewers.

The DCWW sewer records (Appendix C) show that there is a 225mm public combined sewer crossing the southern extent of the site. The 225mm public combined sewer flows east to Great North Road where it orientates north. There is also a 150mm private combined sewer (subject to transfer) located in the north-western extent of the site (serving the residential dwellings on site).

Any potential flooding arising from the public sewer in the southern extent of the site would be direct north-east, towards Great North Road, and away from the site. The sewer crossing the southern extent of the site serves a limited number of properties and as such an exceedance event of the sewer is very unlikely to occur.

Any potential sewer flooding in Great North Road would be directed north, away from the site, following the local topography.

There are no distinct flow routes in the area which would direct any potential sewer flooding towards the site. The SFRA and PFRA contain no records of sewer flooding affecting the site.

It can therefore be concluded that the risk of sewer flooding is very low.

### Groundwater

Groundwater flooding occurs when water levels underneath the ground rise above normal levels. Prolonged heavy rainfall soaks into the ground and can cause the ground to become saturated. This results in rising groundwater levels which leads to flooding above ground.

The PFRA states that *'Groundwater flood events in Wales are rare. The geology (underlying rock type) and topography (steep sided valleys) mean that groundwater flooding is very unlikely to occur... Since 2011, there have been no recorded events of groundwater flooding within the Western Wales River Basin District.'*

There are no records of groundwater flooding at or near to the site. No groundwater strikes were identified in the Phase 2 Ground Investigation conducted by Remada Ltd. It can therefore be concluded that the risk of groundwater flooding is low.

### Artificial Sources

There are no canals in the immediate vicinity of the site. The NRW 'Flood Risk from Reservoirs' map (Appendix E) shows that the site is not at risk of flooding from reservoirs.

It can therefore be concluded that the risk of flooding from artificial sources is very low.

### Summary of Potential Flooding

It can be concluded that the risk of flooding from all sources is considered to be very low. As such, no site-specific flood risk mitigation measures are required.

## Surface Water Management

The site currently comprises an existing Lidl store with associated parking, together with 2no. residential properties and a car hire business. Surface water runoff from the Lidl Store and Car Park currently drains to the public combined sewer at an unrestricted rate.

The proposed development will include 6,018m<sup>2</sup> of hardstanding in the form of buildings, parking and access.

A new sustainable drainage system is proposed in order to comply with the Statutory Standards for SuDS and create betterment over the existing situation.

### Discharge Method

Standard S1 of the Statutory Standards for SuDS sets out the following hierarchy of drainage options:

*Priority Level 1: Surface water runoff is collected for use;*

*Priority Level 2: Surface water runoff is infiltrated to ground;*

*Priority Level 3: Surface water runoff is discharged to a surface water body;*

*Priority Level 4: Surface water runoff is discharged to a surface water sewer, highway drain, or another drainage system;*

*Priority Level 5: Surface water runoff is discharged to a combined sewer.*

#### Priority Level 1: Surface water runoff collected for use

In line with section G1.4 of the Statutory Standards for SuDS, rainwater harvesting is not proposed for this site as:

1. There is no foreseeable need to harvest water at the site as DCWW water resources and drought management plans do not identify potential stresses on mains water supplies;
2. The use of rainwater harvesting is not a viable/ cost-effective part of the solution for managing surface water runoff on the site, taking account of the potential water supply benefits of such a system.

With regards to the second point above, the costs associated with rainwater harvesting systems (unit costs, installation costs, running costs and maintenance costs) outweigh the water saving costs. Furthermore, section G1.6 of the Statutory Standards for SuDS states that; in most cases, rainwater harvesting alone will not be adequate to deal with the site drainage and provision will be required for an overflow to a Level 2 or lower priority runoff destination. As such, rainwater harvesting systems are not considered a cost-effective solution for managing surface water and a lower priority runoff destination is required.

#### Priority Level 2: Surface water runoff is infiltrated to ground

As described above, the stratum on site consists of Made Ground underlain by gravelly clay to a maximum of 4.6m.bgl. It can therefore be concluded that infiltration techniques are unlikely to be feasible on site.

Infiltration tests in accordance with the BRE365 specification will be required in support of a detailed SAB application to provide evidence that infiltration techniques are not feasible.

#### Priority Level 3: Surface water runoff is discharged to a surface water body

The nearest watercourse is Castle Pill which is located approximately 670m east of the site at its nearest point. The site is separated from Castle Pill (and all other watercourses) by third party, urbanised land. A direct connection to this watercourse is therefore not a feasible option.

#### Priority Level 4: Discharge to a surface water sewer or highway drain

Where disposal of surface water to watercourse is not possible, a connection to the public surface water sewer system is the next consideration. There are no public surface water sewers within the vicinity of the site.

#### Priority Level 5: Surface water runoff is discharged to a combined sewer

A connection to the public combined sewer system is the final consideration. There is a 225mm public combined sewer crossing the southern extent of the site. This sewer flows east and orientates north in Great



North Road. Surface water from the existing Lidl Store and car park currently drain to the public combined sewer in the southern extent of the site.

It is therefore proposed to discharge surface water to the public combined sewer as per the existing situation. Based on the site layout, a new connection will likely be required to the 225mm public combined sewer in Great North Road to the east of the site. No invert levels are available for the public combined sewer in Great North Road, however and as shown on the topographical and buried utilities survey (Appendix B), an invert level of 47.75m AOD is identified at the public combined manhole in the southern extent of the site where the existing surface water connection is made. Based on a minimum proposed site level of 48.2m AOD, and that the manhole in Great North Road east of the site will have an invert level below 47.75m AOD, a gravity connection should be achievable, however this will need to be confirmed by surveying the invert level of public combined manhole SM90069102 in Great North Road.

### Proposed Discharge Rate

The Statutory SuDS Standards for Wales states that *'For previously developed sites, site runoff rates should be reduced to the greenfield rates wherever possible...'*

Greenfield runoff rates have been estimated using the Revitalised Flood Hydrograph Model (ReFH2) method. A summary of the greenfield runoff rates for a range of events is provided as Appendix G. The existing 1 in 1 year greenfield runoff rate for the 0.73ha development site is 3.5 l/s. A discharge rate of 3.5 l/s is therefore proposed for the site.

Existing brownfield runoff rates have been estimated using the Modified Rational Method  $Q=CiA$ , whereby:

- Q is the peak discharge (l/s)
- C is the dimensionless coefficient (2.78)
- i is the average rainfall intensity derived from FEH point data for a 6-hour storm event
- A is the existing contributing drainage area (0.61ha)

A summary of the existing brownfield runoff rates is provided in Table 1.

**Table 1 – Existing Brownfield Runoff Rates**

Storm Event (Year)	Rainfall Intensity (mm)	Runoff Rate (l/s)
1	22.7	38.5
30	54.6	92.6
100	66.5	112.8

The limited discharge rate of 3.5 l/s provides 91% betterment over the 1 in 1 year brownfield runoff rate. As such, the proposed development will provide significant betterment (runoff reduction) compared to the

existing scenario.

### Attenuation Storage & Sustainable Drainage Systems

In order to achieve a discharge rate of 3.5 l/s, attenuation storage will be required. An attenuation storage estimate has been provided using MicroDrainage and is included in Appendix H. An estimated storage volume of 506m<sup>3</sup> will be required to accommodate the 1 in 100 year plus 30% Climate Change (CC) event. The storage estimate is based on a discharge rate of 3.5 l/s, storage within a porous car park structure, an impermeable drainage area of 6,018m<sup>2</sup>, a design head of 0.5m and hydro-brake flow control.

The attenuation volume is provided for indicative purposes only and should be verified at the detailed design stage.

Attenuation storage should be provided in the form of Sustainable Drainage Systems (SuDS) where practical. The following SuDS are not considered practical given the site constraints:

- Green roofs are not proposed due to the significant additional cost involved in installation and maintenance. Furthermore, significant works may be required to allow for the additional loading on the building. The benefits achieved through installing a green roof would be disproportionate to the significant ongoing maintenance and construction costs involved.
- Ponds and basins are not possible due to space constraints.
- Sustainable drainage features are not possible in the landscaped area to the rear of the store due to the presence of a public combined sewer (no above ground sustainable drainage features will be permitted within 3m of the public sewer).

Attenuation storage will therefore be provided within the lined sub-grade material of permeable paved parking bays. Parking bays cover approximately 1,147m<sup>2</sup>. The water storing element of the sub-grade will consist of a 0.25m depth of clean stone underlain by a 0.4m depth of geo-cellular storage.

The stone sub-grade (30% void ratio) will provide approximately 86m<sup>3</sup> of storage. The geo-cellular subgrade (95% void ratio) will provide approximately 436m<sup>3</sup> of storage. This will provide a total storage capacity of 522m<sup>3</sup> which is sufficient to accommodate the 1 in 100 year plus 30% CC event.

A Concept Drainage Sketch is included in Appendix I.

### Exceedance Event

Storage will be provided for the 1 in 100 year plus 30% CC event. Storm events in excess of the 1 in 100 year plus 30% CC event will be permitted to produce temporary shallow depth flooding within the car park and landscaped areas. Ground levels will slope away from the building and towards the car park, ensuring exceedance flooding will not affect the building.

## Surface Water Treatment

The Statutory Standards for SuDS sets out the following guidance for surface water treatment:

### S3 - Surface water quality management

*Treatment for surface water runoff should be provided to prevent negative impacts on the receiving water quality and/or protect downstream drainage systems, including sewers.*

In accordance with the CIRIA C753 publication 'The SuDS Manual' (2015), commercial roofs have a 'low' pollution hazard level, with non-residential car parking classified as having a 'medium' pollution hazard level. Table 2 shows the pollution hazard indices for each land use.

**Table 2 – Pollution Hazard Indices**

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Other Roofs (typically commercial / industrial roofs)	Low	0.3	0.2	0.05
Commercial yard and delivery areas, non-residential car parking with frequent change	Medium	0.7	0.6	0.7

Table extract taken from the CIRIA C753 publication 'The SuDS Manual' – Table 26.2

\* Indices values range from 0-1.

Runoff from the roof and the car park will be directed to permeable paving. Table 2 demonstrates that permeable paving provides sufficient treatment.

**Table 3 – SuDS Mitigation Indices**

Type of SuDS	Mitigation Indices		
	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Permeable Pavement	0.7	0.6	0.7

Table extract taken from the CIRIA C753 publication 'The SuDS Manual' – Table 26.3

Silt traps will be placed at downpipes or chambers accommodating runoff from the roof for ease of sediment removal and to prevent any silt from the roof entering the sub-grade storage.

## Amenity

The Statutory Standards for SuDS provide the following guidance in relation to Standard S4 – Amenity:

*'The design of the surface water management system should maximise amenity benefits.'*

The proposed development will include permeable paved parking bays with landscaped areas on the

periphery.

## Biodiversity

The Statutory Standards for SuDS provide the following guidance in relation to Standard S5 – Biodiversity:

*‘The design of the surface water management system should maximise biodiversity benefits.’*

Biodiversity gains will be provided through landscaping proposals. Due to the nature of the development and limited open space on site, there is limited opportunity for the drainage system to contribute to biodiversity enhancements.

## Construction, Operation and Maintenance

Standard S6 of the Statutory Standards for SuDS states:

### ***S6 – Design of drainage for Construction, Operation and Maintenance***

- 1) All elements of the surface water drainage system should be designed so that they can be constructed easily, safely, cost-effectively, in a timely manner, and with the aim of minimising the use of scarce resources and embedded carbon (energy).
- 2) All elements of the surface water drainage system should be designed to ensure maintenance and operation can be undertaken (by the relevant responsible body) easily, safely, cost-effectively, in a timely manner, and with the aim of minimising the use of scarce resources and embedded carbon (energy).
- 3) The surface water drainage system should be designed to ensure structural integrity of all elements under anticipated loading conditions over the design life of the development site, taking into account the requirement for reasonable levels of maintenance.

All drainage systems will be readily accessible for maintenance access. The drainage system will be in private ownership and will not be adopted by the SAB. Maintenance will be arranged by Lidl. A maintenance schedule for permeable paving is included in Appendix J.

## Other Considerations

A 3m easement either side of the 225mm public combined sewer in the southern extent of the site has been accounted for in the site layout.

## **Foul Drainage**

Foul flows will be discharged to the 225mm public combined sewer either in the southern extent of the site or in Great North Road. This has been agreed in principle with DCWW. A gravity connection can be achieved.

## Conclusions

The proposal is for a replacement Lidl Store and additional car parking (replacing residential properties and an Enterprise Rental Car premises).

The site is located within Flood Zone A on the Welsh Government Development Advice Map – an area considered to be at little or no risk of fluvial or tidal flooding, with a less than 0.1% (1 in 1000) annual probability of flooding.

The risk of flooding from all sources has been considered and it can be concluded that the risk of flooding from all sources is very low. As such, no flood risk mitigation measures are deemed necessary.

The proposed development will include impermeable drainage area in the form of the new Lidl Store, the car park and the site access. A new sustainable drainage system is proposed in order to comply with the Statutory Standards for SuDS and create betterment over the existing situation.

All methods of surface water discharge have been assessed. Infiltration techniques are not considered feasible due to the presence of clay. There are no nearby watercourses or public surface water sewers. As such, discharge of surface water to the public combined sewer in Great North Road to the east of the site is proposed. The site currently discharges surface water to the public combined sewer at an unrestricted rate.

It is proposed to limit the discharge to a rate of 3.5 l/s (1 in 1 year greenfield rate). This will provide significant betterment over the existing brownfield runoff rate of 38.5 l/s.

Attenuation storage will be required on site in order to restrict surface water discharge to 3.5 l/s. Attenuation can be provided within the lined sub-grade of the permeable surfaced car parking spaces. Permeable surfacing will provide treatment to runoff. Rain gardens will also be used to maximise the amenity and biodiversity value of the drainage system.

Foul flows will be discharged to the public combined sewer in Great North Road, as agreed with DCWW.

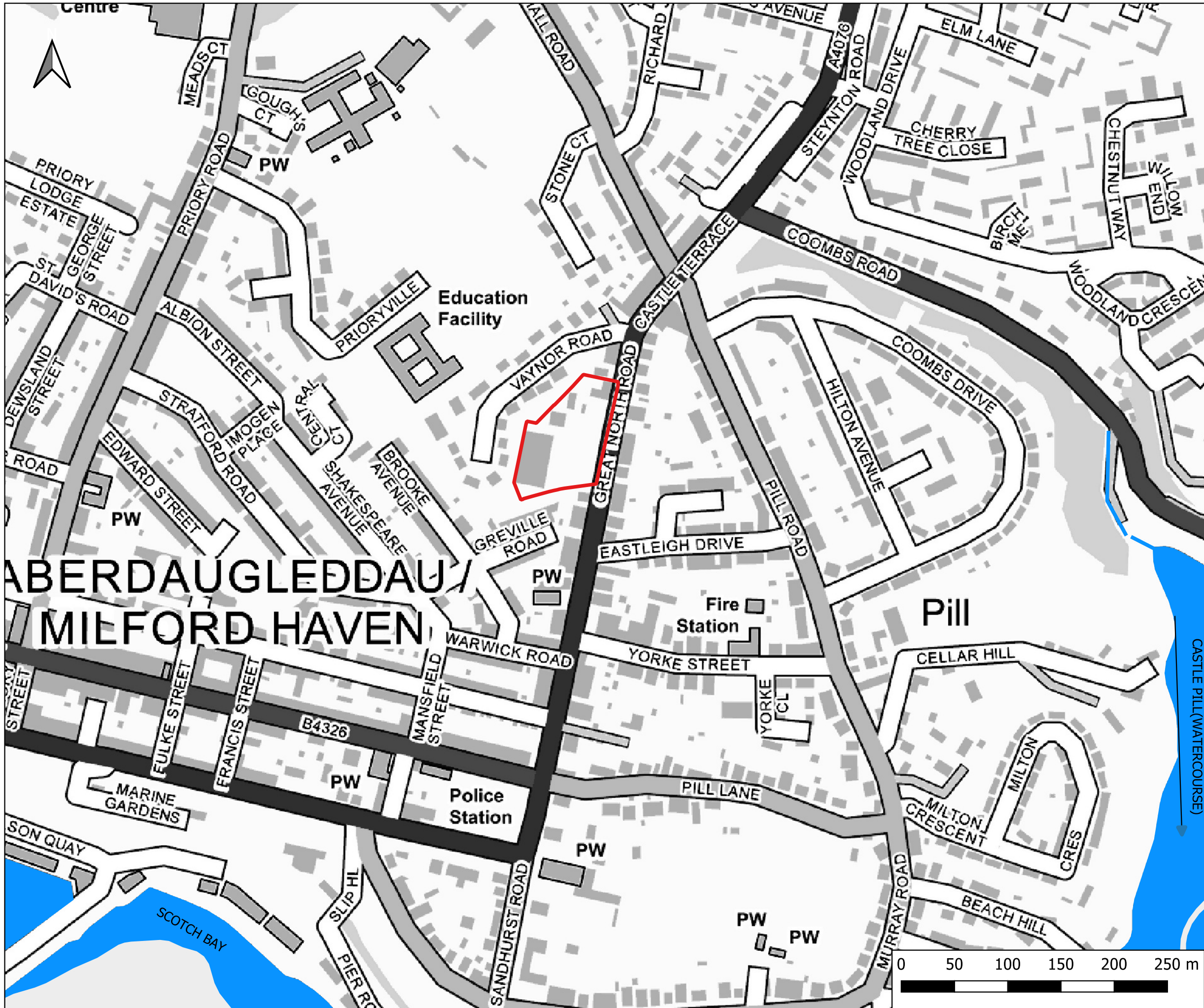
A Concept Designer's Risk Assessment (cDRA) has been prepared to inform future designers of any identified hazards associated with the scheme. The cDRA has been included in Appendix K.

## Recommendations

1. Submit this Flood Consequences Assessment and Drainage Strategy to the Planning Authority in support of the Planning Application.
2. Survey the public combined manhole (SM90069102) in Great North Road to determine its invert level.
3. Undertake BRE 365 infiltration testing to support the full SAB application.
4. Agree the surface water discharge rate with DCWW (may require BRE 365 infiltration testing to provide evidence to DCWW that no alternative discharge options are available).
5. Verify the attenuation volumes included in this report when undertaking detailed drainage design.

## Appendix A Location Plan and Aerial Image

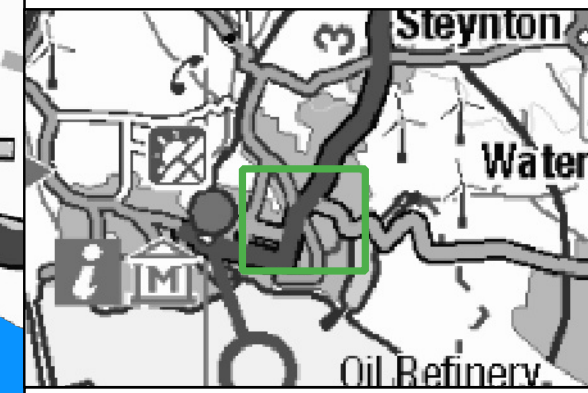




Notes:  
 1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

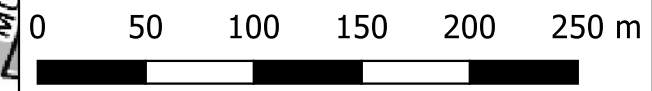
**LEGEND**

- ▭ Site Boundary
- Watercourses
- Waterbodies

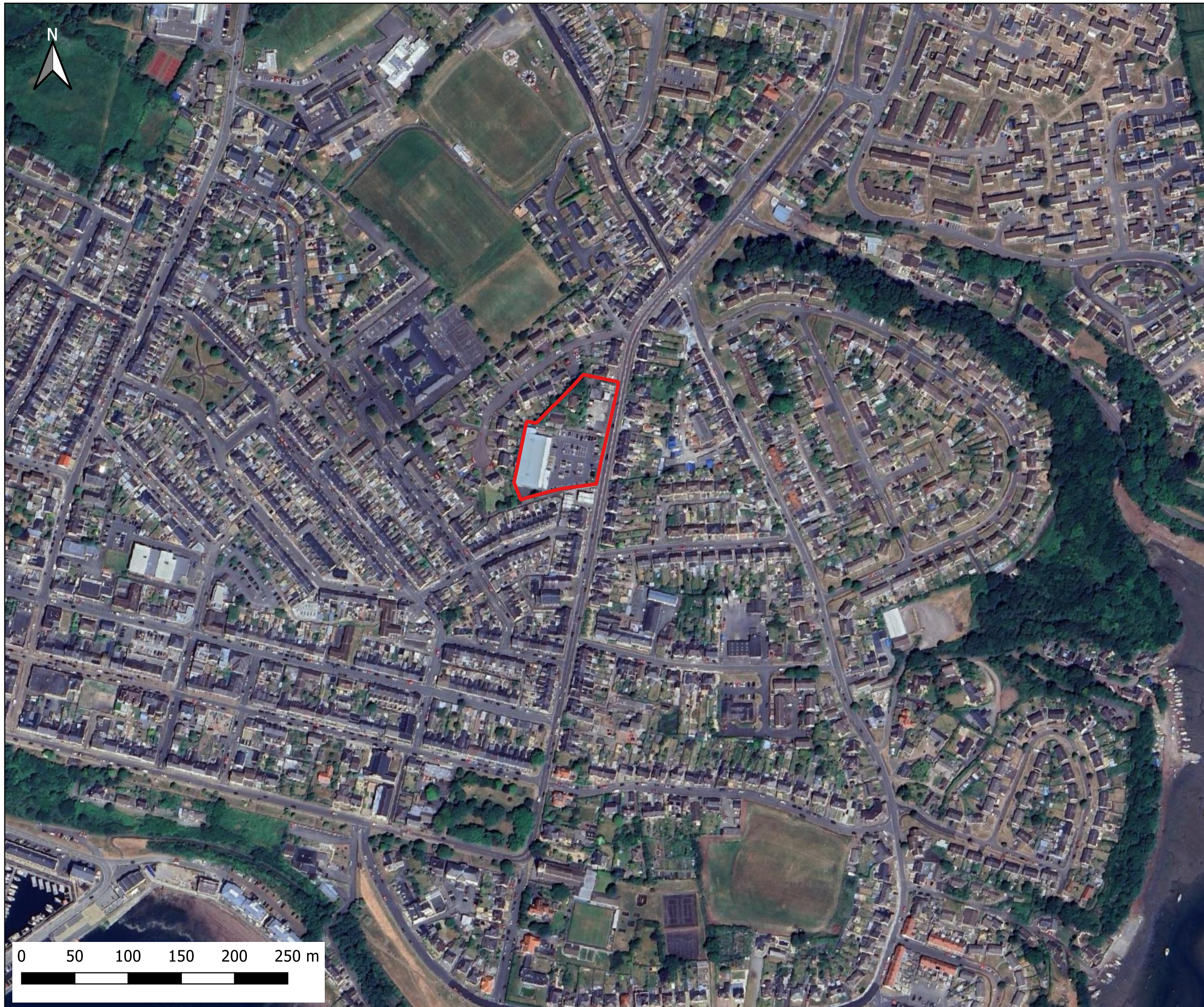


# ABERDAUGLEDDAU / MILFORD HAVEN

CLIENT:			
		 www.waterco.co.uk	
SCHEME: Lidl, Great North Road, Milford Haven			
PLOT TITLE: Location Plan			
PLOT STATUS: FINAL		DATE: 20-02-2024	
DRAWN: MJW	CHECKED: AW	APPROVED: MW	PLOT SCALE AT A3: 1:3500
PLOT NAME: _Location_Plan			REVISION: -



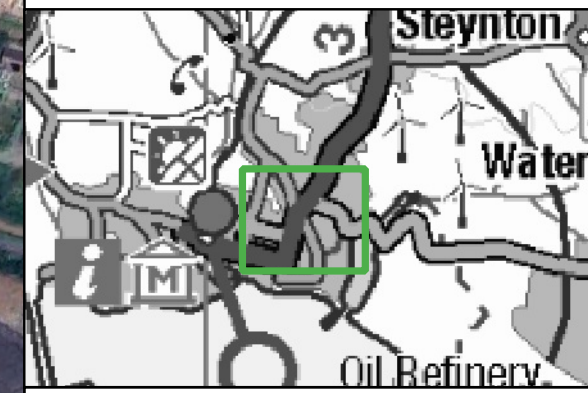




Notes:  
 1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

**LEGEND**

 Site Boundary



CLIENT:  


  
 www.waterco.co.uk

SCHEME:  
 Lidl, Great North Road,  
 Milford Haven

PLOT TITLE:  
 Aerial Plan

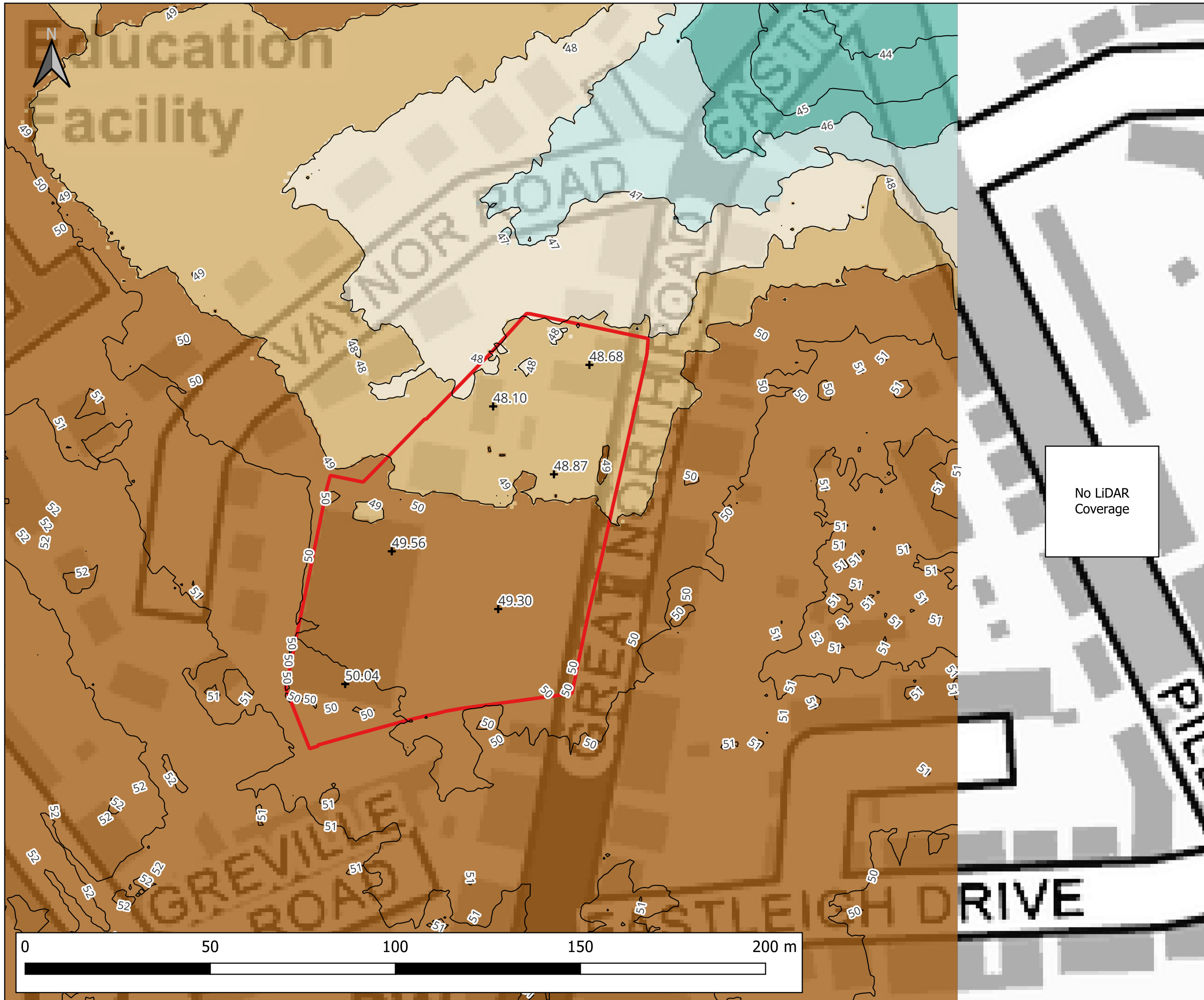
PLOT STATUS: FINAL DATE: 20-02-2024

DRAWN: MJW	CHECKED: AW	APPROVED: MW	PLOT SCALE AT A3: 1:3500
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PLOT NAME: _Aerial_Plan	REVISION: -
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## Appendix B Topographical Information



Notes:  
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

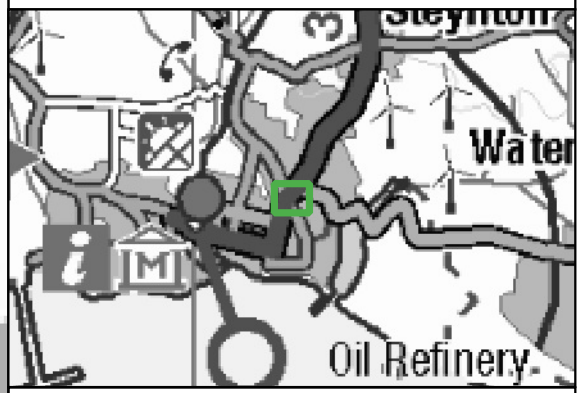
**LEGEND**

- Site boundary
- + Site Levels (m AOD)
- 1m contour

Ground Elevations (m AOD)

- <= 46.0
- 46.0 - 47.0
- 47.0 - 48.0
- 48.0 - 49.0
- > 49.0

No LiDAR Coverage



CLIENT:




www.waterco.co.uk

SCHEME:  
**Lidl, Great North Road, Milford Haven**

PLOT TITLE:  
**LiDAR Plan  
1m Resolution  
Data from Natural Resources Wales**

PLOT STATUS: FINAL	DATE: 20-02-2024
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DRAWN: MJW	CHECKED: AW	APPROVED: MW	PLOT SCALE AT A3: 1:1000
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PLOT NAME: _LiDAR_Plan	REVISION: -
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NOTES:- The accuracy and content of this drawing are dependent on the original specification and EDI should be consulted before use at other sites. Where underground services are shown, all reasonable care has been taken to ensure the accuracy and content of this drawing is as complete and accurate as possible. Before use of this information the user must ensure that the EDI and EDI's equipment is guaranteed to be given the detail before undertaking any work. Due to the nature of this work and limitations imposed by ground conditions and the distances covered, the user must be given that all services have been recorded. Trial holes should be dug at critical locations. All reasonable care has been taken in the survey detail represented on this drawing but any discrepancies must be reported to EDI immediately. Our aim is to produce the best possible results within the specification and cost constraints of our clients. Any comments are most welcome. Levels shown on kerbs are channel level unless stated.

LEGEND table with columns for Features, Symbols, and Building Level Details. Includes items like AV Air Valve, BA Air Brick, BB Borehole, BC Benchmark, BD Boundary Post, BE Bus Stop, BF British Telecom, BG Boundary Line, BH Boundary Cover, BI Drainage Channel, BJ Draining Fourteen, BK Discharge, BL Drainage, BM Drainage, BN Drainage, BO Drainage, BP Drainage, BQ Drainage, BR Drainage, BS Drainage, BT Drainage, BU Drainage, BV Drainage, BW Drainage, BX Drainage, BY Drainage, BZ Drainage, CA Air Valve, CB Air Valve, CC Air Valve, CD Air Valve, CE Air Valve, CF Air Valve, CG Air Valve, CH Air Valve, CI Air Valve, CJ Air Valve, CK Air Valve, CL Air Valve, CM Air Valve, CN Air Valve, CO Air Valve, CP Air Valve, CQ Air Valve, CR Air Valve, CS Air Valve, CT Air Valve, CU Air Valve, CV Air Valve, CW Air Valve, CX Air Valve, CY Air Valve, CZ Air Valve, DA Air Valve, DB Air Valve, DC Air Valve, DD Air Valve, DE Air Valve, DF Air Valve, DG Air Valve, DH Air Valve, DI Air Valve, DJ Air Valve, DK Air Valve, DL Air Valve, DM Air Valve, DN Air Valve, DO Air Valve, DP Air Valve, DQ Air Valve, DR Air Valve, DS Air Valve, DT Air Valve, DU Air Valve, DV Air Valve, DW Air Valve, DX Air Valve, DY Air Valve, DZ Air Valve, EA Air Valve, EB Air Valve, EC Air Valve, ED Air Valve, EE Air Valve, EF Air Valve, EG Air Valve, EH Air Valve, EI Air Valve, EJ Air Valve, EK Air Valve, EL Air Valve, EM Air Valve, EN Air Valve, EO Air Valve, EP Air Valve, EQ Air Valve, ER Air Valve, ES Air Valve, ET Air Valve, EU Air Valve, EV Air Valve, EW Air Valve, EX Air Valve, EY Air Valve, EZ Air Valve, FA Air Valve, FB Air Valve, FC Air Valve, FD Air Valve, FE Air Valve, FF Air Valve, FG Air Valve, FH Air Valve, FI Air Valve, FJ Air Valve, FK Air Valve, FL Air Valve, FM Air Valve, FN Air Valve, FO Air Valve, FP Air Valve, FQ Air Valve, FR Air Valve, FS Air Valve, FT Air Valve, FU Air Valve, FV Air Valve, FW Air Valve, FX Air Valve, FY Air Valve, FZ Air Valve, GA Air Valve, GB Air Valve, GC Air Valve, GD Air Valve, GE Air Valve, GF Air Valve, GH Air Valve, GI Air Valve, GJ Air Valve, 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Valve, JE Air Valve, JF Air Valve, JG Air Valve, JH Air Valve, JI Air Valve, JJ Air Valve, JK Air Valve, JL Air Valve, JM Air Valve, JN Air Valve, JO Air Valve, JP Air Valve, JQ Air Valve, JR Air Valve, JS Air Valve, JT Air Valve, JU Air Valve, JV Air Valve, JW Air Valve, JX Air Valve, JY Air Valve, JZ Air Valve, KA Air Valve, KB Air Valve, KC Air Valve, KD Air Valve, KE Air Valve, KF Air Valve, KG Air Valve, KH Air Valve, KI Air Valve, KJ Air Valve, KK Air Valve, KL Air Valve, KM Air Valve, KN Air Valve, KO Air Valve, KP Air Valve, KQ Air Valve, KR Air Valve, KS Air Valve, KT Air Valve, KU Air Valve, KV Air Valve, KW Air Valve, KX Air Valve, KY Air Valve, KZ Air Valve, LA Air Valve, LB Air Valve, LC Air Valve, LD Air Valve, LE Air Valve, LF Air Valve, LG Air Valve, LH Air Valve, LI Air Valve, LJ Air Valve, LK Air Valve, LL Air Valve, LM Air Valve, LN Air Valve, LO Air Valve, LP Air Valve, LQ Air Valve, LR Air Valve, LS Air Valve, LT Air Valve, LU Air Valve, LV Air Valve, LW Air Valve, LX Air Valve, LY Air Valve, LZ Air Valve, MA Air Valve, MB Air Valve, MC Air Valve, MD Air Valve, ME Air Valve, MF Air Valve, MG Air Valve, MH Air Valve, MI Air Valve, MJ Air Valve, MK Air Valve, ML Air Valve, MM Air Valve, MN Air Valve, MO Air Valve, MP Air Valve, MQ Air Valve, MR Air Valve, MS Air Valve, MT Air Valve, MU Air Valve, MV Air Valve, MW Air Valve, MX Air Valve, MY Air Valve, MZ Air Valve, NA Air Valve, NB Air Valve, NC Air Valve, ND Air Valve, NE Air Valve, NF Air Valve, NG Air Valve, NH Air Valve, NI Air Valve, NJ Air Valve, NK Air Valve, NL Air Valve, NM Air Valve, NO Air Valve, NP Air Valve, NQ Air Valve, NR Air Valve, NS Air Valve, NT Air Valve, NU Air Valve, NV Air Valve, NW Air Valve, NX Air Valve, NY Air Valve, NZ Air Valve, OA Air Valve, OB Air Valve, OC Air Valve, OD Air Valve, OE Air Valve, OF Air Valve, OG Air Valve, OH Air Valve, OI Air Valve, OJ Air Valve, OK Air Valve, OL Air Valve, OM Air Valve, ON Air Valve, OO Air Valve, OP Air Valve, OQ Air Valve, OR Air 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RL Air Valve, RM Air Valve, RN Air Valve, RO Air Valve, RP Air Valve, RQ Air Valve, RR Air Valve, RS Air Valve, RT Air Valve, RU Air Valve, RV Air Valve, RW Air Valve, RX Air Valve, RY Air Valve, RZ Air Valve, SA Air Valve, SB Air Valve, SC Air Valve, SD Air Valve, SE Air Valve, SF Air Valve, SG Air Valve, SH Air Valve, SI Air Valve, SJ Air Valve, SK Air Valve, SL Air Valve, SM Air Valve, SN Air Valve, SO Air Valve, SP Air Valve, SQ Air Valve, SR Air Valve, SS Air Valve, ST Air Valve, SU Air Valve, SV Air Valve, SW Air Valve, SX Air Valve, SY Air Valve, SZ Air Valve, TA Air Valve, TB Air Valve, TC Air Valve, TD Air Valve, TE Air Valve, TF Air Valve, TG Air Valve, TH Air Valve, TI Air Valve, TJ Air Valve, TK Air Valve, TL Air Valve, TM Air Valve, TN Air Valve, TO Air Valve, TP Air Valve, TQ Air Valve, TR Air Valve, TS Air Valve, TU Air Valve, TV Air Valve, TW Air Valve, TX Air Valve, TY Air Valve, TZ Air Valve, UA Air Valve, UB Air Valve, UC Air Valve, UD Air Valve, UE Air Valve, UF Air 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XB Air Valve, XC Air Valve, XD Air Valve, XE Air Valve, XF Air Valve, XG Air Valve, XH Air Valve, XI Air Valve, XJ Air Valve, XK Air Valve, XL Air Valve, XM Air Valve, XN Air Valve, XO Air Valve, XP Air Valve, XQ Air Valve, XR Air Valve, XS Air Valve, XT Air Valve, XU Air Valve, XV Air Valve, XW Air Valve, XX Air Valve, XY Air Valve, XZ Air Valve, YA Air Valve, YB Air Valve, YC Air Valve, YD Air Valve, YE Air Valve, YF Air Valve, YG Air Valve, YH Air Valve, YI Air Valve, YJ Air Valve, YK Air Valve, YL Air Valve, YM Air Valve, YN Air Valve, YO Air Valve, YP Air Valve, YQ Air Valve, YR Air Valve, YS Air Valve, YT Air Valve, YU Air Valve, YV Air Valve, YW Air Valve, YX Air Valve, YY Air Valve, YZ Air Valve, ZA Air Valve, ZB Air Valve, ZC Air Valve, ZD Air Valve, ZE Air Valve, ZF Air Valve, ZG Air Valve, ZH Air Valve, ZI Air Valve, ZJ Air Valve, ZK Air Valve, ZL Air Valve, ZM Air Valve, ZN Air Valve, ZO Air Valve, ZP Air Valve, ZQ Air Valve, ZR Air Valve, ZS Air Valve, ZT Air Valve, ZU Air Valve, ZV Air Valve, ZW Air Valve, ZX Air Valve, ZY Air Valve, ZZ Air Valve.

Control: All levels and co-ordinates are related to the datum described. The horizontal control of this survey is based on Ordnance Survey grid as translated from OS coordinates using Leica's Sinus service. We have applied a reverse scale factor to maintain true ground distances, based on station ST2. The vertical control of this survey is based on OS datum as translated from OS coordinates using the OS2005 transformation as supplied by the OS. This may differ from the existing OS benchmarks in the area which should be disregarded; all levels should be taken from EDI survey stations.

This Survey has been carried out to PAS 128 Detection Method M2 Orthogonal search transects at 5m intervals for Electro Magnetic Location and 2m for Ground Penetrating Radar techniques. The Quality levels achieved are indicated on service lines as B1, B2, B3 or B4. B1 horizontal location accuracy ±150mm or ±16% of detected depth whichever is greater. B1 vertical location accuracy ±10% of detected depth. B1 is achieved by horizontal and vertical location by multiple geophysical techniques. B2 horizontal location accuracy ±250mm or ±40% of detected depth whichever is greater. B2 vertical location accuracy ±40% of detected depth. B2 is achieved by horizontal and vertical location by one of the geophysical techniques used. B3 horizontal location accuracy ±500mm. B3 vertical location accuracy undefined (no reliable depth). B3 is achieved by horizontal location only by one of the geophysical techniques used. B4 horizontal location accuracy undefined. B4 vertical location accuracy undefined. B4 is a utility segment which is suspected to exist but has not been detected or taken from records and is an assumed route only.

The services on this survey have been traced using a combination of Radiodetection RB8000 and Leica DS2000 Ground Penetrating Radar. Whilst every effort has been made to locate all services no system or equipment is able to locate 100% of services without excavation. GPR works well in moist soils which are relatively undisturbed but works less well in very wet or very dry soils and ground which has been generally disturbed or built up, and it also works better with larger diameter cables and pipes - for example it is difficult to trace small bore connections to individual properties. The RB8000 cannot distinguish between services if they are adjacent, cannot always distinguish small pipes/cables adjacent to large ones and can be swamped by radiation from buildings (when very close to them) or high voltage overhead lines.

Station Schedule table with columns: Station, Easting, Northing, Level, Type. Lists 12 stations with their respective coordinates and levels.

Table with 4 columns: Station, Easting, Northing, Level, Type. Contains the same data as the Station Schedule table above.

Table with 4 columns: Rev, Job No, Date, Revision Detail. Shows revision 1 on 10/20.

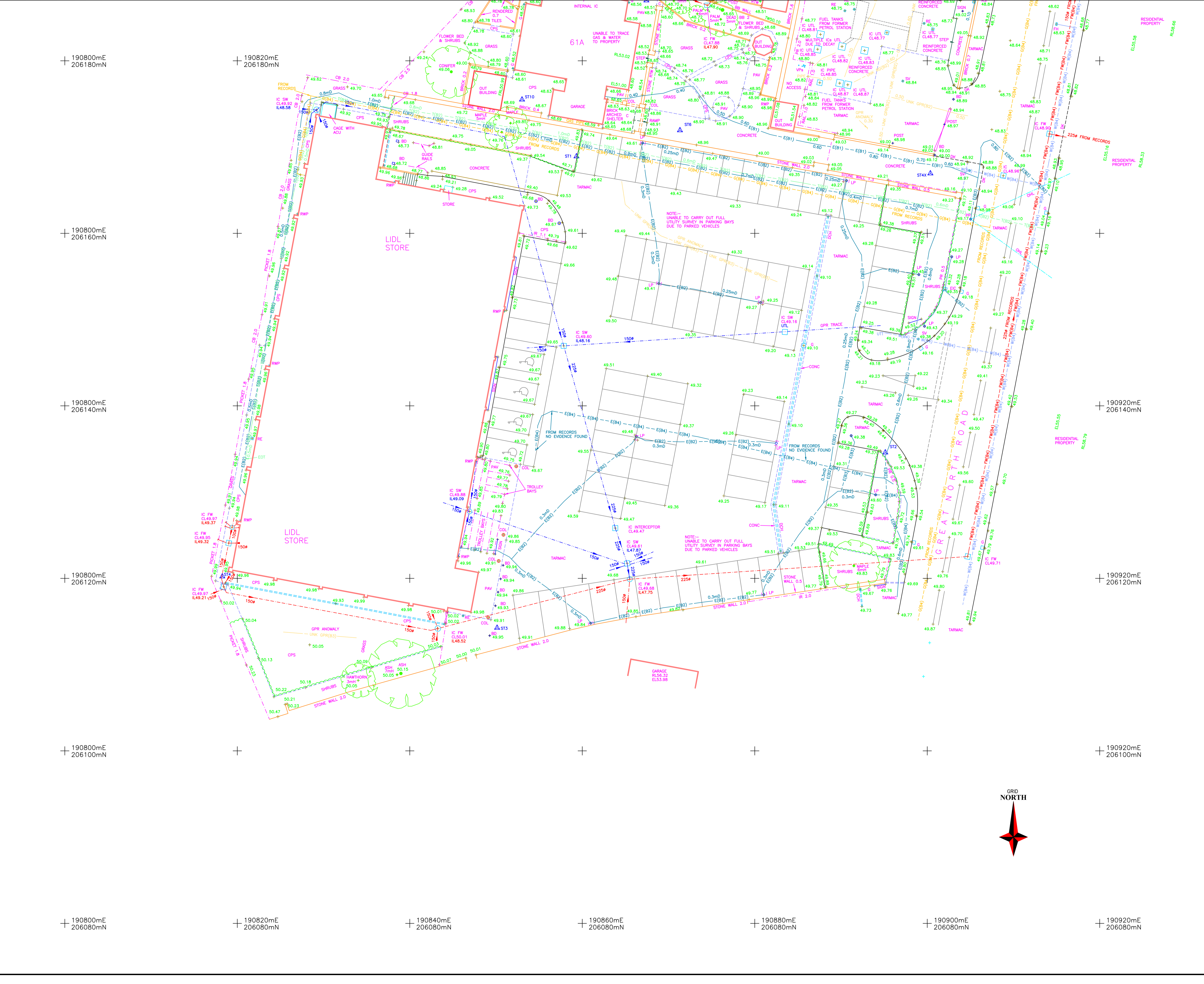
Client: Lidl Great Britain Ltd, Waterton Industrial Estate, off Cowbridge Road, Bridgend, CF31 3PH.

Project: Topographic Survey, Buried Utilities Survey, Great North Road, Milford Haven, SA73 2NA.

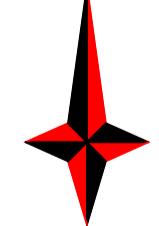
Table with 5 columns: Job No, Surveyor, Checked, Date, Scale. Shows job 19086, surveyor D Hartill, checked by RA, dated Oct. 2020, scale 1:200.

EDI SURVEYS LTD logo and contact information: 163-165 Ranelagh Road, Ipswich, Suffolk, IP2 0AH. Telephone: 01473 211222, Fax: 01473 221660. Email: enquiries@edisurveys.co.uk. Website: www.edisurveys.co.uk.

Table with 2 columns: DRAWING No, REV. Shows drawing 19086/T/01-02 and revision A.



GRID NORTH





NOTES:- The accuracy and content of this drawing are dependent on the original specification and EDI should be consulted before use of other scales. Where underground services are shown, all reasonable care has been taken within the spirit of the original specification and requirement. Before use of this information the user should consult EDI and satisfy themselves of the completeness and accuracy of such detail before undertaking any works. Due to the nature of this work and limitations imposed by ground conditions and the detection equipment used, the user should be given that all services have been recorded. Trial holes should be dug at critical locations. All reasonable care has been taken in the survey detail represented on this drawing but any discrepancies must be reported to EDI immediately. Our aim is to produce the best possible results within the specification and cost constraints of our clients. Any comments are most welcome. Levels shown of kerbs are channel level unless stated.

LEGEND

Table with 3 columns: Features, Symbols, and Descriptions. Includes items like Air Valve, Parking Meter, Sewer, etc.

Control: All levels and co-ordinates are related to the datum described. The horizontal control of this survey is based on Ordnance Survey grid as translated from GPS coordinates using Leica's Simultaneous service. We have applied a reverse scale factor to maintain true ground distances, based on station ST2. The vertical control of this survey is based on OS datum as translated from GPS coordinates using the OS0415 transformation as supplied by the OS. This may differ from the existing OS benchmarks in the area which should be disregarded; all levels should be taken from EDI survey stations.

This Survey has been carried out to PAS 128 Detection Method M2 (Orthogonal search transects of 5m later for Electric Magnetic Location and 2m for Ground Penetrating Radar techniques). The Quality levels achieved are indicated on service lines as B1, B2, B3 or B4. B1 horizontal location accuracy ±150mm or ±10% of detected depth, whichever is greater. B1 vertical location accuracy ±15% of detected depth. B2 horizontal location accuracy ±250mm or ±40% of detected depth, whichever is greater. B2 vertical location accuracy ±40% of detected depth. B3 horizontal location accuracy ±500mm. B3 vertical location accuracy undefined (no reliable depth). B4 horizontal location accuracy undefined. B4 is a utility segment which is suspected to exist but has not been detected or taken from records and is an assumed route only.

The services on this survey have been traced using a combination of Radiodetection RD8000 and Laita DS2000 Ground Penetrating Radar. Whilst every effort has been made to locate all services no system or equipment is able to locate 100% of services without excavation. GPR works well in moist soils which are relatively undisturbed but works less well in very wet or very dry soils and it also works better with larger diameter cables and pipes - for example it is difficult to trace small bore connections to individual properties. The RD8000 cannot distinguish between services if they are adjacent, cannot always distinguish small pipes/cables adjacent to large ones and can be swamped by radiation from buildings (when very close to them) or high voltage overhead lines.

Station Schedule table with columns: Station, Easting, Northing, Level, Type. Lists 12 stations with their respective coordinates and elevations.

Revision table with columns: Rev, Job No, Date, Revision Detail, Surveyor, Chkd. Shows a single revision for 'Survey extension to North'.

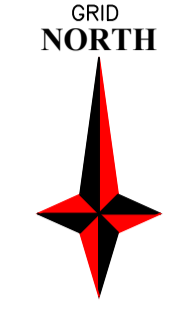
Client: Lidl Great Britain Ltd, Waterton Industrial Estate, off Cowbridge Road, Bridgend, CF31 3PH.

Project: Topographic Survey, Buried Utilities Survey, Great North Road, Milford Haven, SA73 2NA.

Job No, Surveyor, Checked, Date, Scale table. Job No: 19086, Surveyor: D Hartill, Checked: RAJ, Date: Oct. 2020, Scale: 1:200.

EDI SURVEYS LTD logo and contact information: 163-165 Ranelagh Road, Ipswich, Suffolk IP2 0AH. Telephone: 01473 211222, Fax: 01473 221660. Email: enquiries@edisurveys.co.uk

Grid coordinates: 190820mE 206240mN, 190840mE 206240mN, 190860mE 206240mN, 190880mE 206240mN, 190900mE 206240mN, 190920mE 206240mN, 190940mE 206240mN



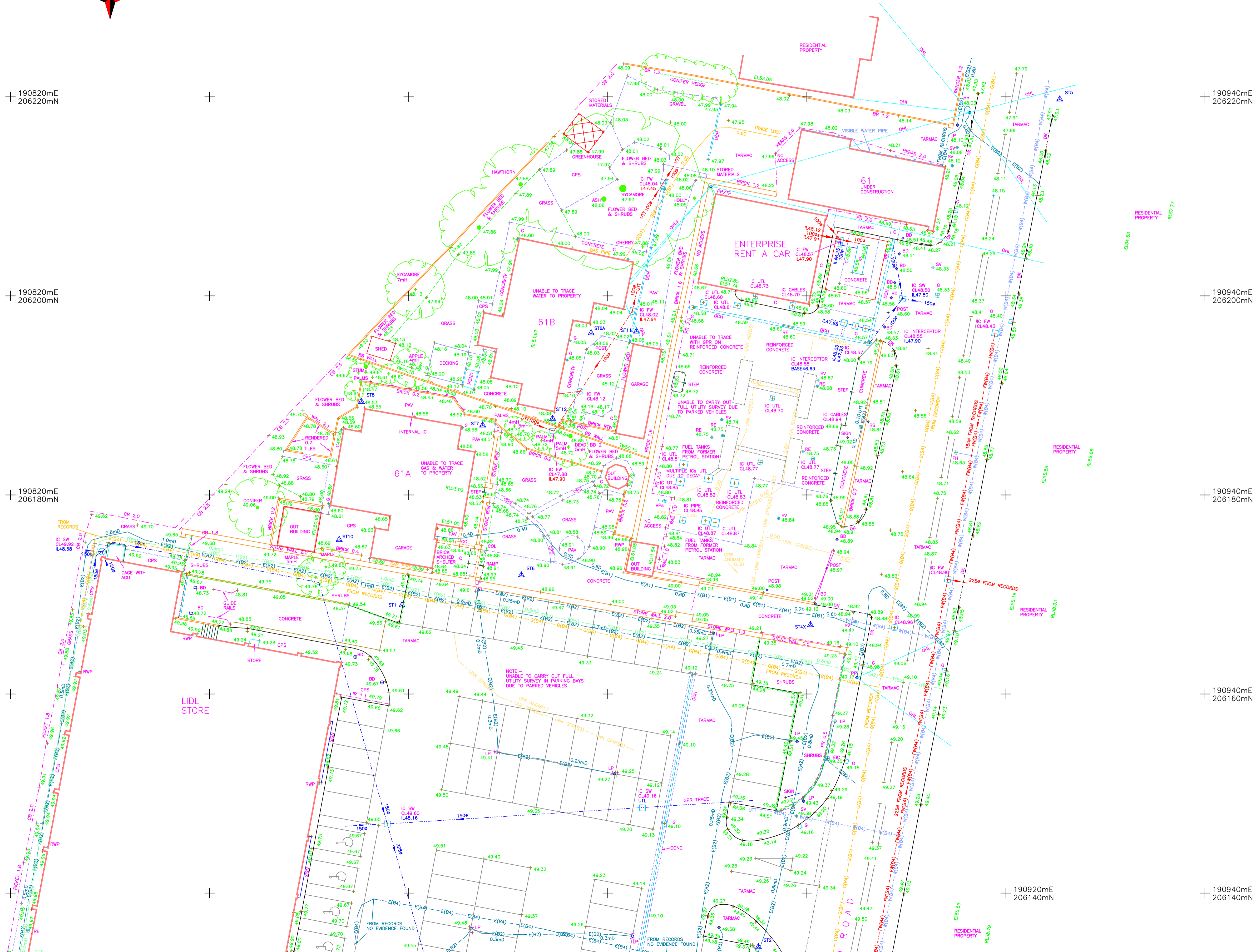
Grid coordinates: 190820mE 206220mN, 190840mE 206220mN, 190860mE 206220mN, 190880mE 206220mN, 190900mE 206220mN, 190920mE 206220mN, 190940mE 206220mN

Grid coordinates: 190820mE 206200mN, 190840mE 206200mN, 190860mE 206200mN, 190880mE 206200mN, 190900mE 206200mN, 190920mE 206200mN, 190940mE 206200mN

Grid coordinates: 190820mE 206180mN, 190840mE 206180mN, 190860mE 206180mN, 190880mE 206180mN, 190900mE 206180mN, 190920mE 206180mN, 190940mE 206180mN

Grid coordinates: 190820mE 206160mN, 190840mE 206160mN, 190860mE 206160mN, 190880mE 206160mN, 190900mE 206160mN, 190920mE 206160mN, 190940mE 206160mN

Grid coordinates: 190820mE 206140mN, 190840mE 206140mN, 190860mE 206140mN, 190880mE 206140mN, 190900mE 206140mN, 190920mE 206140mN, 190940mE 206140mN





## Appendix C DCWW Sewer Plan & Correspondence

Miss Megan Williams  
Waterco  
Unit 8  
Eden Court Lon Parcwr Industrial Estate  
Ruthin  
Denbighshire  
LL15 1NJ

**Date: 24/01/2024**  
**Our Ref: PPA0008517**

Dear Miss Williams

**Grid Ref: 190868 206162**  
**Site Address: Great North Road Milford Haven**  
**Development: Milford Haven.**

I refer to your pre-planning enquiry received relating to the above site, seeking our views on the capacity of our network of assets and infrastructure to accommodate your proposed development. Having reviewed the details submitted I can provide the following comments which should be taken into account within any future planning application for the development.

## **SEWERAGE**

Firstly, we note that the proposal relates to a proposed demolition and re-development of a Lidl store at Great North Road, Milford Haven and comprises of a potential windfall development with no allocated status in the Local Development Plan (LDP). Accordingly, whilst it does not appear an assessment has been previously undertaken of the public sewerage system, we offer the following comments as part of our appraisal of this development.

### **Public Sewerage Network**

The proposed development site is located in the immediate vicinity of a combined sewerage system, which drains to Milford Haven Waste water Treatment Works (WwTW).



This site is crossed by a public combined sewer with the approximate position being marked on the attached Statutory Public Sewer Record. In accordance with the Water Industry Act 1991, Dwr Cymru Welsh Water requires access to its apparatus at all times in order to carry out maintenance and repairs. However, having regard to information provided it appears the proposed development would be situated outside the protection zone of the public rising main measured 3 metres either side of the centreline and therefore acceptable in principle. Nonetheless, it is recommended that the developer carry out a survey to ascertain the location of this sewer and establish its relationship to the proposed development and should be referred to in the [Drawing], for the purposes of any forthcoming planning application. Further information regarding Asset Protection is provided in the attached Advice & Guidance note.

You are also advised that some public sewers and lateral drains may not be recorded on our maps of public sewers because they were originally privately owned and were transferred into public ownership by nature of the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The presence of such assets may affect the proposal. In order to assist you may contact Dwr Cymru Welsh Water on 0800 085 3968 to establish the location and status of the apparatus in and around your site. Please be mindful that under the Water Industry Act 1991 Dwr Cymru Welsh Water has rights of access to its apparatus at all times.

### **Surface Water Drainage**

As of 7th January 2019, this proposed development is subject to Schedule 3 of the Flood and Water Management Act 2010. The development therefore requires approval of Sustainable Drainage Systems (SuDS) features, in accordance with the 'Statutory standards for sustainable drainage systems – designing, constructing, operating and maintaining surface water drainage systems'. As highlighted in these standards, the developer is required to explore and fully exhaust all surface water drainage options in accordance with a hierarchy which states that discharge to a combined sewer shall only be made as a last resort. Disposal should be made through the hierarchical approach, preferring infiltration and, where infiltration is not possible, disposal to a surface water drainage body in liaison with the Land Drainage Authority and/or Natural Resources Wales.

It is therefore recommended that the developer consult with Pembrokeshire County Council as the determining SuDS Approval Body (SAB), in relation to their proposals for SuDS features. Please note, DCWW is a statutory consultee to the SAB application process and will provide comments to any SuDS proposals by response to SAB consultation. Please refer to further detailed advice relating to surface water management included in our attached Advice & Guidance note.

In addition, please note that no highway or land drainage run-off will be permitted to discharge directly or indirectly into the public sewerage system.



## **Foul Water Drainage – Sewerage Network**

We have considered the impact of foul flows generated by the proposed development and concluded that flows can be accommodated within the public combined sewerage system. We advise that the foul only flows should be connected to the combined sewer located in Great North Road.

Should a planning application be submitted for this development we will seek to control these points of communication via appropriate planning conditions and therefore recommend that any drainage layout or strategy submitted as part of your application takes this into account.

However, should you wish for an alternative connection point to be considered please provide further information to us in the form of a drainage strategy, preferably in advance of a planning application being submitted.

You may need to apply to Dwr Cymru Welsh Water for any connection to the public sewer under Section 106 of the Water industry Act 1991. However, if the connection to the public sewer network is either via a lateral drain (i.e. a drain which extends beyond the connecting property boundary) or via a new sewer (i.e. serves more than one property), it is now a mandatory requirement to first enter into a Section 104 Adoption Agreement (Water Industry Act 1991). The design of the sewers and lateral drains must also conform to the Welsh Ministers Standards for Foul Sewers and Lateral Drains and conform with the publication "Sewers for Adoption"- 7th Edition. Further information can be obtained via the Developer Services pages of [www.dwrcymru.com](http://www.dwrcymru.com).

## **SEWAGE TREATMENT**

No problems are envisaged with the Waste Water Treatment Works for the treatment of domestic discharges from this site.

## **WATER SUPPLY**

We anticipate this development will require the installation of a new single water connection to serve the new premise. The provisions of Section 45 of the Water industry Act 1991 apply. We therefore rely on the Local Planning Authority to control the delivery of any required reinforcement or offsite works by way of planning condition at planning application stage.

Capacity is currently available in the water supply system to accommodate the development. We reserve the right however to reassess our position at planning application stage to ensure there is sufficient capacity available to serve the development without causing detriment to existing customers' supply as demands upon our water systems change continually.



I trust the above information is helpful and will assist you in forming water and drainage strategies that should accompany any future planning application. I also attach copies of our water and sewer extract plans for the area, and a copy of our Planning Guidance Note which provides further information on our approach to the planning process, making connections to our systems and ensuring any existing public assets or infrastructure located within new development sites are protected.

Please note that our response is based on the information provided in your enquiry and should the information change we reserve the right to make a new representation. Should you have any queries or wish to discuss any aspect of our response please do not hesitate to contact our dedicated team of planning officers, either on 0800 917 2652 or via email at [developer.services@dwrcymru.com](mailto:developer.services@dwrcymru.com)

Please quote our reference number in all communications and correspondence.

Yours faithfully,



**Owain George**  
**Planning Liaison Manager**  
**Developer Services**

***Please Note that demands upon the water and sewerage systems change continually; consequently the information given above should be regarded as reliable for a maximum period of 12 months from the date of this letter.***

**ENC. SEWER PLAN**  
**WATER PLAN**  
**PRE PLANNING NOTES**



Dŵr Cymru  
Welsh Water

CARDIFF CENTRAL STATION. Great North Road



LEGEND(Representative of most common features)

- Waste network:
- Foul chamber
  - Surface water chamber
  - Combined chamber
  - Combined sewer overflow
  - Special purpose chamber
  - Treatment works
  - Pumping station
  - NB: Sewer symbol colour indicates the type.
  - RED - Combined
  - GREEN - Surface Water
  - BROWN - Foul
  - Purple - Former S24 sewers (for indicative purposes only)
  - Outfall
  - Lamphole
  - Storm Overflow
  - Rising main
  - Gravity sewer
  - Private sewer
  - Private sewer subject to Sect. 104 adoption agreement
  - Private Sewer Transfer
  - Lateral Drain
  - Inspection Chamber

Notes:

Whilst every reasonable effort has been taken to correctly record the pipe material of DCOW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be asbestos cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation.

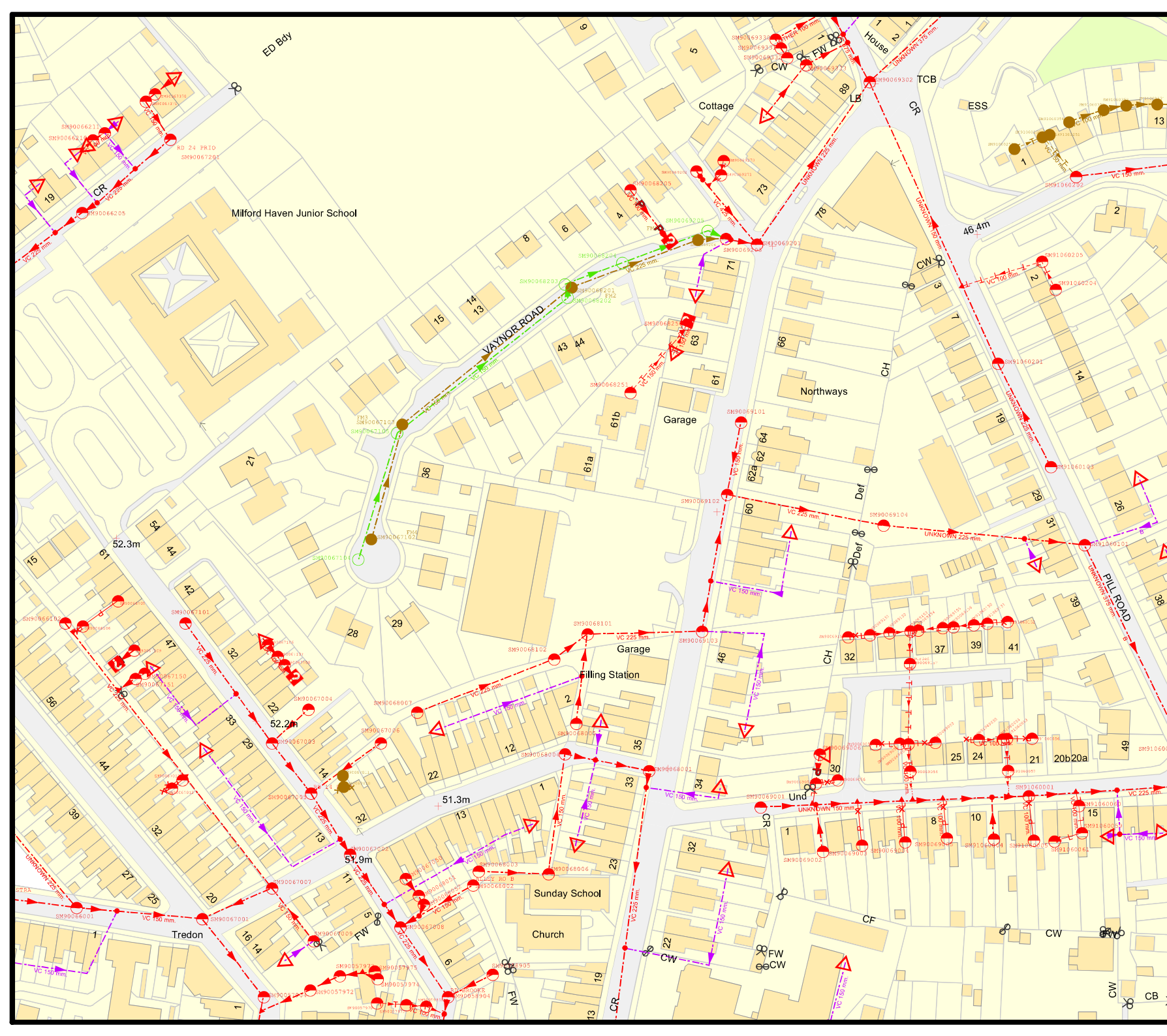
Dŵr Cymru Cyllyngeidia (The Company) gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus. The onus of locating apparatus before carrying out any excavations rests entirely on you. The information which is supplied by the Company is done so in accordance with statutory requirements of sections 196 and 199 of the Water Industry Act 1991 which is based upon the best information available and, in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclose the existence of a water main, service pipe, sewer, lateral drain or disposal main and any associated apparatus laid before 1 September 1989, or, if they do, the depths thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the Company's right to be compensated for any damage to its apparatus.

Service pipes are not generally shown but their presence should be anticipated.

**EXACT LOCATIONS OF ALL APPARATUS TO BE DETERMINED ON SITE.**

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Map Ref: 190866,206162  
Map scale: 1:1250  
Printed by: Asamoah Akwasi  
Printed on: 06 Oct 2020



## Appendix D Development Plans





SITE AREA = 7304 SQM  
OR 1.8 ACRE

94 PARKING SPACES  
INCLUDING 6 DISABLED 9 P&C AND 2EVC



Rev.	Date	Description	Drawn
H	26/03/2024	Added Highways engineer design entrance and bus stop location.	BM
G	25/03/2024	Cycle parking spaces increased	BM
F	17/03/2024	Substation added and car park numbers altered	BM
E	01/03/2024	Room Areas removed - sales area connected	BM
D	15/02/2024	Updated to the latest Lid Specification (Feb 24)	BM

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client  
**Lidl GB Ltd.**



project  
**Milford Haven**

drawing title  
**Proposed Lidl Site Plan**

date **October 2023**

status **Planning**

scale **1:500 @ A3**

drawn **NG** checked **BM**

job no. **3200** dwg no. **P404** rev. **H**