



**HEARD
ASSOCIATES**

STRUCTURAL ENGINEERS

New Petrol Filling Station & Retail store

At 101 Pickwick Road Corsham.

Drainage Strategy Report

for

Cliffe Property Investments Ltd

Report Ref : DSR-2537-R1

12th December 2025

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1.0 Introduction.

Steven Heard Associates Ltd have been appointed to produce a drainage Strategy for the proposed development. The proposal concerns the construction of a new petrol filling station and retail convenience store which will replace the existing petrol filling station and retail outlet.

This strategy considers the Foul & Surface Water discharge from the new development. It is based on sustainable drainage principles that give due consideration to the hydrological and hydro-geological context of the development.

This report has been prepared in accordance with the requirements of the National Planning Policy Framework (NPPF) and specifically the West of England SuDS guide. The report has also been produced in accordance with the Wiltshire Council Drainage and Betterment Strategy (June 2024)

2.0 The existing Site

2.1 Site Location and description.

The site is located at 101 Pickwick Road in Corsham, adjacent to the junction with Dickins Avenue. Currently the site is occupied by a petrol filling station and is predominately covered with hardstanding. The area surrounding the site is residential. See Figures 1 & 2.



Figure 1 – Site location on ordnance survey map.

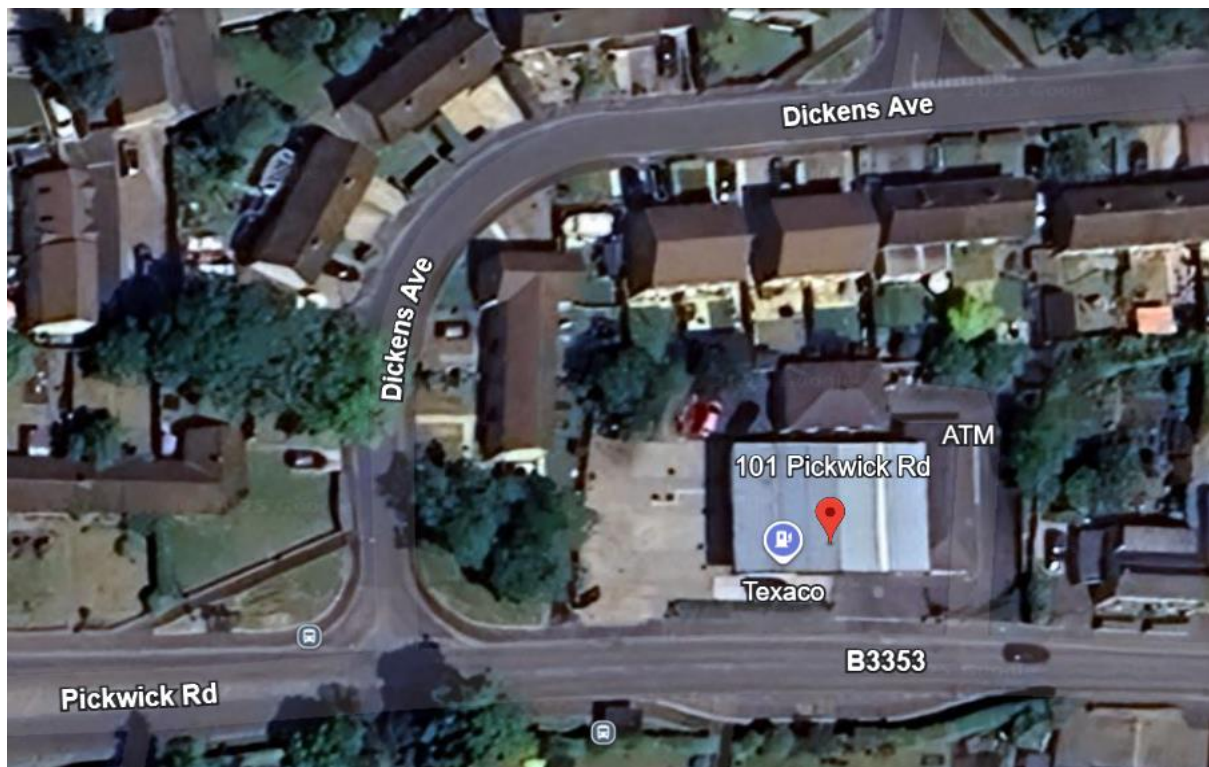


Figure 2 – Site location marked on an Aerial view.

The topographical survey indicates that the site falls from the Northeast corner, where the ground level is shown at 107.62 to the South West, where the ground level is 106.47. We understand that the site has been in use as a garage or petrol filling station for the last 40 years.

A topographical survey of the site has been undertaken and this is included in Appendix A.

2.2 Site geology, Geo-hydrology and Hydrology.

An environmental assessment was undertaken by Subadra, in 2020. This indicates that the site is located in an area of moderate environmental sensitivity. The underlying geology is shown to comprise Cornbrash Limestone and Forest Marble Mudstone, both units classified by the Environment Agency as Secondary Aquifers. The nearest surface water feature is a small pond located 300m to the north; this is not considered a viable at risk receptor. We have not identified any at-risk licensed water abstractions.

We understand that the findings of previous site investigations undertaken on the site identified areas of made ground to around 2.2m in depth and noted that ground water was encountered at various shallow depths ranging from 0.4m to 2.0m.

We understand that more recent site investigations undertaken by Subadra, recorded made ground at depths of between 0.76m and 2.07m. Subsequent ground monitoring established the ground water to be standing at depths varying between 0.9m and 1.97m below ground level.

See Figure 3 below, extract from Subadra report. CP20210 CL 001 – See also Appendix B for Subadra report.

2.2 <u>Geology, Hydrogeology and Hydrology</u>					
	Geological Unit	Description		Estimated Thickness	Data Source
Drift Geology	None recorded at the site's location				British Geological Survey (BGS)
Solid Geology	Cornbrash Limestone	Limestone, medium- to fine-grained. Generally bluish grey, but weathers to olive or yellowish brown.		<10m	
	Forest Marble Formation	Mudstone	Greenish grey, variably calcareous and sometimes sandy mudstone	25-30m	
		Limestone	Grey, weathering brown and flaggy, variably sandy limestone	<10m	
Existing Site Investigation Data	Previous borehole investigation works (ref.1-5) have confirmed that shallow soils comprise ~2.2m of granular Made Ground overlying 'interbedded creamy-yellow limestone with stiff grey clay to depths of up to 4.0m'(interpreted as Forest Marble).				Ref.1-5
Nearby Borehole Records	The BGS hold records for a borehole constructed ~60m to the north-west of the site (BGS ref. ST87SE6). This records underlying geology to comprise Made Ground to 0.46m, over Cornbrash Formation ('Stone') to 2.7m, over Forest Marble Formation (yellow clay grading to blue gault) to 23m depths. This was underlain by the Action Turville Beds and Great Oolite series (to ~64m).				BGS
Table Six: Regional Geology					
	Geological Unit		Environment Agency Aquifer Classification		Data Source
Drift Geology	None recorded at the site's location				Environment Agency
Solid Geology	Cornbrash Limestone		Secondary Aquifer (Class A)		
	Forest Marble Mudstone Formation				
	Forest Marble Formation - Limestone		Principal Aquifer		
Existing Site Investigation Data	Previous groundwater monitoring recorded groundwater at shallow depths, between 0.4m and 2m depths, varying slightly seasonally, with an inferred hydraulic gradient to the south-east, consistent with the topography. Groundwater was described as being perched within the Made Ground, resting on the surface of the underlying bedrock.				Ref.1-6
Nearby Borehole Records	The BGS borehole referenced above recorded resting groundwater at 42m depths.				BGS
Table Seven: Regional Hydrogeology					

Figure 3 – Extract from Subadra report.

The site lies within Zone II of a designated Source Protection Zone, associated with an abstraction located ~4km to the south-east.

See Figure 4 regarding the local hydrology. See also Appendix B for Subadra report.

	Description	Distance	Direction	Data Source			
Surface Water Features	Small pond	300m	North	Ordnance Survey			
Table Eight: Regional Hydrology							
Abstraction	Surface Water			Groundwater			
	Distance	Direction	Purpose	Distance	Direction	Purpose	
Nearest	None within 1km			None within 1km			
Nearest Public Water Supply							
Source Protection Zone	The site lies within Zone II of a designated Source Protection Zone, associated with an abstraction located ~4km to the south-east. The abstraction is likely to draw from the Forest Marble Limestone, with the overlying mudstone providing some protection from shallow contamination.						
Site located in an Environment Agency defined 'Drinking Water Safeguard Zone'			Surface Water		No		
			Groundwater		No		

Figure 4 – Extract from Subadra report with details of local hydrology.

2.3 Flood Risk

Fluvial/Tidal Flood Risk

The UK Government's Flood Risk Map for Planning, available online, identifies that the site is in Flood Zone 1 (Low probability of flooding).

Surface water Flood Risk

The UK Government's Surface Water Flood Risk Mapping, identifies that the site is generally at very low risk of flooding due to surface water runoff from adjacent areas. Refer to Figure 1-3 below.

Flood Risk from Reservoirs

The UK Government's Surface Water Flood Risk Mapping, identifies that the site is generally at low risk of flooding from Reservoirs.

See figures 4 & 5

Flood map for planning

Your reference Location (easting/northing) Created
101 Pickwick Rad 386473/170582 5 December 2025 16:39

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

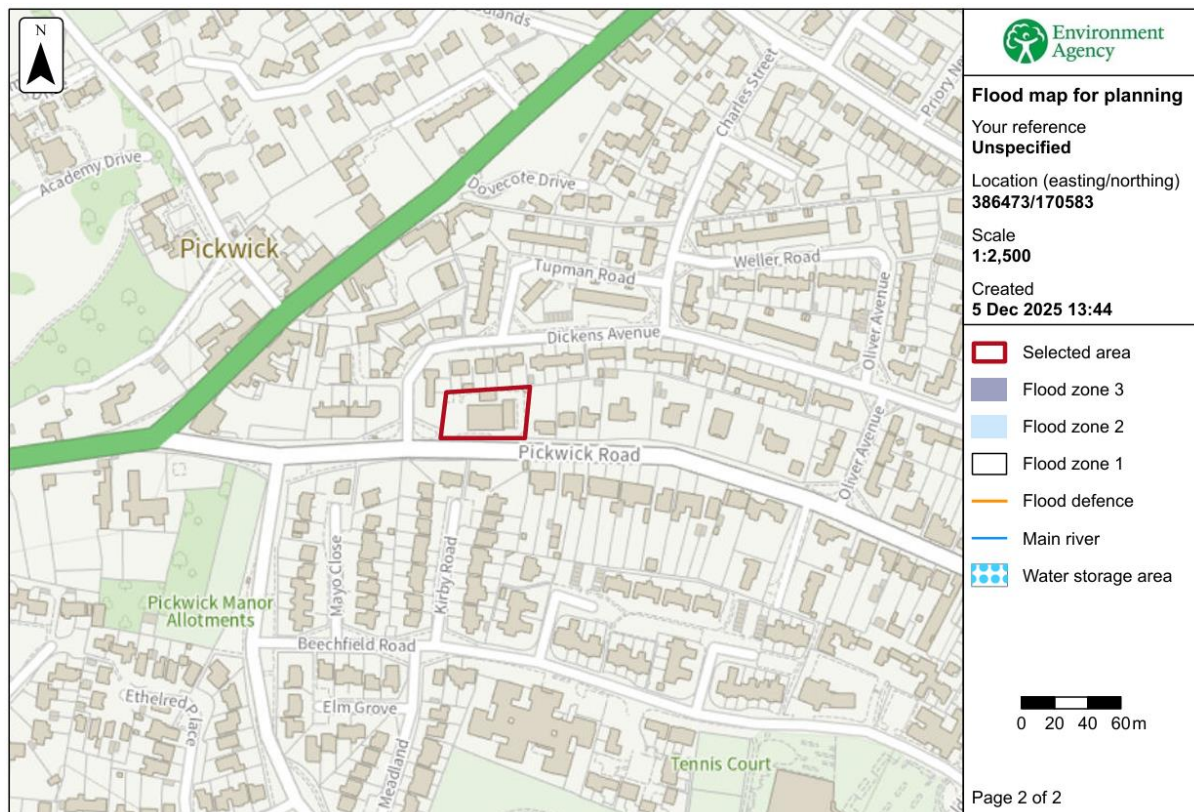


Figure 4 – Fluvial/Tidal Flood Risk

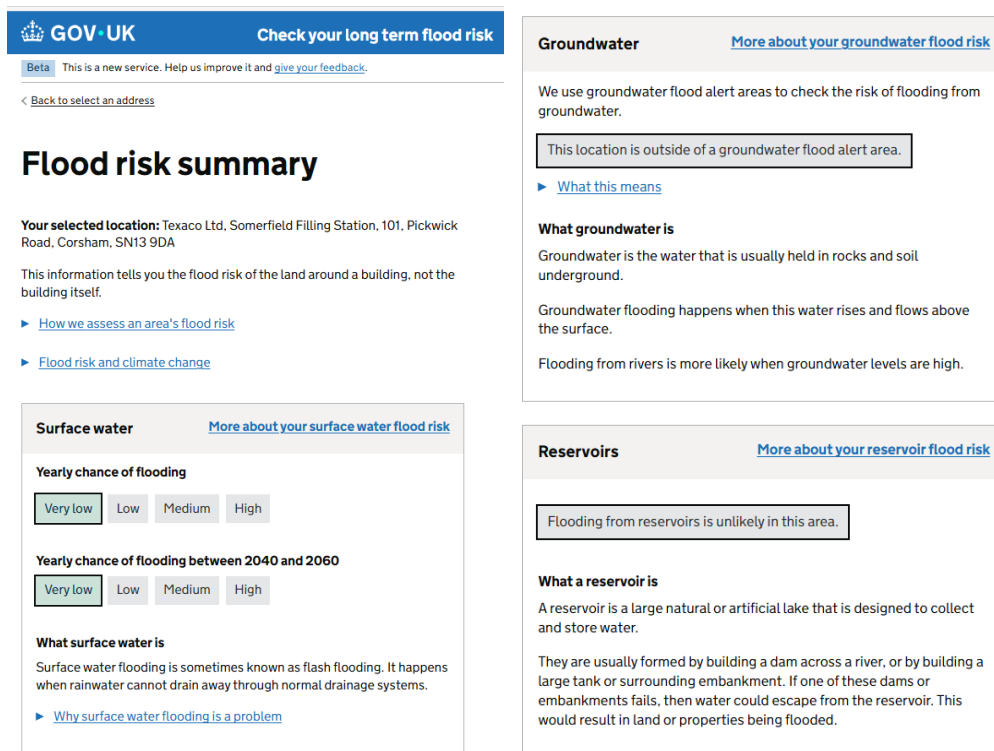


Figure 5 – Flood risk from Surface water, Groundwater & Reservoirs.

2.4 Existing drainage of the site.

The existing drainage network on site has been surveyed and consists of three separated systems all combined for discharge into the existing foul public sewer. The “ brown “ surface run off from the forecourt and surrounding hard standings is collected via channel drains and gulleys. This is passed through a petrol interceptor and then combined with the rainwater collected from the roofs of the building and canopy.

Brown water from the car wash is collected and discharged untreated into the surface water system.

The surface and rainwater is combined with the Foul water at Manhole 6, the last Manhole on site, this then discharges into public foul sewer located in Pickwick Road.

See Figure 6 and also the Below ground drainage and topographical Survey drawings in by MET Environmental, contained in Appendix A.

2.4.1. Local Existing Sewers

Records obtained from Wessex Water identify both public Foul and Surface water sewers close to the site. A public foul sewer is shown located in Pickwick Road. A public surface water sewer is located in Dickens Avenue, close to the junction with Pickwick Road. ***See Figure 7.***

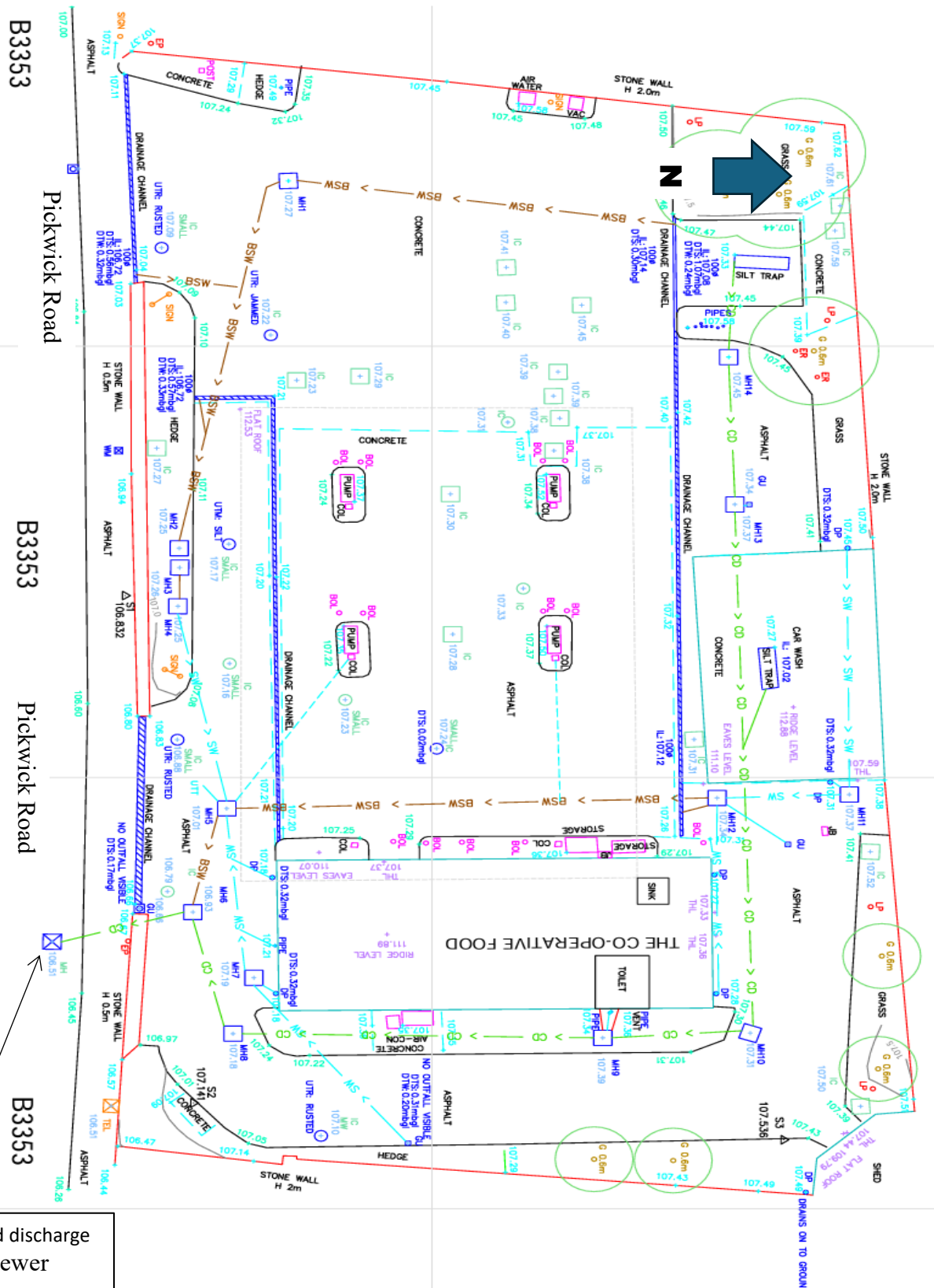
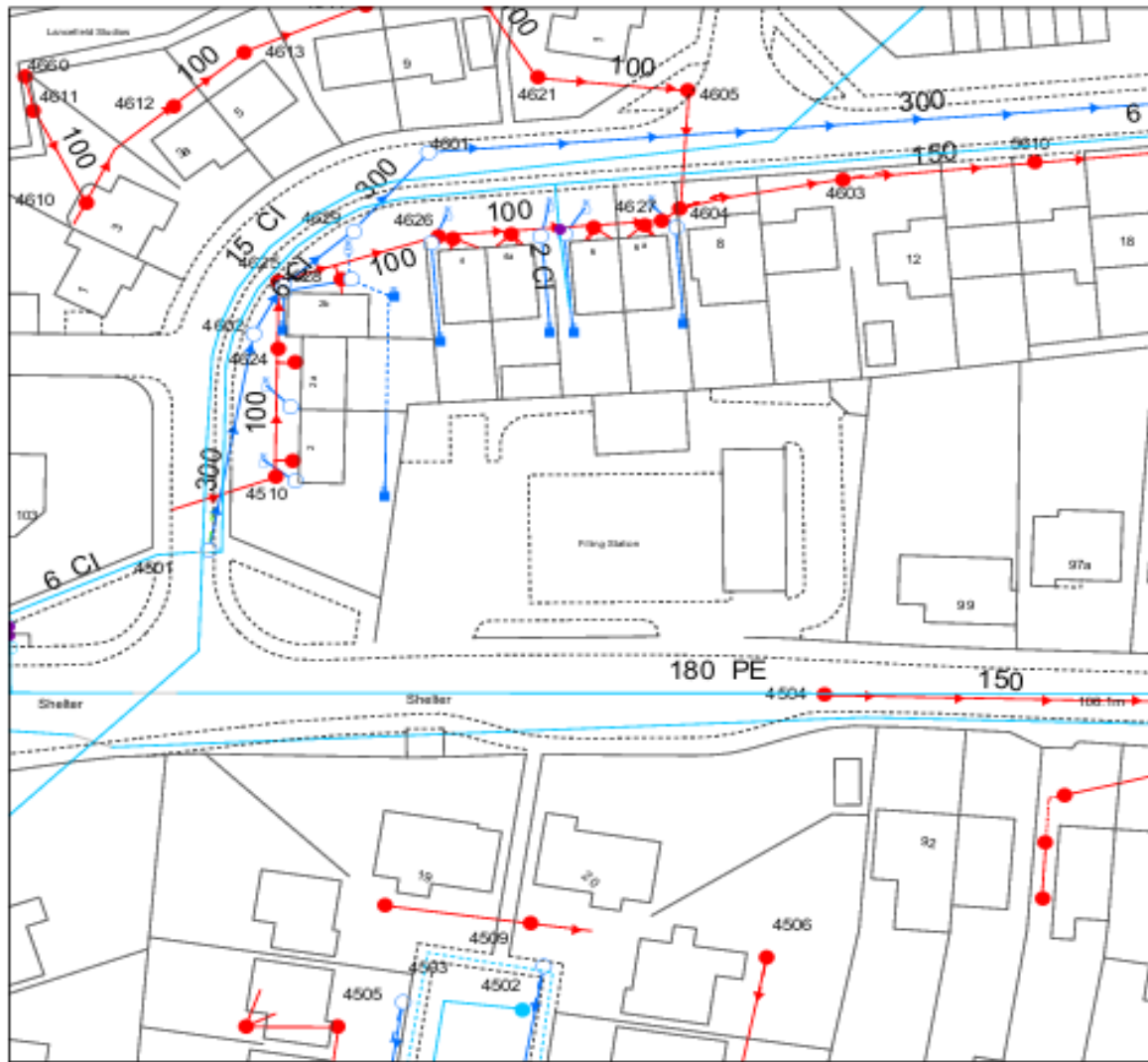


Figure 6 – Extract from drainage survey drawing.

Wessex Water Network Map



Reproduced from the Ordnance Survey map with the permission of the Controller of His Majesty's Stationery Office. © Crown copyright and database rights (2015) OS/NO200848004



Figure 7
Wessex Water Map showing location of Surface & Foul Water Sewers near the site.

2.5 Pre-Development Runoff Rates

Green Field

Results

Method	IH124	
Flow rate 1 year (l/s)	0.4	l/s
Flow rate 2 year (l/s)	0.5	l/s
Flow rate 10 years (l/s)	0.7	l/s
Flow rate 30 years (l/s)	1.0	l/s
Flow rate 100 years (l/s)	1.2	l/s
Flow rate 200 years (l/s)	1.4	l/s

Brownfield

The existing site comprises petrol filling station with forecourt, car wash and retail store with some small, grassed areas on a 0.15 ha site.

The total impermeable area within the site is approximately 1214m².

Using the Modified Rational Method detailed in Butler, D and Davies, J. (2006), Urban Drainage, 2nd ed., SPON, the surface water runoff for the existing site has been calculated as follows:-

$$Q = CiA \quad \text{where} \quad \begin{aligned} Q &= \text{maximum flow rate (l/s)} \\ C &= \text{PIMP/PR} \\ i &= \text{rainfall intensity (mm/hr)} \\ A &= \text{area (ha)} \end{aligned}$$

It should be noted that a fixed rainfall intensity of 50mm/hr is used in this case, which has been recommended by Butler & Davies (2006) to avoid using inappropriately high intensities for very low concentration times, i.e. small sites.

Using the Modified Rationale Method (Butler and Davies, 2006), and based on the measured impermeable area on the existing site of approximately 1214 m², the total rate of runoff is estimated to be as follows :

Return Period	Updated Intensity (mm/hr)	Peak Runoff (L/s)
1-year	30.52	9.99
30-year	37.94	12.42
100-year	50.00	16.37

The runoff calculations are included at Appendix C.

3.1 Description of the proposed development.

3.1 Description of the proposed development.



See Catchment Area drawing in section 3.2.3 of this report.

3.2 Outline Strategy.

3.2.1 Consideration of SuDs requirements, hierarchy and feasibility.

Rainwater Harvesting / re-use.

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required storage volume of approximately 3,000–4,000 litres. A 5,000-litre tank therefore provides compliant storage with a modest operational buffer. The tank supports SuDS hierarchy objectives by capturing roof runoff at source and reducing peak flows to the surface-water system, while larger tanks would not offer additional SuDS benefit given the limited reuse /demand and site invert constraints.

SuDS discharge hierarchy / Feasibility

The principal objective of SuDS is to reduce the risk of Flooding, reduce pollution via treatment and benefit the landscape and environment. SuDS policy requires the consideration of hierarchy of techniques in achieving these objectives. The table below show the consideration of the hierarchy relative to site conditions and constraints .

Discharge receptor	Feasibility
Infiltration of rainwater / blue water.	• Natural geology low permeability and not suitable for soakaways • Shallow ground water level circa 0.7m ; prohibits soakaway drainage
Discharge into surface waters	Nearest pond circa 300m away in private land. Nearest water course over 2 km from site.
Surface Water Sewer	Public Surface water sewer adjacent to site at junction of Dickens Road. No existing connection exists to this from the site so New connection required into existing Public manhole, subject to Wessex water agreement.
Combined / Foul	Located adjacent to the site in Pickwick road – site currently discharges all Surface water into the public foul sewer. – Not deemed suitable for ongoing future use for surface water.

Exceedance Allowance.

The design of the site must ensure that flows resulting from rainfall in excess of a 1 in 100 year (+CC allowance) rainfall event are managed in exceedance routes, that minimise the risks to people and property, and do not increase flood risk off site. The exceedance routes are marked on the Drainage layout provided in section 3.2.2 of this report.

The design caters for the possibility of events where exceedance might occur. The proposed levels for the site generally follow the existing topography, however a depression has been provided in the centre of the site, to allow for the temporary storage of any exceedance. The surrounding ground levels and the floor level of the building has been raised. Channel drainage is provided around the depressed area of the site, in front of the doors to the building and across the entrance and exit to the site.

3.2.2 Surface water drainage Strategy.

The existing drainage system on site is combined and discharges all surface and foul water into the Public Foul sewer in Pickwick Road. Some of the brown water is discharged untreated. No surface water attenuation or discharge control is currently provided.

Wiltshire Council requires brownfield redevelopment to achieve a reduction in runoff rates wherever practicable. In accordance with the SuDS hierarchy and Wiltshire Council's published drainage requirements, brownfield sites should provide a degree of 'betterment' compared with existing discharge rates, unless clear constraints prevent this.

This approach is consistent with both the Environment Agency's expectations for sustainable drainage on previously developed land and with CIRIA C753 SuDS guidance, which encourages attenuation and controlled discharge to reduce downstream flood risk and mimic greenfield runoff performance wherever achievable.

The site lies within the Avon Bristol & North Somerset Streams management catchment. Climate change has been assessed using the Environment Agency 2070s peak rainfall intensity allowances: +25% (central) for design and +45% (upper end) for sensitivity for the 1% AEP (1 in 100 year) event, in line with current EA guidance and Wiltshire Council LLFA expectations.

The proposed drainage strategy therefore incorporates attenuation and controlled discharge to deliver a measurable reduction in peak runoff rates from the site, providing appropriate SuDS betterment in line with national and local policy.

There are not any water courses or features close to the site, which can be used as a discharge receptor. The site is underlain by impermeable soils. The ground water on the site is shallow and perched in the made ground that is evident across the site. These conditions are not suitable for the use of soakaways for the rainwater. The site is in an area of ground water protection. The small size of the site, the required space for underground services and petrol tanks, and the shallow ground water mean there is limited space for attenuation. Therefore, geo-cellular tanks have been used as these have the most effective volume capacity relative to size and offer flexibility in their arrangement.

The construction of the petrol interceptor and attenuation tanks will need to cater for the shallow ground water. Further ground water monitoring will need to be undertaken on site to confirm the likely water levels that will be encountered. Allowance will also need to be made for seasonal variation. We envisage that the geo-cellular tanks will need to be constructed on reinforced concrete base slabs which will act as anchor blocks, strapping and netting will be positioned over the tank to tie it down. A reinforced concrete slab may also be needed above the tank to assist. This will also assist structurally, in supporting vehicular loading. The petrol interceptor will also need to be anchored down, either using a similar method or via concrete encasement, this will need to be in accordance with the manufacturers recommendations.

The new scheme will see separate systems discharging from the site. All brown water will be treated via a petrol interceptor and discharged with the rainwater from the roofs into the Public Surface water sewer in Dickens Avenue. The intention is to discharge by gravity. However, if this is not possible, due to the level of the public sewer, the flow control manhole and hydro brake would be replaced with a pump. This would feed a rising main which would discharge into a new manhole constructed in the public footpath, close to the existing public surface water manhole. From here it would discharge by gravity into the public sewer. #

If a pumped system is required then this would need to have a back- up system and a monitored alarm. The size of the attenuation would also need to be checked to ensure it has capacity for 24 hour storage, to allow for a power cut / outage.

The site is a brownfield development, the existing brownfield rates calculated for the site are as follows :

Return Period	Updated Intensity (mm/hr)	Peak Runoff (L/s)
1-year	30.52	9.99
30-year	37.94	12.42
100-year	50.00	16.37

The proposed drainage design will utilise a flow control manhole with a Hydro brake vortex device to limit the discharge to the surface water sewer to 2.0 L/s for all return periods up to and including the 1:100-year 6 hour event, plus climate change . Two below ground drainage attenuation tanks will be provided to attenuate surface water on site, providing adequate storage volume to cater for consecutive events where the attenuation is only half empty after a 1:100 year event and a 1:30 year event occurs.

The limited space on site and the shallow ground water, limits the depth and space for below ground tanks. The 2 l/s discharge rate is as close to the 1.2 l/s greenfield site rate, as is feasibly possible, for 1:100 year event and is over 80% improvement from the current situation and brownfield discharge rate, see the table below

Event	Existing (L/s)	Proposed (L/s)	Reduction
1-year	9.99	2.0	80%
30-year	12.42	2.0	84%
100-year	16.37	2.0	88%

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Calculations for the estimated Greenfield and Brown field run off rates are provided in Appendix C.

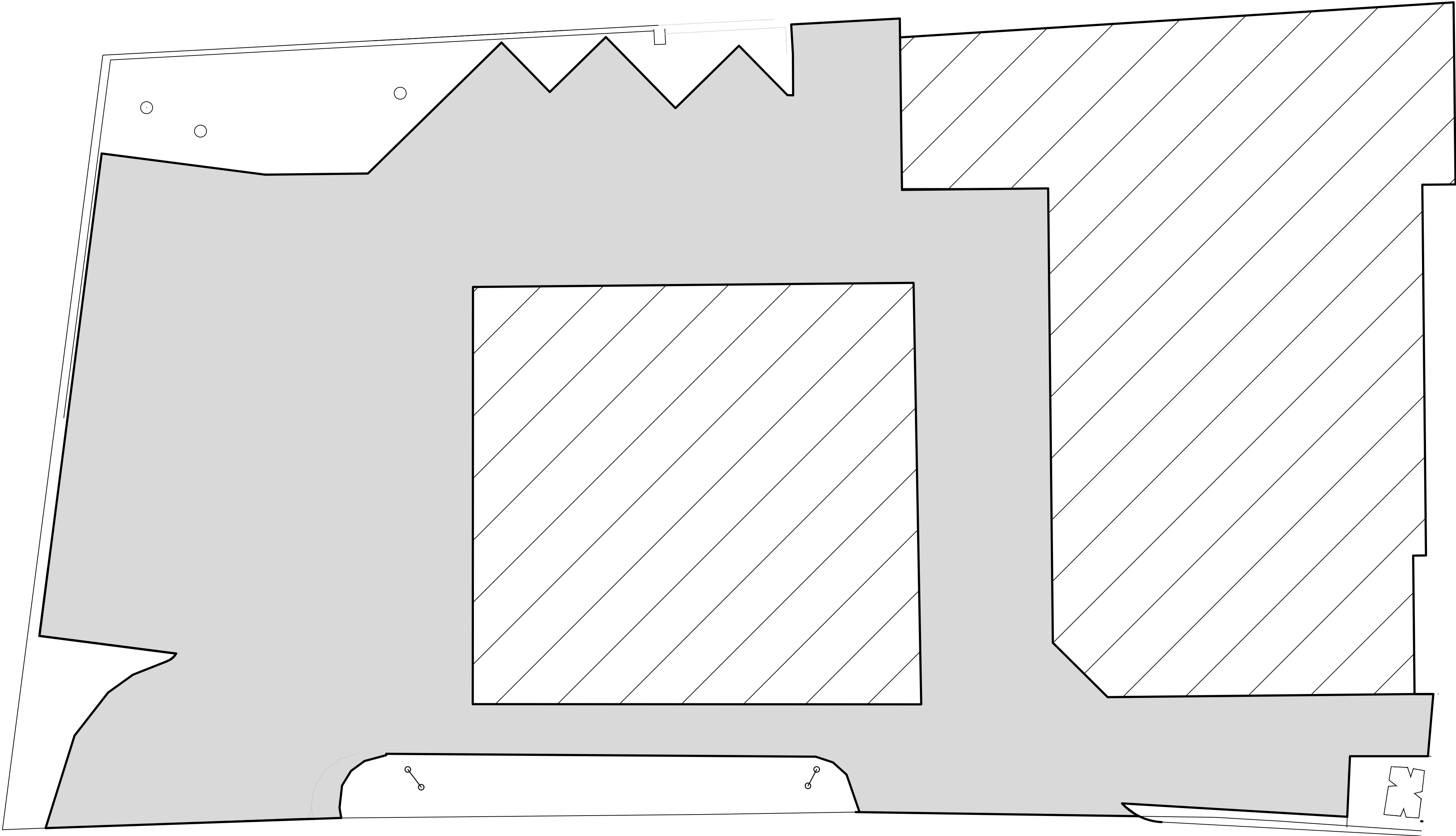
Calculations for the drainage attenuation tanks are provided in Appendix D.

3.2.3 Catchment area drawing.

AREA OF UNCOVERED
IMPERMEABLE HARDSTANDING
664 m2

AREA OF ROOF AND CANOPY
IMPERMEABLE HARDSTANDING
610 m2

TOTAL CATCHMENT AREA
= 664 + 610 = 1214 m2

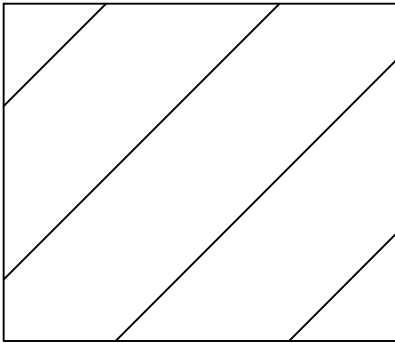


PICKWICK ROAD

PLAN OF CATCHMENT AREAS



DENOTES AREA OF
HARD STANDING = BROWN WATER

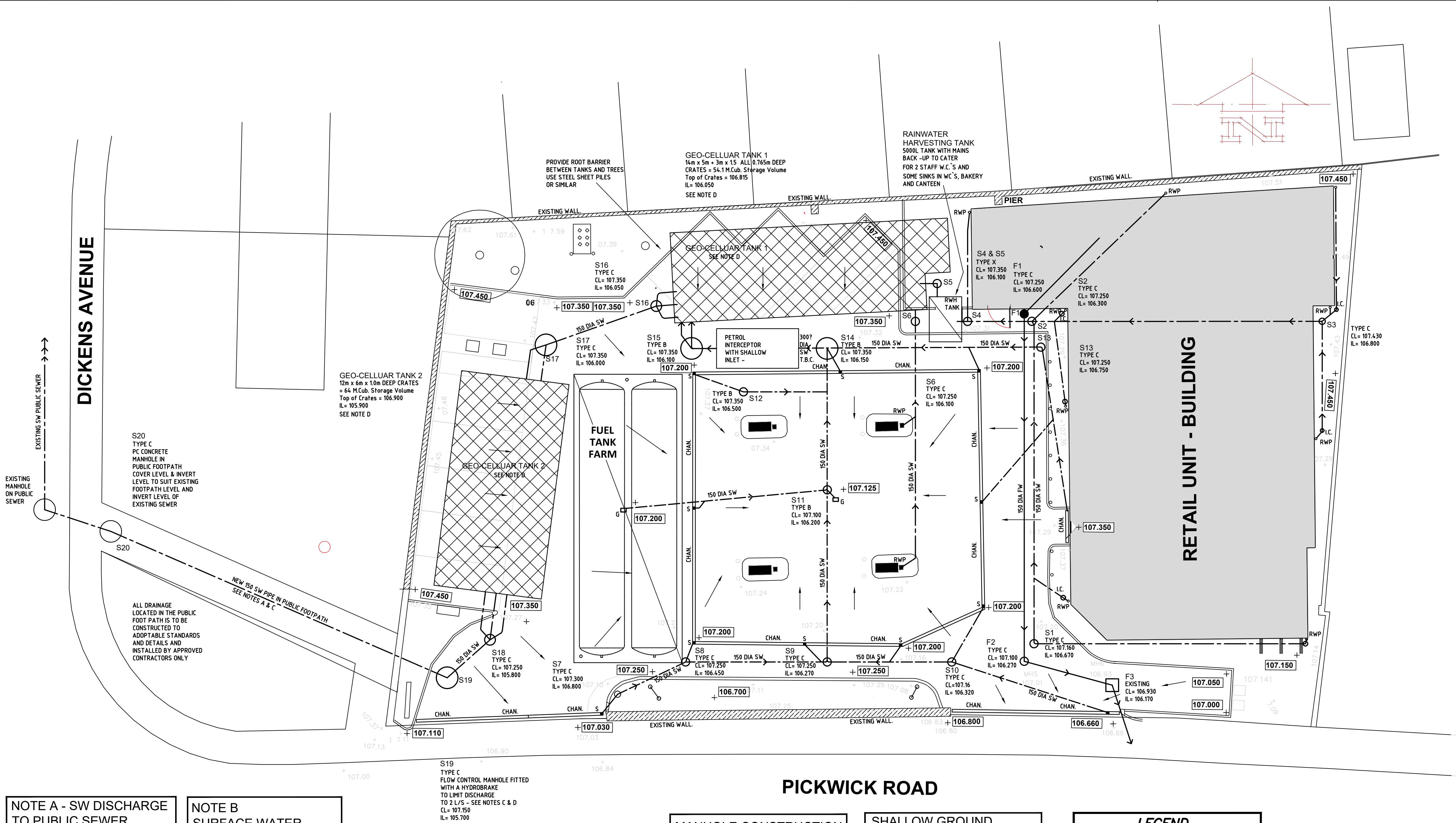


DENOTES ROOF
AND CANOPY AREA = BLUE WATER / RAIN WATER

TOTAL SITE AREA INCLUDING SOFT LANDSCAPING = 1476 m2

P1	INITIAL PRELIMINARY ISSUE - FOR APPROVAL		11.12.25
Rev.	Description	By	Date
HA HEARD ASSOCIATES STRUCTURAL ENGINEERS Saxon House 27 Duke St. Chelmsford CM1 1HT Tel - 07779 552 005			
Client	CLIFFE PROPERTY INVESTMENTS		
Project	NEW PETROL FILLING STATION 101 PICKWICK RD CORSHAM WILTSHIRE SN13 9DA		
Drawing Title	STRATEGY DRAINAGE CATCHMENT AREAS		
Drawn	SH	Checked	SH
Scale	NTS	Date	DEC 25
Drawing No	2537 - dp -01		Rev P1

3.2.4 Proposed Drainage layout drawing.



NOTE A - SW DISCHARGE TO PUBLIC SEWER

THE CURRENT SCHEME ASSUMES THAT THE EXISTING PUBLIC SURFACE WATER SEWER IN DICKENS AVENUE IS OF ADEQUATE DEPTH TO ALLOW DISCHARGE OF SURFACE WATER FROM NEW MANHOLE S19 VIA GRAVITY TO NEW MANHOLE S20 AND THEN TO THE EXISTING MANHOLE IN DICKENS AVE THIS IS TO BE CHECKED VIA SITE SURVEY OF EXISTING SEWER PRIOR TO THE COMMENCEMENT OF ANY WORKS - IF THE EXISTING SEWER IS TO SHALLOW TO CONNECT AND DISCHARGE INTO BY GRAVITY THEN THE DESIGN IS TO BE CHANGED TO ALLOW THE SITE TO DRAIN BY GRAVITY TO MANHOLE S19 AND THEN BE PUMPED FROM S19 TO S20 FOR DISCHARGE - ALL TO BE CONFIRMED

NOTE C - SW DISCHARGE TO PUBLIC SEWER

THE CURRENT SCHEME ASSUMES THAT THE EXISTING PUBLIC SURFACE WATER SEWER IN NEW ROAD IS OF ADEQUATE DEPTH TO ALLOW DISCHARGE OF SURFACE WATER FROM NEW MANHOLE S16 VIA GRAVITY TO NEW MANHOLE S19 FORMED IN NEW ROAD TO CONNECT TO THE EXISTING SEWER. THIS IS TO BE CHECKED VIA SITE SURVEY OF EXISTING SEWER PRIOR TO THE COMMENCEMENT OF ANY WORKS - IF THE EXISTING SEWER IS TO SHALLOW TO CONNECT AND DISCHARGE INTO BY GRAVITY THEN THE DESIGN IS TO BE CHANGED TO ALLOW THE SITE TO DRAIN BY GRAVITY TO MANHOLE S19 AND THEN BE PUMPED FROM S19 TO S20 FOR DISCHARGE WITH A NEW RISING MAIN IN THE FOOT PATH AFTER MANHOLE S20 IT WOULD THEN DISCHARGE BY GRAVITY INTO THE PUBLIC SURFACE WATER SEWER IN DICKENS AVE - ALL TO BE CONFIRMED

NOTE B SURFACE WATER ATTENUATION

REQUIRED ATTENUATION CAPACITY FOR 1:100 YEAR RAINFALL +45% FOR CLIMATE CHANGE LIMITING WITH OUTFALL RATE LIMITED TO 2 L/S

ATTENUATION STORAGE CAPACITY PROVIDED BY ATTENUATION TANK & PERMEABLE PAVING
= 61Cub.m + 54 Cub.m =115 Cub.m
>110 REQUIRED Therefore Adequate

SEE DRAINAGE CALCULATIONS

IF A PUMPED SYSTEM IS NEEDED SEE NOTE C THEN THE VOLUME OF ATTENUATION IS TO BE CHECKED TO ENSURE IT HAS 24 HOURS STORAGE CAPACITY IN EVENT OF POWER FAILURE

NOTE D FLOW CONTROL MANHOLE

A VORTEX HYDRO BRAKE IS TO BE PROVIDED IN THIS MANHOLE TO LIMIT THE OUTFLOW TO 2 L/S.

SEE NOTE C - IF A PUMPED DISCHARGE NEEDED THE HYDRO BRAKE WILL BE REPLACED BY A PUMP SET TO OUTFALL OF 2 L/S

MANHOLE CONSTRUCTION

ALL MANHOLES WITHIN THE FORECOURT AND HARDSTANDINGS SHALL BE TYPE C, CONSTRUCTED WITH PRECAST CONCRETE RINGS OR RECTANGULAR SECTIONS AND SIZED TO SUIT DEPTH, PIPE DIAMETERS AND ACCESS REQUIREMENTS AND ARE ALL TO BE FITTED WITH HEAVY-DUTY DUCTILE IRON COVERS AND FRAMES TO BS EN 124, CLASS E600, COMPLETE WITH LOCKING COVERS AND FUEL-RESISTANT SEALS, SUITABLE FOR PETROL TANKER (HGV) LOADING AND IN ACCORDANCE WITH UK PFS STANDARDS.

ALL EXISTING MANHOLES WITHIN THESE AREAS SHALL BE UPGRADED AS NECESSARY TO ACHIEVE THIS EQUIVALENT STAND

PICKWICK ROAD

SHALLOW GROUND WATER - BELOW GROUND TANK BUOYANCY

PREVIOUS SITE INVESTIGATIONS HAVE ESTABLISHED THAT THE SITE AS SHALLOW PERCHED GROUND WATER - ALL ATTENUATION TANKS, RAINWATER HARVESTING TANKS AND PETROL INTERCEPTOR WILL NEED ANCHORAGE TO PREVENT FLOATATION. THE FOLLOWING MEASURES ARE ENVISAGED :

PETROL INTERCEPTOR AND RAINWATER HARVESTING TANK TO BE PLACED ON CONCRETE SLAB AND PROGRESSIVELY CASED IN CONCRETE FOLLOWING TANK / INTERCEPTOR MANUFACTURERS RECOMMENDATIONS TO ENSURE THAT THE TANK IS NOT DAMAGED FROM OVERBURDEN PRESSURE DURING CONCRETE POUR AND CURING.

GEO-CELLULAR ATTENUATION TANKS

IT IS ENVISAGED THAT THESE WILL BE PLACED ON TOP OF AN REINFORCED CONCRETE ANCHOR SLAB AND TIED DOWN TO THE SLAB WITH GEOTEXTILE NETTING AND RATCHET STRAPS AND COVERED WITH A REINFORCED CONCRETE COVER SLAB.

BELOW GROUND TANKS AND PETROL FILLING STATION SERVICES

ALL SERVICES AND TANKS ASSOCIATED WITH THE PETROL FILLING STATION ARE TO BE DESIGNED AND DETAILED BY A SPECIALIST CONTRACTOR GIVING DUE ALLOWANCE FOR GROUND WATER LEVELS AND POTENTIAL BUOYANCY ISSUES

ALL OF THE ABOVE ARE PRELIMINARY ENVISAGED MEASURES ALL TO BE CONFIRMED BY DETAIL DESIGN AFTER FURTHER SITE INVESTIGATION AND GROUND WATER MONITORING

LEGEND

	FOUL WATER SEWER
	FOUL WATER MANHOLE / INSPECTION CHAMBER
	SOIL VENT PIPE
	SURFACE WATER PIPE
	SURFACE WATER MANHOLE INSPECTION CHAMBER
	RAINWATER PIPE
	YARD GULLY
	TRAPPED WASH DOWN GULLY
	BACK DROP
	CHANNEL DRAIN
	PERMACANNEL DRAIN
	INSPECTION CHAMBER
	PRELIMINARY PROPOSED GROUND LEVEL FOR CONFIRMATION SEE LEVELS ON ARCHITECTS DRAWINGS
	DENOTES AREA OF ATTENUATION TANK FORMED IN PERMAVOID PROPRIETARY CRATES SUITABLE FOR CAR PARK AND OCCASIONAL HGV LOADING - WRAPPED IN IMPERMEABLE MEMBRANE - PROVIDE CONCRETE COVER SLAB, AND ADEQUATE GROUND COVER AND SUB BASE ALL AS PER PERMAVOID RECOMMENDATIONS TO SUIT SITE OBR VALUES AND LOADING
	DENOTES INVERT LEVEL OF MANHOLE CATCH PIT 450 BELOW LOWEST PIPE - OUTLET PIPE TO HAVE PERMIFILTER
	SUMP OUTLET FROM CHANNEL DRAIN
	SURFACE WATER EXCEEDENCE ROUTE

ALL PROPOSED GROUND LEVELS & INVERT LEVELS AND EXTERNAL DETAILS SHOWN ARE INDICATIVE SUGGESTED LEVELS AND ARE ALL TO BE CONFIRMED BY ARCHITECT - TO SUIT HIS/HER EXTERNAL WORKS DESIGN

LOCATIONS OF ALL SVP'S, AAVS SOIL PIPES AND INTERNAL DRAINAGE AND RWPS SHOWN INDICATIVE - ALL TO BE CONFIRMED BY ARCHITECT

THE PURPOSE OF THIS DRAWING IS TO SHOW THE PROPOSED DRAINAGE STRATEGY - THE DESIGN SHOWN ARE PRELIMINARY AND WILL NEED TO BE UPDATED ONCE ARCHITECTS EXTERNAL WORKS DRAWINGS ARE COMPLETED AND THE FOUNDATION DESIGNS ARE FINALIZED. ALL TO BE CONFIRMED ALSO TO SUIT DEPTHS OF EXISTING PUBLIC SEWERS ONCE THESE HAVE BEEN SURVEYED - ALL LEVELS ARE PROVISIONAL ALL TO BE CONFIRMED TO SUIT COMMENTS FROM WESEX WATER

NOTES
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS' AND ENGINEERS' & SPECIALIST'S DRAWINGS, SPECIFICATIONS AND THE CONTRACT DOCUMENTS.

2. ALL WORKS TO BE IN ACCORDANCE WITH THE SPECIFICATION AND TO THE SATISFACTION OF THE LOCAL AUTHORITY & SHALL BE IN STRICT ACCORDANCE WITH THE BUILDING REGULATIONS PART H, N.H.B.C. REQUIREMENTS AND THE NATIONAL BUILD STANDARDS 'DESIGN & CONSTRUCTION OF NEW GRAVITY FOUL SEWERS AND LATERALS' VIA ACT 1991 SEC. 106B & FLOOD AND WATER MANAGEMENT ACT 2010 SEC. 42.

3. MANHOLE CHANNEL INVERTS TO HAVE A GRADIENT NOT LESS THAN THAT OF THE OUT GOING PIPE.

4. THE CENTRE LINE OF THE MANHOLE IS NOT NECESSARILY COINCIDENTAL WITH THE CENTRE LINE OF THE MAIN PIPE.

5. POSITION OF MANHOLE COVER SLAB AND STEP RUNGS TO BE DIRECTED ON SITE

6. WHERE PIPES OF DIFFERENT DIAMETER ARE BUILT INTO THE MANHOLE, THEY SHOULD BE LAID TO A COMMON SOFFIT UNLESS OTHERWISE STATED.

7. MINIMUM PIPE DIAMETER SHALL BE 100mmØ LAID FOUL RUNS SHALL BE AT A MINIMUM GRADIENT OF NO GREATER THAN 1:80 FOR 100 DIA PIPES & 1:150 FOR LARGER PIPES. SURFACE RUNS AT MIN GRADIENT OF 1:100 OR 1:150 FOR 150 DIAMETER OR LARGER PIPES

8. WHERE A FOUNDATION PASSES CLOSE TO A SEWER, DRAIN TRENCH OR TRIAL PIT THE FOUNDATION DEPTH IS TO BE SUCH THAT ITS UNDERSIDE IS BELOW A LINE PROJECTED UP AT 45° FROM THE NEAREST BOTTOM CORNER OF THE SEWER TRENCH, DRAIN TRENCH OR TRIAL PIT (NON-PILED SCHEMES ONLY).

9. ANY SOFT SPOTS FOUND IN TRENCH LINE TO BE REPORTED TO SITE STAFF PRIOR TO PLACING OF PIPE BEDDING. THE ENGINEER SHALL BE CONSULTED WITH REGARD THE REMOVAL OF THE SOFT SPOT AND BACKFILLING

10. ALL PRECAST AND INSITU CONCRETE TO BE SULPHATE RESISTING.

11. ALL COMPONENTS & MATERIALS SHALL BE MANUFACTURED & SUPPLIED IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS.

12. MANHOLE COVERS WITHIN AREAS OF BLOCK PAVED SURFACE FINISH SHALL BE RECESSED OR AS REQUIRED BY THE ARCHITECT.

13. ALL GULLIES SHALL BE PLACED AT LOW SPOTS AS SHOWN ON THE ARCHITECT'S LAYOUTS.

14. COVER LEVELS ARE APPROXIMATE. EXACT LEVEL SHALL BE DETERMINED ON SITE TO SUIT ADJACENT FINISHED GROUND LEVELS.

15. SMALL LIGHTWEIGHT ACCESS COVERS SHALL BE SECURED (FOR EXAMPLE WITH SCREWS) TO DETER UNAUTHORISED ACCESS (FOR EXAMPLE BY CHILDREN).

16. FOR SHALLOW TYPE 1 INSPECTION CHAMBERS WITHOUT PROPRIETARY FRAME TO SHAFT FIXINGS THE CONTRACTOR SHALL FIX THE FRAME TO THE INSPECTION CHAMBER SHAFT USING 3no. SELF TAPPING SCREWS FOR TYPE 2 & 5 INSPECTION CHAMBERS THE CONTRACTOR SHALL ENSURE THAT THE PROPRIETARY FRAME TO INSPECTION CHAMBER SHAFT FIXINGS ARE USED TO PREVENT THE COVER & FRAME FROM BECOMING DISPLACED & THEREFORE UNSAFE.

17. THE POINTS OF DRAINAGE SHOWN ARE INDICATIVE ONLY. REFER TO ARCHITECTS GENERAL ARRANGEMENT DRAWINGS FOR SETTING OUT POSITIONS OF RWPs, SVPs ETC.

18. WHERE MANHOLES ARE IN THE ROAD, FOOTPATH OR IN PARKING BAYS OR ANY WHERE WHERE THERE COULD BE VEHICULAR ACCESS THEN THEY ARE TO HAVE HEAVY DUTY COVERS DESIGNED FOR HEAVY GOODS VEHICLE LOADING

19. WHERE DRAINAGE PIPES PASS BENEATH A LINTEL AND OVER A FOUNDATION THE VOID SHALL BE MASKED BOTH SIDES WITH A COMPRESSIBLE SEALANT TO PREVENT THE ENTRY OF FILL AND/OR VERMIN AND TO PREVENT THE ENTRY OF GAS.

P1	INITIAL PRELIMINARY ISSUE - FOR APPROVAL		11.12.25
Rev.	Description	By	Date
HEARD ASSOCIATES STRUCTURAL ENGINEERS Saxon House 27 Duke St. Chelmsford CM1 1HT Tel - 07779 552 005			
Client		CLIFFE PROPERTY INVESTMENTS	
Project		NEW PETROL FILLING STATION 101 PICKWICK RD CORSHAM WILTSHIRE SN13 9DA	
Drawing Title		DRAINAGE STRATEGY PROPOSED DRAINAGE LAYOUT	
Drawn	SH	Checked	SH
Scale	NTS	Date	DEC 25
Drawing No	2537 - dp -02		Rev P1

3.2.5 Maintenance arrangements.

The drainage on site will not be offered to Wessex Water for adoption. All on site drainage and pipework will be maintained by the forecourt operator.

The maintenance schedule and strategy set out here complies with the CIRIA SUDS Manual (C753), which is identified as providing current best practice in the industry. The report does not replace manufacturers' requirements and these should be followed for each product in addition to the information in this document.

The designed SUDS maintenance for the constituent elements of the drainage system comprises and is highlighted below :

- Regular maintenance – day to day care; Litter collection, Grass cutting, Inspection of inlets, outlets and control structures where water enters / leaves a SUDS feature.
- Occasional tasks – removing potential silt build up in SUDS features.
- Remedial work – repairing any unforeseen damage to the drainage system.

Inspection Chambers and Silt Traps

Maintenance Issue	Siltation	
Maintenance Period	Maintenance Task	Frequency
Regular / Occasional	Inspect inlets / outlets and remove silt from 'basket' of silt traps	Check monthly and removal of silt as required
Remedial work	Inspect and repair any damage to inlets / outlets / silt traps	As required

Attenuation Tank

Maintenance Issue	Siltation	
Maintenance Period	Maintenance Task	Frequency
Regular / Occasional	Inspect inlets / outlets and remove any visible silt from base of tank	Check monthly and removal of silt as required
Occasional	CCTV survey of attenuation tank to ensure no siltation issues have developed	Annually
Remedial work	Inspect and repair any damage to inlets / outlets / silt traps	As required

Flow Control Hydro brake

Maintenance Issue	Obstruction / fault	
Maintenance Period	Maintenance Task	Frequency
Occasional	Inspect hydrobrake for obstruction by silt, debris or litter – check for faults	Every six months or as required.
Regular	Confirm correct discharge through observation during heavy rainfall periods	Annually
Remedial work	Remove blockage, clean device, replace seals and/or fixing bolts as needed.	As required

Petrol Interceptor

Maintenance Issue	Oil accumulation / siltation/ ACD malfunction.	
Maintenance Period	Maintenance Task	Frequency
Occasional	Inspect oil level using dipstick or electronic alarm (if fitted). Inspect ACD (Automatic Closure Device).	Every six months or as required.
Regular	Check chamber covers and frames for damage or poor fit (vapour tightness required). Check chamber covers and frames for damage or poor fit (vapour tightness required)	Every 6 months Quarterly.
Remedial work	Clean or repair coalescer, replace ACD components, or undertake full internal clean.	As required

Channel Drains and yard / forecourt catchpits

Maintenance Issue		
Maintenance Period	Maintenance Task	Frequency
Occasional	Clean silt traps and sumps.	Every six months or as required.
Regular	Check channel continuity and falls. Remove debris, leaves, litter from grates	Quarterly Monthly.
Remedial work	Clear blockages or replace damaged channel sections	As required

Pipework.

Maintenance Issue	Blockage / damage / Collapse	
Maintenance Period	Maintenance Task	Frequency
Occasional	CCTV inspection for structural condition and siltation.	Every 5 years
Regular	Visual inspection of accessible pipe runs via manholes.	Every month
Remedial work	Jetting, repairs, or pipe replacement.	As required

3.2.6 Foul water drainage strategy.

The Wessex Water sewer record shows that there is a public foul water sewer in Pickwick Road to the Southwest of the site. Currently the foul and surface water discharge into this sewer via an existing combined connection to a manhole in the road.

The proposed scheme will use the existing connection to discharge solely foul water to the foul water sewer, by gravity. This will all need to be in accordance with Wessex Water requirements and subject to their agreement. All foul drainage will be designed and constructed in accordance with Building Regulations Part H and will be privately maintained.

3.3 Conclusion.

The proposed scheme separates foul and surface water and provides full pollution control suitable for a petrol filling station. The scheme restricts surface water discharge to the public surface water sewer to 2.0 L/s for all events up to and including the 1 in 100 year +45% climate change storm.

The proposed scheme will provide a substantial betterment over the existing brownfield runoff regime, by around 80% and is within commonly accepted minimum practicable discharge rates. With on-site attenuation and long-term storage, this ensures that both runoff rates and volumes are controlled so as not to increase flood risk off-site.

The proposed scheme will alleviate the discharge to the existing public foul sewer by removing the surface water run-off from site, which currently discharges into the sewer uncontrolled.

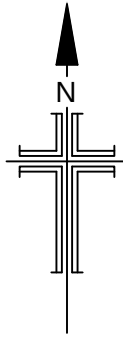


Proposed Drainage Strategy for New Petrol Filling Station & Retail store

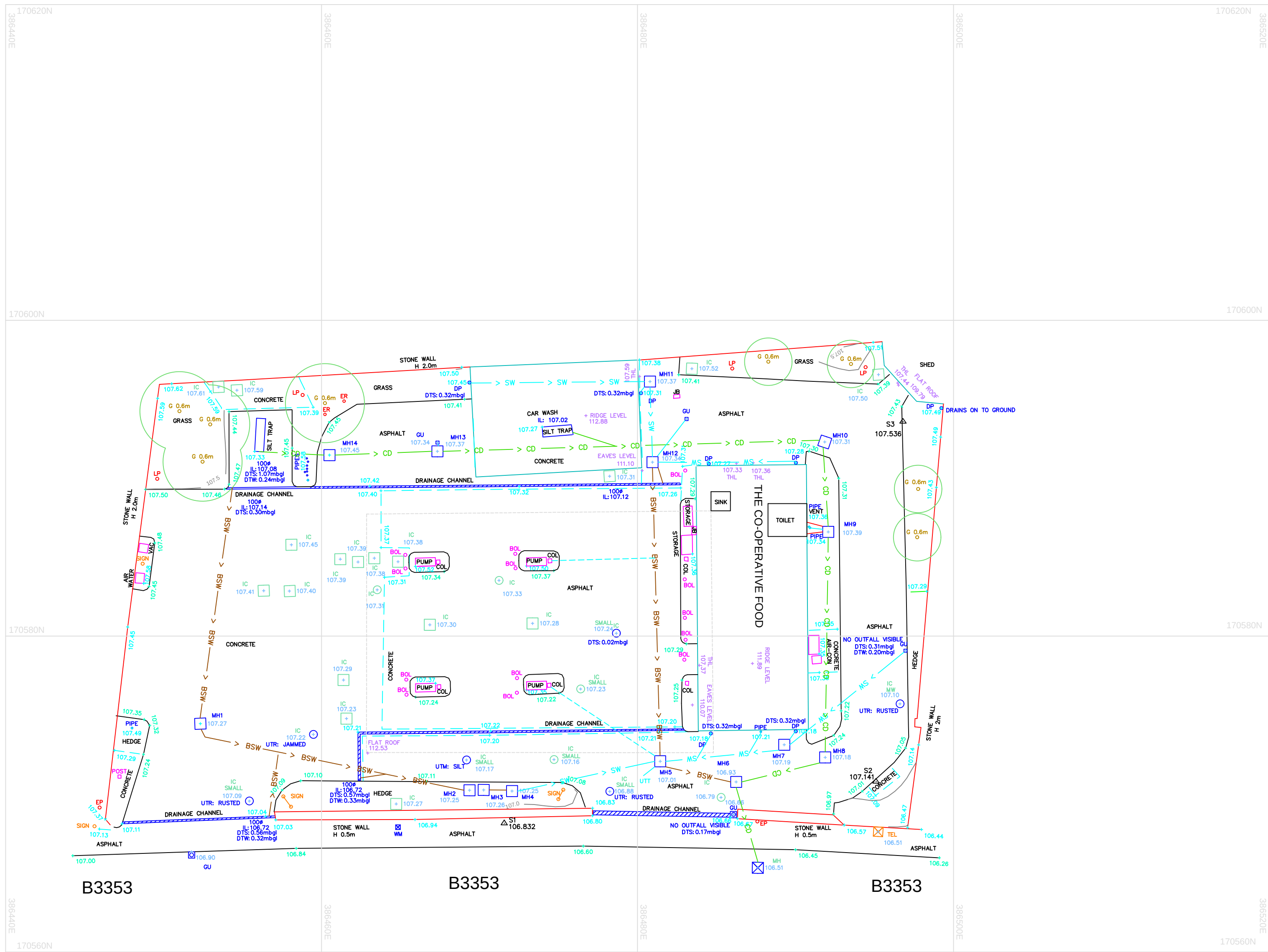
At 101 Pickwick Road Corsham.

- APPENDIX A –

Topographical and Existing Drainage Survey.



Station	Easting	Northing	Level
S1	386471.561	170568.150	106.832
S2	386495.092	170570.787	107.141
S3	386496.801	170593.587	107.536



MH1 BROWN WATER CL 107.27 PIPE X: 100# IL 106.67 BRICK CHAMBER 400X400 CONDITION: GOOD	MH2 MH3 MH4 INTERCEPTORS SHAFTS 800# PLASTIC CONDITION: GOOD CHAMBER DIMENSIONS: 1100 X 1000*	MH2 CL 107.25 DEPTH TO WATER: 1.02mbgl DEPTH TO SILT: 2.44mbgl PIPE A: 100# PIPE B: 100# IL 106.61	MH3 CL 107.26 DEPTH TO WATER: 0.98mbgl DEPTH TO SILT: 2.44mbgl CHAMBER SIDE E: PIPE X: 150# SL 106.32 PIPE C: 100# IL 106.66	MH4 CL 107.25 DEPTH TO WATER: 0.98mbgl DEPTH TO SILT: 2.42mbgl PIPE X: 150# PIPE D: 100# IL 106.63	MH5 SURFACE CL 107.01 PIPE X: 150# IL 106.23 PIPE A: 100# IL 106.31	PIPE B: 100# IL 106.39 PIPE C: 100# IL 106.33 PIPE D: 100# IL 106.33	BRICK CHAMBER 550X450 CONDITION: GOOD
MH6 COMBINED CL 106.93 PIPE X: 150# IL 106.17 PIPE A: 150# IL 106.19	PIPE B: 100# IL 106.25 BRICK, CONC CHAMBER 530 X 600 CONDITION: GOOD	MH7 SURFACE CL 107.19 PIPE X: 100# IL 106.69 PIPE A: 100# IL 106.71 BRICK CHAMBER 550X600 CONDITION: GOOD	MH8 COMBINED CL 107.18 PIPE X: 100# IL 106.43	MH9 COMBINED CL 107.39 PIPE X: 100# IL 106.43 PIPE A: 100# IL 106.54	PIPE B: 100# IL 106.61 PIPE C: 100# IL 106.59	CONC CHAMBER 650X450 CONDITION: GOOD	
MH10 SURFACE CL 107.31 PIPE X: 100# IL 106.55 BRICK CHAMBER 500X600 CONDITION: GOOD	MH11 SURFACE CL 107.37 PIPE X: 100# IL 106.83 PIPE A: 100# IL 106.93 BRICK CHAMBER 550X600 CONDITION: GOOD	MH12 BROWN WATER CL 107.34 PIPE X: 100# IL 106.68 PIPE A: 100# IL 106.84	PIPES B: 100# CONC CHAMBER 600X550 CONDITION: GOOD	MH13 SURFACE CL 107.37 PIPE X: 100# IL 106.62 PIPE A: 100# IL 106.67 CONC CHAMBER 500X450 CONDITION: GOOD	MH14 SURFACE CL 107.45 PIPE X: 100# IL 106.67 CONC CHAMBER 500X450 CONDITION: GOOD		

Notes

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Grid : OS National Grid.
Using the OS GPS Network and applying OSTN02 transformation and then removing the scale factor for true distances with a one-step transformation centred on S1
Datum : OS Level Datum.
Using the OS GPS Network and applying OSGM02 National Geoid Model to obtain local area corrections.

KEY

AIR VALVE	AV	KERB OUTLET	KO
BENCH MARK	BM	LAMP POST	LP
BIN	BN	MANHOLE (CIRCULAR)	MH
BOLLARD	BOL	MANHOLE (RECTANGULAR)	MH
BORE HOLE	BH	MANHOLE (TRIANGULAR)	MH
BRITISH TELECOM COVER	BT	MARKER POST	MKR
BUS STOP	BUS	GULLY	GU
CABLE TV COVER	CTV	RODDING EYE	RE
CABLE TV SUPPLY	CA	SIGN POST	SIG
COLUMN	COL	TELECOM COVER	TEL
EARTHPOINT	EP	TELEGRAPH POLE	TP
ELECTRICITY COVER	ELEC	THRESHOLD LEVEL	THL
ELECTRICITY POLE	EP	TRAFFIC LIGHT	TL
FIRE HYDRANT	FH	TRIAL PIT	PT
GAS VALVE	GS	WASH OUT	WO
GATE	GT	WATER METER	WM
INSPECTION COVER (CIRCULAR)	IC	WATER STOP COCK	SC
INSPECTION COVER (RECTANGULAR)	IC	WATER STOP VALVE	SV
COVER LEVEL	CL	CHAMBER BASE LEVEL	Ch.L
INVERT LEVEL	IL	WATER SURFACE LEVEL	WL
UNABLE TO RAISE	UTR	UNABLE TO MEASURE	UTM
GIRTH OF TREE TRUNK	G	DIAMETER OF TREE TRUNK	D
HEIGHT TO TOP OF TREE CANOPY	H	MULTI BOLT TREE	MB

KEY

FOUL DRAINAGE	FOUL DRAINAGE
COMBINED DRAINAGE	COMBINED DRAINAGE
SURFACE DRAINAGE	SURFACE DRAINAGE
BROWN SURFACE DRAINAGE	BROWN SURFACE DRAINAGE
DRAINAGE - UNIDENTIFIED SYSTEM	DRAINAGE - UNIDENTIFIED SYSTEM
CONNECTION NOT PROVEN	CONNECTION NOT PROVEN
VENT PIPE	VENT PIPE
DRAINAGE CHANNEL / SUMP	DRAINAGE CHANNEL / SUMP
WINSOR TRAP/INTERCEPTOR ON CHAMBER OUTFLOW	WINSOR TRAP/INTERCEPTOR ON CHAMBER OUTFLOW
BACKDROP (INTERNAL/EXTERNAL) ON CHAMBER INFLOW	BACKDROP (INTERNAL/EXTERNAL) ON CHAMBER INFLOW
APPROXIMATE CHAMBER EXTENTS - UNABLE TO MEASURE	CHAMBER EXTENTS
UTR UNABLE TO RAISE	mbgl METRES BELOW GROUND LEVEL
UTR UNABLE TO TRACE	CL COVER LEVEL
UTM UNABLE TO MEASURE	* MEASUREMENT ESTIMATED
OS SERVICE EXTENDS OFF SITE	SL SOFFIT LEVEL OF PIPE/DUCT
DIAMETER OF PIPE OR DUCT	IL INVERT LEVEL OF PIPE/DUCT
DEPTH TO SILT	DTW DEPTH TO WATER/LIQUID
NPV NO PIPE VISIBLE	

DRAINAGE SERVICES SHOWN ON THIS PLAN ARE SCHEMATIC CONNECTIONS AND DO NOT NECESSARILY REPRESENT ACCURATE ROUTES. DUE TO SPA REGULATIONS IT WAS NOT POSSIBLE TO USE SONDES/ LINE THREADERS OVER THE MAJORITY OF THE SITE.

Rev	Date	Drawn	Description	Check



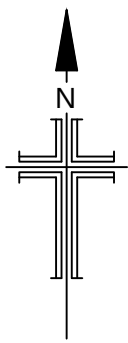
Southgate House
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LS10 1SW
T: +44 [0] 1132 008 900
F: +44 [0] 1132 008 901
E: admin@metgeoenvironmental.com
W: www.metgeoenvironmental.com

Client
WATES SMARTSPACE

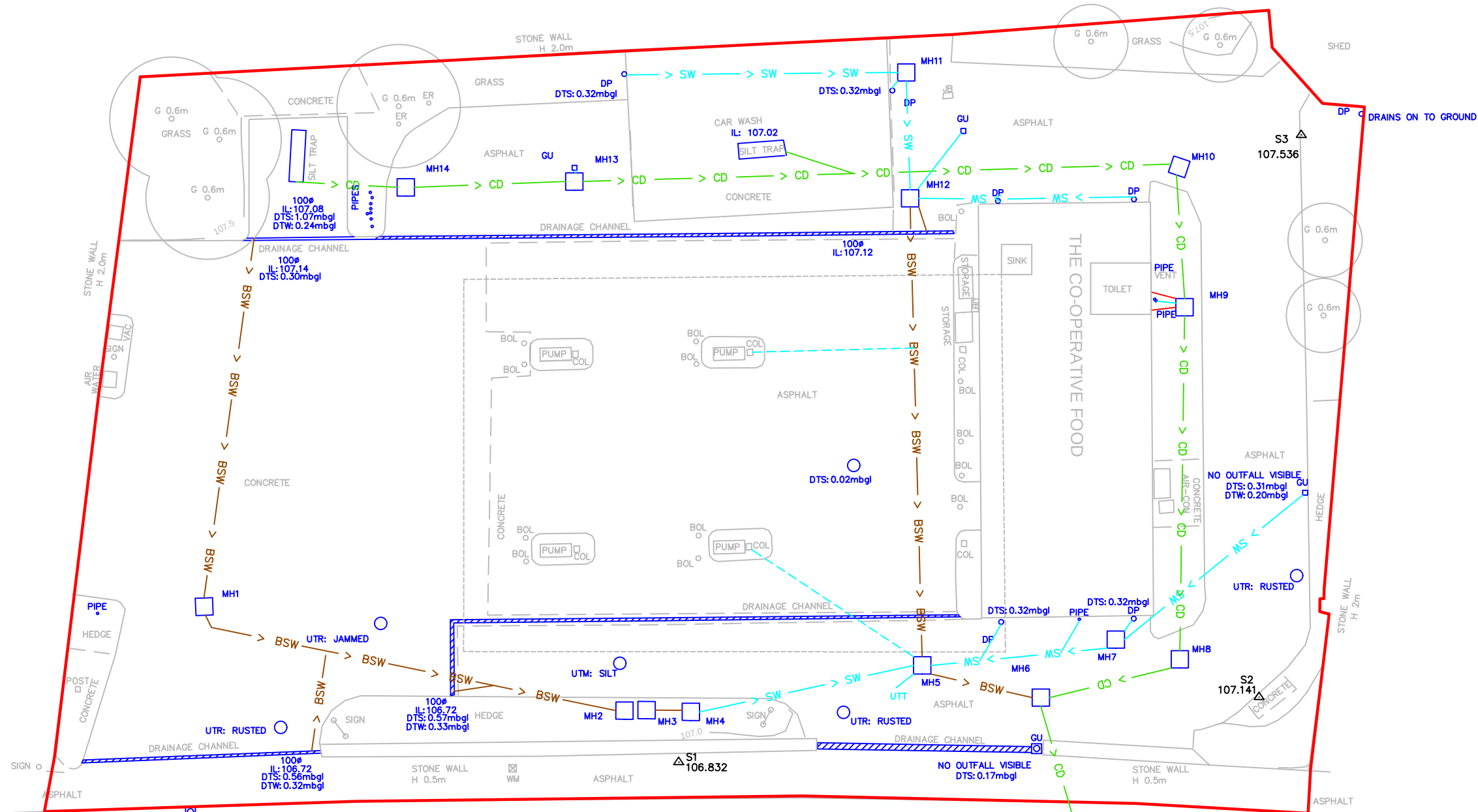
Site
101 PICKWICK ROAD, CORSHAM
WILTSHIRE, SN13 9DA

Title
TOPOGRAPHICAL AND
DRAINAGE SURVEY

Surveyed	AB, JW, MC, MD	Drawn	AB, MD
Chk.	DA	Date	07/11/2015
Scale	[A1 Sheet] 1/200	DWG Ref (Layout No) 13016-195_DRA (1)	Status FINAL
Job No	13016/195	Rev	Ø



Station	Easting	Northing	Level
S1	386471.561	170568.150	106.832
S2	386495.092	170570.787	107.141
S3	386496.801	170593.587	107.536



B3353

B3353

B3353

MH1 BROWN WATER CL 107.27 PIPE X: 100# IL 106.67 BRICK CHAMBER 400X400 CONDITION: GOOD	MH2 MH3 MH4 INTERCEPTORS CL 107.25 PIPE X: 100# IL 106.67 BRICK CHAMBER 400X400 CONDITION: GOOD	MH5 SURFACE CL 107.01 PIPE X: 150# IL 106.23 PIPE A: 100# IL 106.31	MH6 COMBINED CL 106.93 PIPE X: 150# IL 106.17 PIPE A: 150# IL 106.19	MH7 SURFACE CL 107.19 PIPE X: 100# IL 106.69 PIPE A: 100# IL 106.71	MH8 COMBINED CL 107.18 PIPE X: 100# IL 106.43	MH9 COMBINED CL 107.39 PIPE X: 100# IL 106.43 PIPE A: 100# IL 106.54	MH10 SURFACE CL 107.31 PIPE X: 100# IL 106.55	MH11 SURFACE CL 107.37 PIPE X: 100# IL 106.83 PIPE A: 100# IL 106.93	MH12 BROWN WATER CL 107.34 PIPE X: 100# IL 106.68 PIPE A: 100# IL 106.84	MH13 SURFACE CL 107.37 PIPE X: 100# IL 106.62 PIPE A: 100# IL 106.67	MH14 SURFACE CL 107.45 PIPE X: 100# IL 106.67
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Notes

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Using the OS GPS Network and applying OSTN02 transformation and then removing the scale factor for true distances with a one-step transformation centred on S1

Datum : OS Level Datum.
Using the OS GPS Network and applying OSGM02 National Geoid Model to obtain local area corrections.

KEY

FW	FOUL DRAINAGE
CD	COMBINED DRAINAGE
SW	SURFACE DRAINAGE
BSW	BROWN SURFACE DRAINAGE
D	DRAINAGE - UNIDENTIFIED SYSTEM
CONNECTION NOT PROVEN	CONNECTION NOT PROVEN
VENT PIPE	VENT PIPE
DRAINAGE CHANNEL / SUMP	DRAINAGE CHANNEL / SUMP
WINSOR TRAP/INTERCEPTOR ON CHAMBER OUTFLOW	WINSOR TRAP/INTERCEPTOR ON CHAMBER OUTFLOW
BACKDROP (INTERNAL/EXTERNAL) ON CHAMBER INFLOW	BACKDROP (INTERNAL/EXTERNAL) ON CHAMBER INFLOW
APPROXIMATE CHAMBER EXTENTS - UNABLE TO MEASURE	CHAMBER EXTENTS
UTR UNABLE TO RAISE	mbsl METRES BELOW GROUND LEVEL
UTR UNABLE TO TRACE	CL COVER LEVEL
UTR UNABLE TO MEASURE	MEASUREMENT ESTIMATED
UTR SERVICE EXTENDS OFF SITE	SL SOFFIT LEVEL OF PIPE/DUCT
# DIAMETER OF PIPE OR DUCT	IL INVERT LEVEL OF PIPE/DUCT
DTS DEPTH TO SILT	IL INVERT LEVEL OF PIPE/DUCT
DTW DEPTH TO WATER/LIQUID	IL INVERT LEVEL OF PIPE/DUCT
NPV NO PIPE VISIBLE	IL INVERT LEVEL OF PIPE/DUCT

DRAINAGE SERVICES SHOWN ON THIS PLAN ARE SCHEMATIC CONNECTIONS AND DO NOT NECESSARILY REPRESENT ACCURATE ROUTES. DUE TO SPA REGULATIONS IT WAS NOT POSSIBLE TO USE SONDES/ LINE THREADERS OVER THE MAJORITY OF THE SITE.

Rev	Date	Drawn	Description	Check
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RECORD DRAWING

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Client

WATES SMARTSPACE

Site

101 PICKWICK ROAD, CORSHAM
WILTSHIRE, SN13 9DA

Title

INFORMATION
FOR PPG21

Surveyed	AB, JW, MC, MD	Drawn	AB, MD
Chk.	DA	Date	07/11/2015
Scale	[A1 Sheet] 1/200	DWG Ref (Layout No)	13016-195_DRA (2)
Job No	13016/195	Status	FINAL
Rev	Ø		



**HEARD
ASSOCIATES**

STRUCTURAL ENGINEERS

Proposed Drainage Strategy for New Petrol Filling Station & Retail store

At 101 Pickwick Road Corsham.

- APPENDIX B -

Environmental Assessment Report.

Petrol Pickwick, Corsham

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Tel: 01296 739400 Email: consultants@subadra.com

Table continued from the previous page.

Ref.3	➤ Visual/olfactory indications of hydrocarbons were recorded in Made Ground below 1.5m depth in two boreholes advanced to the south-east of the forecourt (BH6) and in the centre of the forecourt (BH9) and also in BH8, drilled on the northern side of the site, at depths of between 1.5m and 1.7m. The results of the chemical analysis carried out on soil samples identified relatively low concentrations of petrol range hydrocarbons in BH6 and moderate to high concentrations of diesel range hydrocarbons (but no petrol) in boreholes BH10-12 (with a maximum of 3,300mg/kg in BH11). ➤ Groundwater sampling, carried out during March/April 2005, identified elevated concentrations of hydrocarbons in BH2, located mid-way along the southern boundary between the central forecourt and Pickwick Road, with maximum concentrations of weathered petrol of 25,000ug/l and diesel at 120,00ug/l (although concentrations of Benzene, Toluene, Ethyl-benzene and Xylenes were all <1,000ug/l). All other boreholes recorded low or non detectable concentrations of hydrocarbons. No free-phase hydrocarbons were observed in any of the groundwater monitoring wells. SLR concluded that the most likely source of the hydrocarbon impact was either fuel supply lines beneath the forecourt or the fuel pumps, but not the tank farm. They concluded the hydrocarbon impact did not extend beyond the southern site boundary (as no impact was recorded in BH5 and BH9, located down-gradient of the impacted zone). The report presented a Conceptual Site Model. This identified groundwater within the Forest Marble (classified as a Secondary Aquifer by the Environment Agency) as a viable pathway for the off-site migration of mobile contaminants towards neighbouring residential properties and a controlled water receptor in it's own right. The report did not include an assessment of the risk to site users (i.e. employees working within the sales building) on the grounds that hardstanding was present across the entire site, acting as a barrier between the shallow contamination and site users, and <i>'the contamination is not present beneath the site building'</i>. SLR used fate transport modelling and sensitivity analysis to complete their assessment and determine if the concentrations of hydrocarbons recorded posed a risk to the identified receptors. Based on the results of their risk assessment they concluded that <i>'the levels of petrol impact to groundwater did not pose any risks to on-site or off-site receptors'</i>, and as such, the site was classified as <i>'suitable for ongoing use as a petrol filling station without further works'</i>.
Ref.2	This report details the results of an environmental assessment carried out during March 2007 as part of due diligence works associated with the sale of the site, from Chevron Texaco Limited to Azure Property LLP. The purpose of the report was to assess the environmental condition of the site to determine whether it was 'Fit For Purpose'. This report summarises additional environmental data obtained post June 2005 (when SLR issued their Tier 2 Quantitative Risk Assessment, see Ref.1). Two additional phases of investigation were described, as follows: ➤ A geotechnical borehole investigation carried out by Discovery GE Ltd in October 2006 to provide information to assist with a proposed shop redevelopment, and ➤ A groundwater monitoring and sampling visit carried out by SLR during March 2007.

Table continued on the following page...

Client: The Co-operative Group Ltd	Phase One Environmental Assessment Report	Report	CP20210 CL 001
		Date	March 2020
		Page	5

Petrol Pickwick, Corsham

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Tel: 01296 739400 Email: consultants@subadra.com

Table continued from the previous page.

Ref.2

The geotechnical investigation comprised the construction of one trial pit (TP201) and two boreholes (WS101 and WS102) in the eastern part of the site. Boreholes were constructed to a maximum depth of 2.01mbgl and installed as monitoring wells. Monitoring of these two wells and seven existing wells (BH5-BH12) was then completed.

Geology in the trial pits was recorded as Made Ground to a maximum depth of 1.15mbgl overlying limestone bedrock. Groundwater levels across the forecourt area were recorded at depths of between 0.76m and 2.07m. No groundwater was recorded in the two new shallow wells (WS101 and WS102).

No detectable concentrations of petrol or diesel range hydrocarbons were recorded in the two soil samples collected from WS102 (from depths of 0.4m and 1.7m). No free-phase hydrocarbons were recorded in any of the wells. Low concentrations of diesel range hydrocarbons were recorded in groundwater samples collected from BH10 and BH12, located in the south-eastern corner of the site, adjacent to the sales building (hydraulically down-gradient of the forecourt), with concentrations of 163ug/l and 140ug/l respectively. [Note: groundwater samples were only collected from BH10, BH11 and BH12 during this phase of works].

The results of the subsequent groundwater monitoring visit, carried out in March 2007, recorded resting groundwater levels at depths of between 0.9m and 1.97m. No free-phase hydrocarbons were recorded in any of the wells. No detectable concentrations of hydrocarbons were recorded in the seven groundwater monitoring wells sampled at the time (BH5 to BH12 and two tank farm wells).

Based on the results of this additional data, SLR reported that *'the post-June 2005 data has determined that the situation has not changed significantly since the pre-June 2005 works'*. [Note: despite the significant reduction of dissolved hydrocarbons in borehole BH2.]

They also highlight that the various reports were submitted to the Local Planning Authority in April 2006, in support of the application for the replacement of the proposed sales building. The statutory consultees responsible for the site were consulted as part of the planning process; they were satisfied with the planning proposals and not applied any environmental planning conditions to the site.

SLR concluded that the site was considered *'Fit For Purpose as a Petrol Filling Station'*.

Table Two: Review of Previous Environmental Works at the Site

Client: The Co-operative Group Ltd	Phase One Environmental Assessment Report	Report	CP20210 CL 001
		Date	March 2020
		Page	6

Petrol Pickwick, Corsham

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Tel: 01296 739400 Email: consultants@subadra.com

1.4 Proposed Development Plans

Proposed Developments

We understand that The Coop proposes to redevelop the site, replacing the existing sales building with a larger convenience store and storage area. No significant alterations are currently planned to the existing below ground petroleum infrastructure (i.e. below ground fuel tanks and / or fuel lines).

A site plan showing the proposed development plan is provided below.

Active Planning Applications

We understand that a planning application for the proposed site redevelopment, as described above, is currently being prepared. We understand that this report is to be submitted in support of this application.

Whilst our assessment has not been compiled to directly satisfy any specific planning conditions the information contained in this report may assist in satisfying any such requirements. We note however that further works may be required.

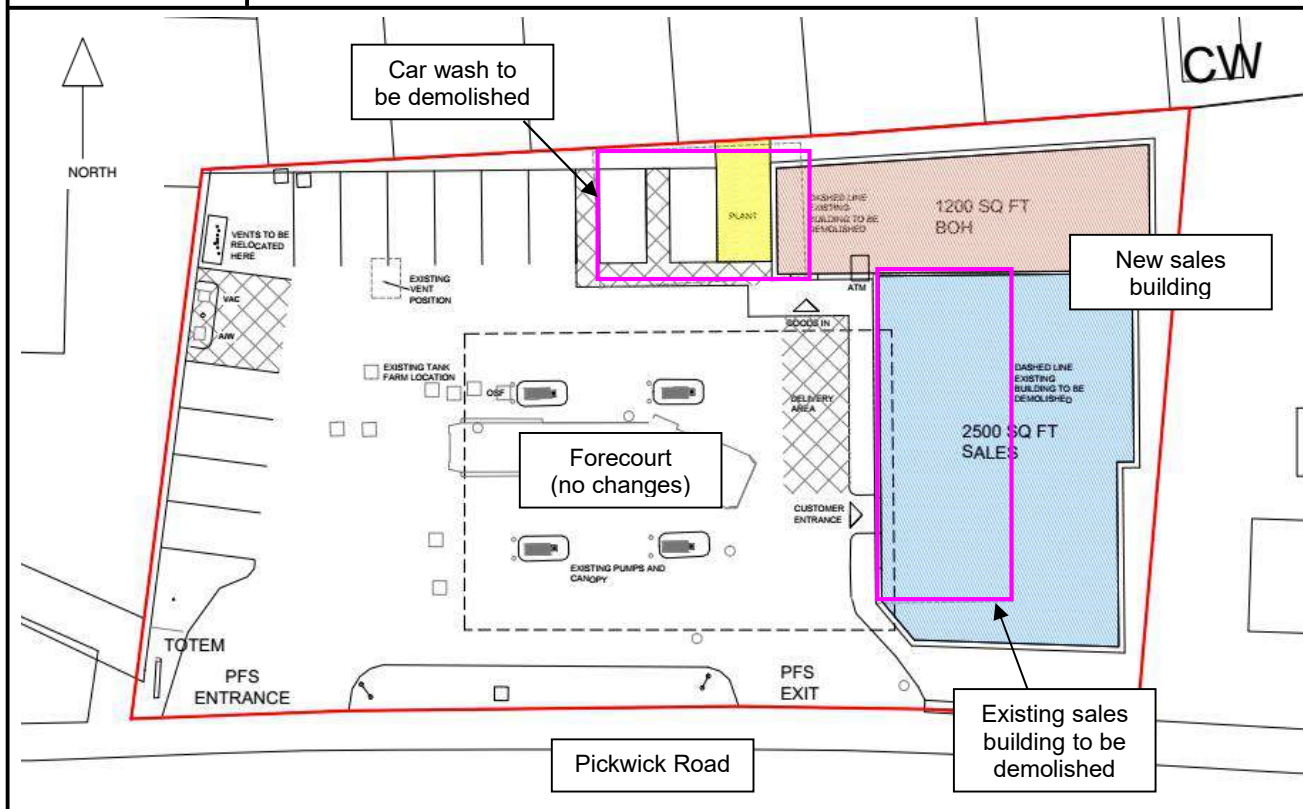


Table Three: Proposed Development Plan

Client: The Co-operative Group Ltd	Phase One Environmental Assessment Report	Report	CP20210 CL 001
		Date	March 2020
		Page	7

Petrol Pickwick, Corsham

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Tel: 01296 739400 Email: consultants@subadra.com

2 Desk Study Information

2.1 Site Description, Location and Setting

Site Description	The site currently comprises an operational retail filling station, with sales building, combined petrol/diesel central forecourt area (with canopy), and a car wash hall. Access is from Pickwick Road, which forms the southern boundary. The site is relatively flat with a slight downward gradient to the south/south-east (in accordance with the local topography). A plan show the existing layout is provided below.		
Grid Reference	386470 170580	Location	The site is located off Pickwick Road, on the north-western outskirts of Corsham in Wiltshire, approximately 6km to the south-west of Chippenham
Elevation (approx)	~109m AOD		
Size (approx)	~0.15ha		

Table Four: Site Location and Setting

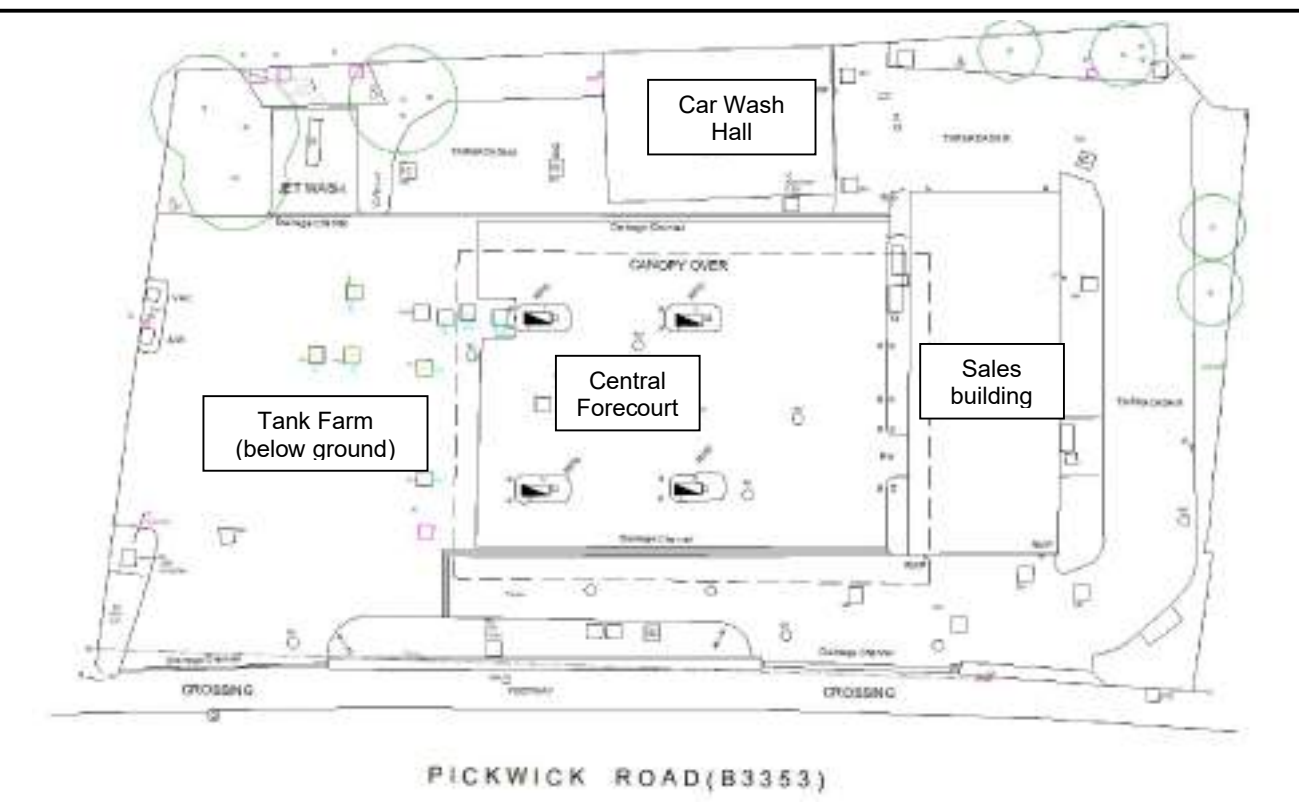


Figure One: Site Plan (Existing)

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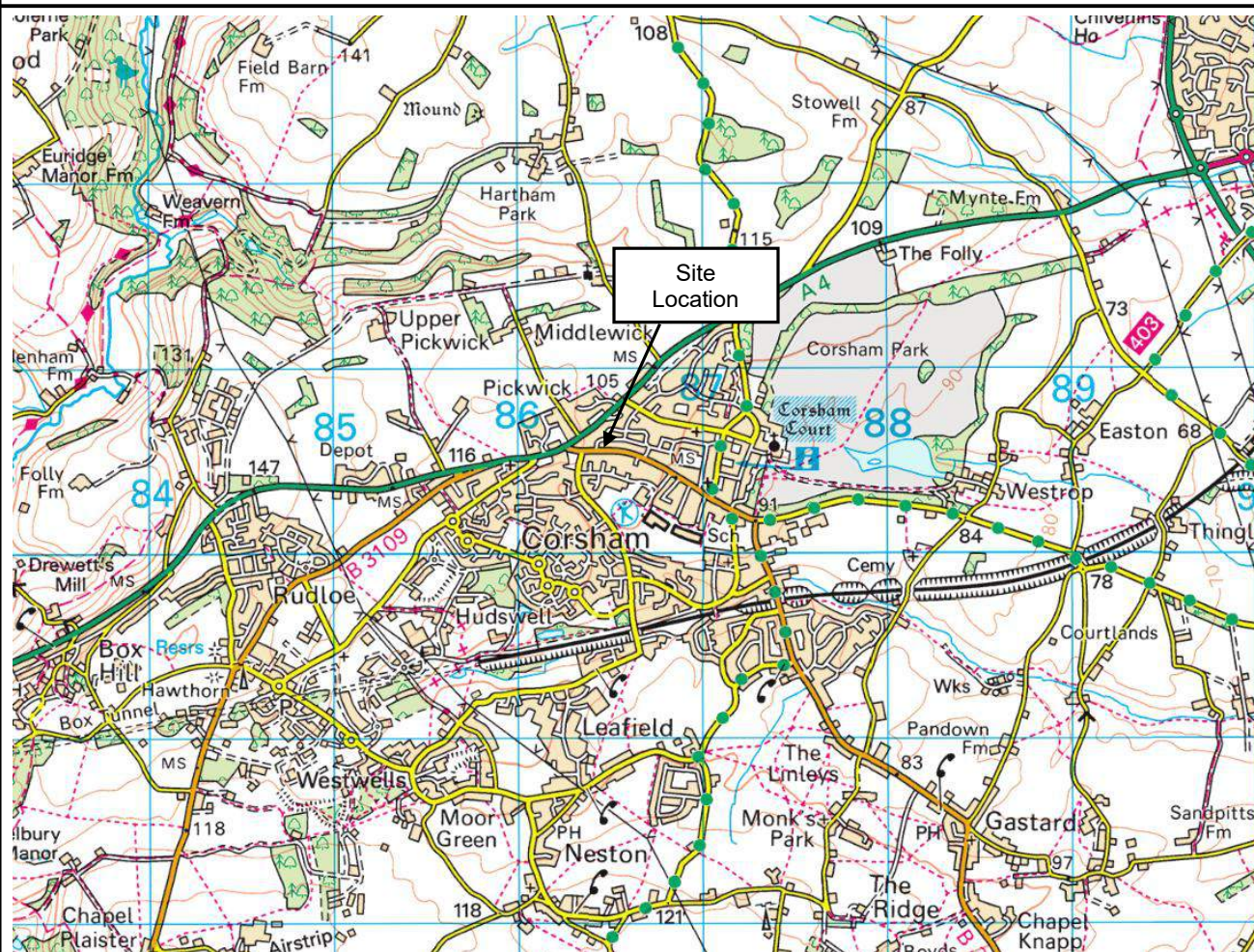


Figure Two: Site Location Map

Direction	Details
North	Residential properties (<5m)
East	Residential properties (<5m)
South	Pickwick Road with residential properties beyond (<15m)
West	Residential properties (<5m)

Table Five: Surrounding Land Use

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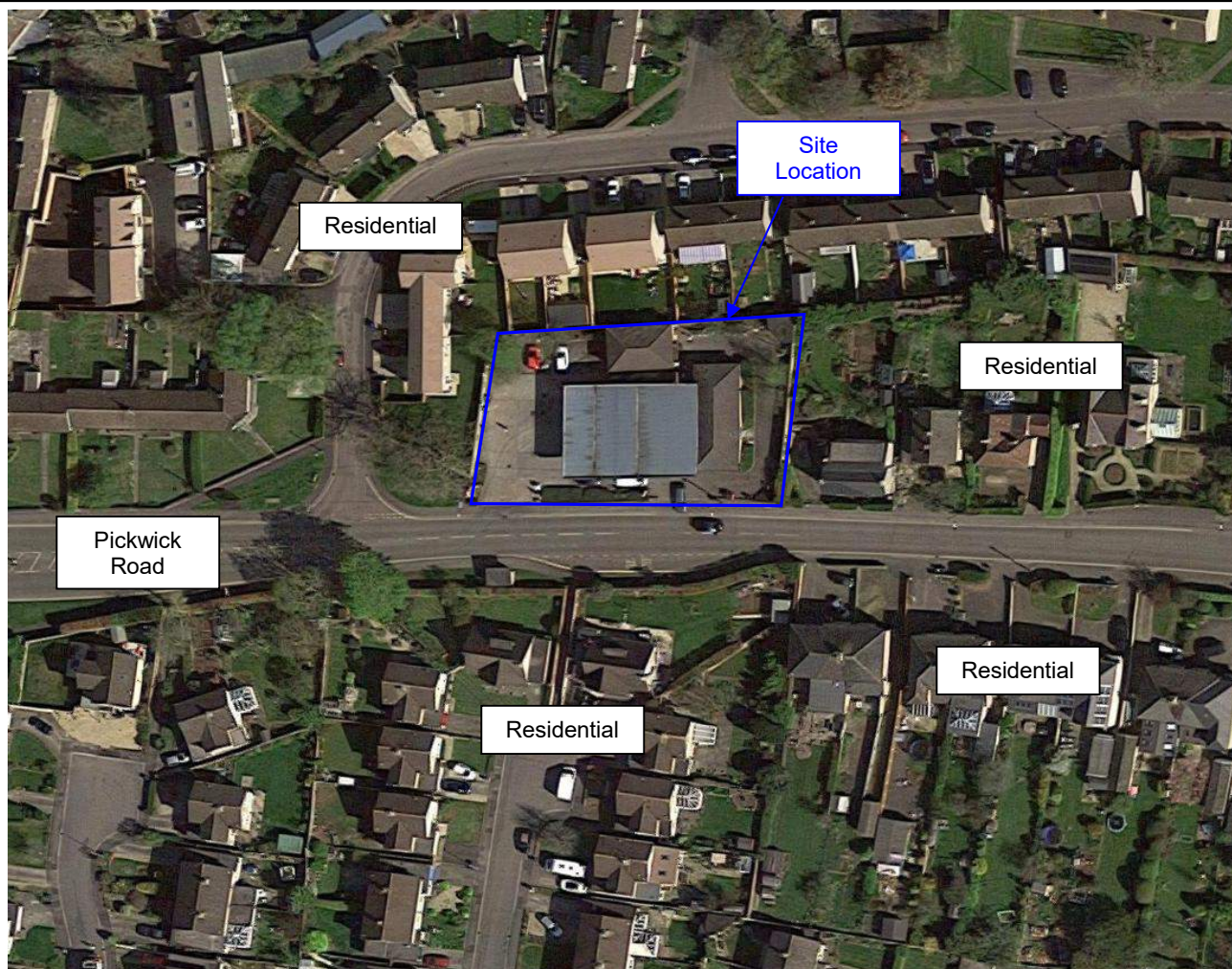


Figure Three: Aerial Photograph Showing Site and Surrounding Area

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2.2 Geology, Hydrogeology and Hydrology

	Geological Unit	Description	Estimated Thickness	Data Source
Drift Geology	None recorded at the site's location			British Geological Survey (BGS)
Solid Geology	Cornbrash Limestone	Limestone, medium- to fine-grained. Generally bluish grey, but weathers to olive or yellowish brown.	<10m	
	Forest Marble Formation	Mudstone	Greenish grey, variably calcareous and sometimes sandy mudstone	
		Limestone	Grey, weathering brown and flaggy, variably sandy limestone	
Existing Site Investigation Data	Previous borehole investigation works (ref.1-5) have confirmed that shallow soils comprise ~2.2m of granular Made Ground overlying 'interbedded creamy-yellow limestone with stiff grey clay to depths of up to 4.0m'(interpreted as Forest Marble).			Ref.1-5
Nearby Borehole Records	The BGS hold records for a borehole constructed ~60m to the north-west of the site (BGS ref. ST87SE6). This records underlying geology to comprise Made Ground to 0.46m, over Cornbrash Formation ('Stone') to 2.7m, over Forest Marble Formation (yellow clay grading to blue gault) to 23m depths. This was underlain by the Action Turville Beds and Great Oolite series (to ~64m).			BGS

Table Six: Regional Geology

	Geological Unit	Environment Agency Aquifer Classification	Data Source
Drift Geology	None recorded at the site's location		Environment Agency
Solid Geology	Cornbrash Limestone	Secondary Aquifer (Class A)	
	Forest Marble Mudstone Formation		
	Forest Marble Formation - Limestone	Principal Aquifer	
Existing Site Investigation Data	Previous groundwater monitoring recorded groundwater at shallow depths, between 0.4m and 2m depths, varying slightly seasonally, with an inferred hydraulic gradient to the south-east, consistent with the topography. Groundwater was described as being perched within the Made Ground, resting on the surface of the underlying bedrock.		Ref.1-6
Nearby Borehole Records	The BGS borehole referenced above recorded resting groundwater at 42m depths.		BGS

Table Seven: Regional Hydrogeology

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	Description	Distance	Direction	Data Source
Surface Water Features	Small pond	300m	North	Ordnance Survey

Table Eight: Regional Hydrology

Abstraction	Surface Water			Groundwater		
	Distance	Direction	Purpose	Distance	Direction	Purpose
Nearest	None within 1km			None within 1km		
Nearest Public Water Supply						
Source Protection Zone	The site lies within Zone II of a designated Source Protection Zone, associated with an abstraction located ~4km to the south-east. The abstraction is likely to draw from the Forest Marble Limestone, with the overlying mudstone providing some protection from shallow contamination.					
Site located in an Environment Agency defined 'Drinking Water Safeguard Zone'			Surface Water		No	
			Groundwater		No	
Data sourced from Environment Agency						

Table Nine: Nearest Surface and Groundwater Abstractions

2.3 Site History

2.3.1 Review of Historical Ordnance Survey Maps

Date	Review of Map – Description of Land Use at Site and in the Immediate Surrounding Area	Potentially Contaminative Land-use	
		On-site	Off-site
1886 / 1900 / 1921 (1:2,500 map series)	There is a small Smithy shown towards the western end of the site. There is a small building (residential (?)) shown directly to the east (1900 onwards) and several further residential properties shown to the east, along Pickwick Road (1921 onwards). The village of Lower Pickwick is shown to the north-west, with Pickwick Brewery shown ~100m.	Smithy - potential for shallow soils to be impacted with metals and hydrocarbons	Brewery - potential for hydrocarbon impact associated with any oil-fired boilers.
1955 / 1975 (1:10,500 map series)	There is still a building in the south-western corner of the site, but it is no longer described as Smithy. The village of Corsham has been built up around the site, with residential properties directly to the north, east, west and south (across Pickwick Road).	None identified	None identified

Table continued on the following page...

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Table continued from the previous page.

Date	Review of Map – Description of Land Use at Site and in the Immediate Surrounding Area	Potentially Contaminative Land-use	
		On-site	Off-site
1976 /1987 (1:2,500 map series)	The site has been redeveloped as a 'Garage'. There is a single large building located along the rear/northern boundary and a small structure (most likely a forecourt canopy - suggesting fuel sales) towards the front of the site, nearest Pickwick Road. Residential housing surrounds the site still. .	Site in use as a Garage. Potential for use/storage of fuels, oil an solvents	None identified
1988 / 1991 (1:2,500 map series)	The Garage is still present and an additional building has been constructed towards the north-east corner of the site (no use shown).		
1993 / 1996 (1:2,500 map series)	The site has been redeveloped into it's current layout, with a sales building along the eastern boundary, a large central forecourt canopy and a car wash hall to the rear of the site.		

Copies of selected historical maps are included as Attachment Two

Table Ten: Historical Map Review

2.3.2 Review of Online Planning Records

Date	Application Number	Local Planning Authority – Planning Records (from local planning authority website)	Evidence of Development
Feb 2011	N/11/00423	Two External Fascias	Approved (with Conditions) - unknown if carried out
May 2007	N/07/0026	Illuminated Fascia Sign	
May 2006	N/06/01033	Redevelopment of Existing Petrol Filling Station Comprising Removal of Car Wash, Extension to Shop, Compound, ATM, Car Parking, Landscaping and Associated Works.	Approved (with Conditions) - site plans suggest shop may have been extended
Feb 2004	N/04/00497	ATM fascia and surround.	Approved (with Conditions)
Feb 2001	N/01/00450	Petrol storage Tanks [Note: no further details provided].	Approved (with Conditions)
Dec 1990	N/90/02938	Erection of pylon sign.	Approved (with Conditions) - unknown if carried out
March 1990	N/90/00715	Demolition of existing petrol filling station and erection of new filling station (with car wash).	Approved - historical maps suggest site redeveloped between 1991 and 1993

Table Eleven: Summary of Online Planning Records

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2.3.3 Petroleum Officer Search

As part of our assessment we have contacted the site's Petroleum Officer in order to obtain details relating to the site's petroleum installation. The information provided is summarised in the table below and the report included as Attachment Four.

Petroleum Officer Data Search	The Petroleum Officer provided details relating to the petroleum installation at the site. Records indicate that the site has been active as a petrol filling station since at least 1980. Records show there are five operational below ground fuel tanks at the site as follows: ➤ Tank 1: Unleaded / 29,000litres ➤ Tank 2: Super Diesel / 9,600litres ➤ Tank 3: Diesel / 15,300 litres (split compartment with Tank 4?) ➤ Tank 4: Super Unleaded / 13,500litres ➤ Tank 5: Diesel / 29,100 litres The Petroleum Officer records indicate the tank are of double skin construction, with interstitial monitoring systems active. [Note: whilst the Petroleum Officer records indicate all five tanks were installed in 1980, previous environmental reports (ref.2) indicate two tanks were installed in 2001 and three tanks were installed in 1991]. Tanks are filled via below ground off-set fill points and tank contents are recorded via an electronic VeederRoot gauge. Records indicate the below ground fuel tanks and supply lines were integrity tested during 2020, as part of planned maintenance works and a grade change of the tanks. No results are provided, but we presume all passed as tight. There are no records of any spills or losses from the petroleum installation at the site, based on records dating back to 1995.
-------------------------------	---

Table Twelve: Information Provided by Petroleum Officer /Site Photos

2.4 Additional Information

Flood Risk Zone	Flood Risk	Data Source
Zone 1	These are areas that are defined as having a low probability of flooding. On this basis, and as the site is less than 1 hectare, a flood risk assessment is not likely to be required as part of future planning applications.	Environment Agency

Table Thirteen: Preliminary Flood Risk Assessment

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Risk	Description	Data Source
Radon Risk	The site is located in an area where the National Radiological Protection Board have determined that <1% houses exceed the recommended Action Level for radon for existing homes in the UK of 200Bqm ⁻³ (averaged over a year). No radon protective measures are necessary in the construction of new dwellings or extensions.	National Radiological Protection Board
Nearest Landfill	The Environment Agency records show that there are no current or past landfill sites within 250m of the site. The site is therefore unlikely to be at-risk of impact from elevated concentrations of hazardous ground gases that are commonly associated with landfill sites e.g. methane or carbon dioxide. As such we do not consider monitoring or assessment are required as part of any future investigation works and no special precautions are likely required to prevent landfill gas infiltration into the current building or future developments at the site.	Environment Agency
Risk of Coal Mining	The site is not located in an area considered to be at potential risk from coal mining.	Coal Authority

Table Fourteen: Geological Hazards

Receptor	Description	Data Source
Other Sensitive Sites	None within 500m	Environment Agency

Table Fifteen: Other Environmental Receptors

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3 Preliminary Risk Assessment

3.1 Conceptual Site Model

We have used the information presented in the previous sections of this report to create an outline Conceptual Site Model for the site. We have reviewed potential contaminants and their receptors together with any possible pathways that may link them. The resulting pollutant linkages are summarised below.

Contaminant	Pathway	Receptor	Viable Pollutant Linkage
Site has been in use as a retail filling station for at least 40 years. The fuel infrastructure is considered a potential source of (hydrocarbon) contamination. Made Ground is reported to be present at the site and may also constitute a potential source of contamination Historical environmental reports indicate some historical hydrocarbon impact of underlying groundwater, although no significant impact reported in March 2007. No reported significant leaks or losses.	Ingestion and dermal contact	Site employees within the sales building	No - site covered with hard standing; this will act as a barrier and mitigate risk of impact
	Permeation of volatile contaminants into drinking water supply service pipes		Possible - subject to concentrations of any volatile contaminants in shallow soil and/or groundwater
	Volatilisation of hydrocarbons to indoor/outdoor air (either direct from soils or dissolved in groundwater)		
	Off-site migration of hydrocarbons: volatilisation to indoor/outdoor air (vapours from on-site soils or via lateral migration of dissolved compounds)	Residential properties - all directions (within 15m)	Possible - via lateral migration of impacted groundwater, if present.
	Downward migration of contaminants to groundwater	Secondary Aquifer (Cornbrash and Forest Marble Mudstone)	Unlikely - previous investigation work has confirmed groundwater beneath the site is limited to perched water within Made Ground.
		Principal Aquifer (Forest Marble Limestone)	Unlikely - the overlying mudstone units will inhibit downwards migration of any shallow hydrocarbon contamination that may be present beneath the site.
	Off-site migration of contaminants dissolved in groundwater leading to direct impact of environmental receptors	Pond - 300m / N	No - due to distance between the site and the pond
		No at risk abstractions identified	No

Table Sixteen: Conceptual Site Model

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4 Environmental Assessment Conclusions and Recommendations

The results of our environmental assessment indicate the following:

- The site is located in an area of moderate environmental sensitivity. Underlying geology is shown to comprise Cornbrash Limestone and Forest Marble Mudstone, both units classified by the Environment Agency as Secondary Aquifers. The nearest surface water feature is a small pond located 300m to the north; this is not considered a viable at risk receptor. We have not identified any at-risk licensed water abstractions.
- The site does lie within a designated Source Protection Zone (Zone II), associated with an abstraction located ~4km to the south-east that is likely to draw from the Forest Marble Limestone (present beneath the Forest Marble Mudstone). However, we consider the shallow mudstone units under the site will impede downward migration of any hydrocarbon contamination present to the deeper limestone aquifer.
- The site has been a retail filling station for at least 40 years. During the 1980s and 1990s the site was denoted as a 'Garage' and could have been used as a vehicle repair workshop. The current petroleum installation is understood to date from either 1991 or 2001 and comprises double skin tanks.
- Previous investigations have confirmed underlying geology to comprise ~2.2m of granular Made Ground overlying 'interbedded creamy-yellow limestone with stiff grey clay to depths of up to 4.0m'. Groundwater was present at shallow depths, between 0.4m and 2m below ground level, with an inferred hydraulic gradient to the south-east. Groundwater was described as being perched within the Made Ground, resting on the surface of the underlying bedrock.
- Previous environmental assessment works identified hydrocarbon impact of underlying groundwater during March/April 2005. However a more recent assessment of groundwater quality completed during March 2007 indicated no significant hydrocarbon impact. There have not been any recorded leaks or losses at the site.
- Although no fuel losses have been recorded at the site, we consider the ongoing site use as a petrol station since 2007 may have resulted in hydrocarbon impact of underlying soils and/or groundwater. Further works are required in order to confirm the current condition of underlying groundwater.

Table Seventeen: Conclusions

We recommend the following:

- We recommend that verification monitoring be completed at the site in order to confirm the current condition of underlying groundwater. We understand that the network of monitoring wells previously installed remains present. We recommend existing wells be inspected, gauged and groundwater samples collected for subsequent analysis.
- If hydrocarbon impact of underlying groundwater is encountered, we recommend that the data be used to complete a Detailed Quantitative Risk Assessment for the site. This will determine whether any contamination present poses a potential long-term risk to identified receptors and whether remedial action may be required.
- Further site investigation work may be required for foundation design purposes, as part of the proposed redevelopment. We recommend that the existing site data be reviewed and, if required, a suitable investigation scope be designed to provide any additional geotechnical information that may be needed.

Your attention is drawn to the Notice to Interested Parties included as Attachment One.

Table Eighteen: Recommendations

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**ATTACHMENT ONE:
NOTICE TO INTERESTED PARTIES**

Client: The Co-operative Group Ltd

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NOTICE TO INTERESTED PARTIES

The purpose of our work is to provide general information on the environmental and/or geotechnical conditions existing at the site and related to soil and/or groundwater. The Client or others specified the scope of the investigation and the validity of our conclusions is limited by the scope of work specified. We are not responsible for any such limitations or omissions.

Where stated in this report, we have used information supplied by third parties. While we have evaluated as far as possible the validity of this information, we cannot guarantee its accuracy in any way whatsoever.

No investigation technique is capable of completely identifying all of the contaminants that might be present in the soil or groundwater under a site. Where specified in our report, we have examined the ground by constructing a number of boreholes and/or trial pits. We recovered samples of soil and/or groundwater from available exposures.

The depth and spacing of our Sampling locations were selected to ensure with a reasonable probability that they would be representative of the actual conditions across the whole site. However, safety considerations relating to existing site infrastructure may have restricted our ability to investigate all potential contaminant sources. Specifically, we were unable to investigate the soil and groundwater condition immediately adjacent to the underground structures and/or buried services. These limitations must be borne in mind when considering the conclusions reached in this report.

Soil is intrinsically variable and the spread of contaminants within the soil is therefore subject to a degree of non-uniformity. For these reasons no sampling technique can completely eliminate the possibility of obtaining samples that are not representative of the actual conditions. Our sampling techniques are intended to reduce the possibility to an acceptable level, within the limits imposed by the scope of the investigation.

Groundwater levels and soil vapour levels that we report were accurate at the time of the investigation. Groundwater and soil vapour levels are variable. Long term monitoring may be required to ensure that the levels recorded during our investigation are representative of long term and possible 'worst case' conditions. In accepting our recommendations and/or conclusions the Client acknowledges that further, more detailed investigation would allow a more accurate assessment of site conditions to be made and that this would reduce any consequential risk to the Client.

Our investigation was carried out to assess the significance of contamination resulting from use of the site as identified in this report. Unless we have indicated otherwise, no assessment of the potential impact of any other previous uses has been made. No investigation was carried out to determine whether or not any deleterious or hazardous materials (such as asbestos) have been used in the construction of the buildings present on the site. Unless otherwise stated no investigation or assessment has been made of the presence or otherwise of invasive plant species including but not limited to Japanese Knotweed.

Unless specifically stated otherwise, we have not assessed the effect of any proposed future construction activities on existing structures on or near to the site. Nor, unless stated otherwise, have we assessed the likely effect of trees on existing or proposed structures on or near the site.

We do not accept any responsibility for the cost of remedial works or other costs incurred in whatever way whatsoever as a result of any omissions, errors or other shortcomings in this report unless we have been given reasonable opportunity to verify ourselves that such faults exist and we have been given a reasonable opportunity to carry out works to remedy such faults ourselves using the most practicable means available to us. We do not accept liability for any consequential losses incurred by you while either we or others carry out any remedial works we deem necessary.

This report has been prepared for the Client, as specified on the cover page of this report. In accepting our recommendations and/or conclusions the Client accepts that the terms of our appointment were as detailed in the Proposal, or Proposals, that we provided to the Client before being appointed and that these terms supersede any other terms and/or conditions set out in any contracts agreed between ourselves and the Client, regardless of when such terms and/or conditions were agreed to by us and/or signed by us.

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Client: The Co-operative Group Ltd

Report

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Attachment One - 2

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**ATTACHMENT TWO:
ENVIRONMENTAL DATA REPORT AND HISTORICAL MAPS**

Client: The Co-operative Group Ltd

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Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

236536189_1_1

Customer Reference:

CP20210

National Grid Reference:

386470, 170580

Slice:

A

Site Area (Ha):

0.15

Search Buffer (m):

1000

Site Details:

Texaco Ltd, Somerfield Filling Station

101

Pickwick Road

CORSHAM

SN13 9DA

Client Details:

Mr S Partridge

Subadra Consulting Ltd

Unit 13 Triangle Business Park

Wendover

Bucks

HP22 5BL

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Hazardous Substances	-
Geological	8
Industrial Land Use	11
Sensitive Land Use	18
Data Currency	19
Data Suppliers	24
Useful Contacts	25

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1				4
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 2	1			2
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2			Yes	
Pollution Incidents to Controlled Waters	pg 3		1		
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 3				1
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 3	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk	pg 3	1	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones	pg 3	2			
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 4			1	19

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage	pg 7	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 8	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 8				6
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities	pg 9				3
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 9	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 9	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards				n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 10		Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 11	3	8	11	49
Fuel Station Entries	pg 17	1		1	1
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty	pg 18				1
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 18	1			
Ramsar Sites					
Sites of Special Scientific Interest	pg 18				1
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SW)	0	1	386474 170583
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	51	1	386474 170650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	269	1	386450 170300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	284	1	386700 170800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	369	1	386474 170200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (SW)	397	1	386300 170200
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	471	1	386400 170100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	472	1	386550 170100
1	Discharge Consents Operator: Donnington Castle Conferences Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: Guyers House, Pickwick, Corsham, Wiltshire, Sn13 0pp Authority: Environment Agency, South West Region Catchment Area: By Brook/Doncombe Brook Reference: 011553 Permit Version: 2 Effective Date: 17th December 2012 Issued Date: 17th December 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Discharge To Soakaway Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A12NW (W)	843	2	385650 170860
1	Discharge Consents Operator: Donnington Castle Conferences Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: Guyers House, Pickwick, Corsham, Wiltshire, Sn13 0pp Authority: Environment Agency, South West Region Catchment Area: By Brook/Doncombe Brook Reference: 011553 Permit Version: 1 Effective Date: 23rd November 1990 Issued Date: 14th December 1990 Revocation Date: 16th December 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Land/Soakaway Receiving Water: Discharge To Soakaway Status: New Consent, by Application (Water Resources Act 1991, Section 113 & Schedule 12) Positional Accuracy: Located by supplier to within 10m	A12NW (W)	843	2	385650 170860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: Donnington Castle Conferences Ltd Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Guyers Lodge Guyers House, Guyers Lane, Pickwick, Corsham, Wiltshire, Sn13 0ps Authority: Environment Agency, South West Region Catchment Area: Bristol Avon Upper Reach Reference: 100644 Permit Version: 2 Effective Date: 17th December 2012 Issued Date: 17th December 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Land/Soakaway Environment: Soakaway Receiving Water: Soakaway Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A12NW (W)	887	2	385560 170590
2	Discharge Consents Operator: Donnington Castle Conferences Ltd Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Guyers Lodge Guyers House, Guyers Lane, Pickwick, Corsham, Wiltshire, Sn13 0ps Authority: Environment Agency, South West Region Catchment Area: Bristol Avon Upper Reach Reference: 100644 Permit Version: 1 Effective Date: 13th July 1998 Issued Date: 30th December 1998 Revocation Date: 16th December 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Land/Soakaway Environment: Soakaway Receiving Water: Soakaway Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A12NW (W)	887	2	385560 170590
3	Local Authority Pollution Prevention and Controls Name: Pickwick Service Station Location: 101 Pickwick Road, CORSHAM, Wiltshire, SN13 9DA Authority: Wiltshire Council, Environmental Health Department Permit Reference: WCN/EP25 Dated: 22nd November 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A13SE (E)	0	3	386485 170580
4	Local Authority Pollution Prevention and Controls Name: Corsham Tyre ServicesNewlands Road Garage Location: Newlands Road, CORSHAM, Wiltshire, SN13 0BH Authority: Wiltshire Council, Environmental Health Department Permit Reference: WCN/EP35 Dated: 4th January 2002 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address	A14SW (E)	575	3	387049 170409
5	Local Authority Pollution Prevention and Controls Name: Corsham Auto Repairs Location: Units 8-9 Parklane Industrial Estate, Corsham, Sn13 9lg Authority: Wiltshire Council, Environmental Health Department Permit Reference: WC/EP221 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Permitted Positional Accuracy: Manually positioned to the address or location	A12SW (W)	922	3	385569 170284
	Nearest Surface Water Feature	A13NE (N)	300	-	386521 170899

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	Pollution Incidents to Controlled Waters Property Type: Metal industry Location: Corsham-Bydemill, CORSHAM Authority: Environment Agency, South West Region Pollutant: Chemicals - Other Inorganic Note: Not Supplied Incident Date: 9th October 1996 Incident Reference: 18344 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Pollution Risk: Water Quality Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	124	2	386600 170500
7	Substantiated Pollution Incident Register Authority: Environment Agency - South West Region, Wessex Area Incident Date: 27th October 2004 Incident Reference: 274451 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils And Fuel: Gas And Fuel Oils	A9SW (SE)	752	2	386820 169890
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: 40-70% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13SE (SW)	0	4	386474 170583
	Groundwater Vulnerability - Soluble Rock Risk Classification: Significant Risk - Problems Unlikely	A13SE (SW)	0	4	386474 170583
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (SW)	0	4	386474 170583
	Superficial Aquifer Designations No Data Available				
8	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A13SE (SW)	0	2	386474 170583
9	Source Protection Zones Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13SE (SW)	0	2	386474 170583
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A12SE (SW)	463	5	386028 170369
11	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 42.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A7NE (SW)	578	5	386058 170140
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 1.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A7NE (SW)	620	5	386033 170107
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 113.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A7NE (SW)	621	5	386032 170106
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 240.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8NE (S)	673	5	386665 169917
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 258.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8NE (S)	673	5	386665 169917
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A9NW (SE)	732	5	387118 170180
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 41.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A9NW (SE)	732	5	387118 170181
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 199.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SW (S)	791	5	386394 169779

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SW (S)	793	5	386279 169794
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 213.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SW (S)	796	5	386276 169791
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 248.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SE (S)	798	5	386474 169771
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 214.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A9SW (SE)	840	5	386904 169834
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A17NE (NW)	850	5	385953 171285
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 16.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A19SE (E)	907	5	387340 170939
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 69.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SW (S)	959	5	386280 169625
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 138.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A14NE (E)	962	5	387415 170892
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 213.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A14NE (E)	962	5	387415 170892

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 57.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SE (S)	966	5	386755 169638
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 308.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Avon Bristol Primacy: 1	A8SE (S)	966	5	386755 169638

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Wiltshire County Council - Has supplied landfill data		0	7	386474 170583
	Local Authority Landfill Coverage Name: North Wiltshire District Council - Has no landfill data to supply		0	6	386474 170583

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Great Oolite Group	A13SE (SW)	0	1	386474 170583
30	BGS Recorded Mineral Sites Site Name: Hartham Park Quarries Location: Corsham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 55987 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Forest Marble Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	717	1	385774 170320
31	BGS Recorded Mineral Sites Site Name: Hartham Park Quarries Location: Corsham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 55988 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Forest Marble Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	777	1	385745 170234
32	BGS Recorded Mineral Sites Site Name: Hartham Park Shaft Location: Corsham, Chippenham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 55984 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Combe Down Oolite Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	847	1	385615 170404
33	BGS Recorded Mineral Sites Site Name: Hartham Park Quarries Location: Lower Pickwick, Chippenham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 55999 Type: Underground Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Combe Down Oolite Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	858	1	385635 170289
34	BGS Recorded Mineral Sites Site Name: Hartham Park Quarry Location: Corsham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 6385 Type: Underground Status: Active Operator: Lovell Stone Group Ltd. Operator Location: Not Supplied Periodic Type: Jurassic Geology: Chalfield Oolite Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A12SW (W)	981	1	385508 170283

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	BGS Recorded Mineral Sites Site Name: Brickers Barn Quarry Location: Corsham, Chippenham, Wiltshire Source: British Geological Survey, National Geoscience Information Service Reference: 55983 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Jurassic Geology: Forest Marble Formation Commodity: Limestone Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	983	1	387045 171417
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Man-Made Mining Cavities Easting: 385700 Northing: 170500 Distance: 749 Quadrant Reference: A12 Quadrant Reference: SW Bearing Ref: W Cavity Type: Shaft Entry Underground Bath Stone Quarry Commodity: Limestone Solid Geology Detail: Great Oolite Group Superficial Geology No Details Detail:	A12SW (W)	749	8	385700 170500
	Man-Made Mining Cavities Easting: 385700 Northing: 170700 Distance: 757 Quadrant Reference: A12 Quadrant Reference: NW Bearing Ref: W Cavity Type: Slope Shaft Entry Underground Bath Stone Quarry Commodity: Limestone Solid Geology Detail: Great Oolite Group Superficial Geology No Details Detail:	A12NW (W)	757	8	385700 170700
	Man-Made Mining Cavities Easting: 386000 Northing: 169700 Distance: 977 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Underground Bath stone Quarry/MOD Storage-Known Mined Ground Commodity: Limestone Solid Geology Detail: Great Oolite Group Superficial Geology No Details Detail:	A7SE (SW)	977	8	386000 169700
	Non Coal Mining Areas of Great Britain Risk: Likely Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	120	1	386357 170673
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	120	1	386357 170673
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	386474 170583

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	Contemporary Trade Directory Entries Name: Texaco Location: Somerfield Filling Station, 101, Pickwick Road, Corsham, Wiltshire, SN13 9DA Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address	A13SE (E)	0	-	386485 170580
36	Contemporary Trade Directory Entries Name: Co-Operative Filling Station Location: 101 Pickwick Road, Corsham, Wiltshire, SN13 9DA Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (W)	0	-	386470 170582
36	Contemporary Trade Directory Entries Name: Pickwick Filling Station Location: Pickwick Filling Station, 101, Pickwick Road, Corsham, Wiltshire, SN13 9DA Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	0	-	386485 170580
37	Contemporary Trade Directory Entries Name: Pandoras Passion Location: 44, Beechfield Road, Corsham, SN13 9DW Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (S)	124	-	386519 170447
38	Contemporary Trade Directory Entries Name: Sidney Alford Ltd Location: A, 41, Pickwick, Corsham, Wiltshire, SN13 0HX Classification: Explosives - Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (W)	132	-	386324 170635
39	Contemporary Trade Directory Entries Name: P T Furnishings Location: 1, Mayo Close, Corsham, Wiltshire, SN13 9DT Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (SW)	138	-	386360 170460
40	Contemporary Trade Directory Entries Name: United Carpet Cleaning Masters Location: 48a Pickwick, Corsham, Wiltshire, SN13 0HY Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13SW (W)	142	-	386305 170579
41	Contemporary Trade Directory Entries Name: All Care Cleaning Services Location: 18, Beechfield Road, Corsham, Wiltshire, SN13 9DN Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	194	-	386650 170450
42	Contemporary Trade Directory Entries Name: Sm Heating & Plumbing Services Location: 67, Dickens Avenue, Corsham, Wiltshire, SN13 0AG Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (E)	223	-	386722 170611
43	Contemporary Trade Directory Entries Name: Angel Mobile Tyres Ltd Location: 1, Charles Street, Corsham, Wiltshire, SN13 0AN Classification: Tyre Repairs & Retreading Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	238	-	386656 170777
44	Contemporary Trade Directory Entries Name: Corsham Dairy Location: 2, Pickwick, Corsham, Wiltshire, SN13 0HZ Classification: Dairies Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	246	-	386587 170829

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	Contemporary Trade Directory Entries Name: Freesource Energy Location: Unit 1, The Old Brushworks, 56, Pickwick Road, Corsham, Wiltshire, SN13 9BX Classification: Energy Efficient Products and Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	270	-	386740 170452
45	Contemporary Trade Directory Entries Name: Corsham Motor Works Location: 48, Pickwick Road, Corsham, Wiltshire, SN13 9BX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (E)	293	-	386773 170471
46	Contemporary Trade Directory Entries Name: A M Global Location: 11, Pickwick, Corsham, Wiltshire, SN13 0JD Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	312	-	386615 170889
46	Contemporary Trade Directory Entries Name: Pickwick Motor Works Ltd Location: 9, Pickwick, Corsham, Wiltshire, SN13 0JD Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	340	-	386632 170912
46	Contemporary Trade Directory Entries Name: Pickwick Motorworks Location: 9, Pickwick, Corsham, Wiltshire, SN13 0JD Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	340	-	386632 170912
47	Contemporary Trade Directory Entries Name: P P Cleaning Services Location: 38, Arnolds Mead, Corsham, Wiltshire, SN13 0BN Classification: Carpet, Curtain & Upholstery Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	345	-	386842 170642
48	Contemporary Trade Directory Entries Name: Wasteaway Wiltshire Ltd Location: 92, Priory Street, Corsham, Wiltshire, SN13 0AX Classification: Waste Disposal Services Status: Active Positional Accuracy: Automatically positioned to the address	A14NW (NE)	375	-	386842 170750
49	Contemporary Trade Directory Entries Name: P J Motors Location: Unit 10, Pickwick Workshops, Park Lane, Corsham, Wiltshire, SN13 0HN Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	428	-	386025 170498
49	Contemporary Trade Directory Entries Name: Pickwick Patio & Aggregates Location: Pickwick Workshops, Park La, Corsham, Wiltshire, SN13 0HN Classification: Sand, Gravel & Other Aggregates Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SE (W)	429	-	386026 170484
50	Contemporary Trade Directory Entries Name: The Print Consultancy Location: 23, Danvers Road, Corsham, Wiltshire, SN13 9LS Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (SW)	488	-	386140 170189
51	Contemporary Trade Directory Entries Name: S Rees Industrial Cleaning Ltd Location: 9, Paul Street, Corsham, Wiltshire, SN13 9DG Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (SE)	497	-	386914 170299

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	Contemporary Trade Directory Entries Name: The Furniture Revival Co Location: 40, Priory Street, Corsham, Wiltshire, SN13 0AX Classification: Furniture - Repairing & Restoring Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	501	-	386985 170722
53	Contemporary Trade Directory Entries Name: The Washing Well Location: Alexander Terrace, Corsham, Wiltshire, SN13 0BW Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	517	-	387003 170462
54	Contemporary Trade Directory Entries Name: S & K Autos - Bosch Car Service Centre Location: Pickwick Road, Corsham, Wiltshire, SN13 9BQ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (SE)	548	-	387003 170358
55	Contemporary Trade Directory Entries Name: Newlands Road Garage Location: Newlands Road Garage, Newlands Road, Corsham, SN13 0BH Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	575	-	387049 170409
55	Contemporary Trade Directory Entries Name: Corsham Tyre Service Location: Newlands Road Garage, Newlands Road, Corsham, Wiltshire, SN13 0BH Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	575	-	387049 170410
55	Contemporary Trade Directory Entries Name: Broadoaks Motor Co Ltd Location: Newlands Road Garage, Newlands Road, Corsham, Wiltshire, SN13 0BH Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	575	-	387049 170410
55	Contemporary Trade Directory Entries Name: Corsham Tyre Service Location: Newlands Road Garage, Newlands Road, Corsham, SN13 0BH Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (E)	575	-	387049 170409
56	Contemporary Trade Directory Entries Name: Great Panes Location: 4, Priory Street, Corsham, Wiltshire, SN13 0AX Classification: Stained Glass Designers & Producers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	596	-	387085 170707
56	Contemporary Trade Directory Entries Name: Goddard And Gibbs Location: 4, Priory Street, Corsham, Wiltshire, SN13 0AX Classification: Stained Glass Designers & Producers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	596	-	387085 170707
57	Contemporary Trade Directory Entries Name: Pickwick Car Centre Location: Corsham, Wiltshire, Sn13 9ub Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	618	-	386093 170061
58	Contemporary Trade Directory Entries Name: Fabintheban Location: 12 Wyvern House, Newlands Road, Corsham, SN13 0BG Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (E)	620	-	387116 170533
59	Contemporary Trade Directory Entries Name: Wot A Load Of Rubbish Location: 38, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	623	-	385851 170388

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	Contemporary Trade Directory Entries Name: A Crystal Clean & Ironing Location: 7, Macle Drive, Corsham, Wiltshire, SN13 9EJ Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A8NW (SW)	638	-	386202 169979
61	Contemporary Trade Directory Entries Name: Anthony & Pippas Cleaning Services Location: 9, Ivy Field, Corsham, Wiltshire, SN13 0DG Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	652	-	387135 170745
62	Contemporary Trade Directory Entries Name: Corsham Hardware Location: Martingate Centre, Post Office Lane, Corsham, SN13 0HL Classification: Hardware Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (E)	674	-	387140 170368
62	Contemporary Trade Directory Entries Name: Corsham Hardware Location: 4-5, Martingate, Corsham, Wiltshire, SN13 0HL Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	674	-	387139 170365
62	Contemporary Trade Directory Entries Name: Corsham Centre Location: 8, Martingate, Corsham, Wiltshire, SN13 0HL Classification: Hardware Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	691	-	387157 170363
63	Contemporary Trade Directory Entries Name: Delta Body Works Location: 2, Pickwick Road, Corsham, Wiltshire, SN13 9BJ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	692	-	387095 170219
63	Contemporary Trade Directory Entries Name: K J Autos Location: 2, Pickwick Road, Corsham, Wiltshire, SN13 9BJ Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	692	-	387095 170219
64	Contemporary Trade Directory Entries Name: West County Location: 3, Pickwick Road, Corsham, Wiltshire, SN13 9BQ Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (SE)	717	-	387149 170270
64	Contemporary Trade Directory Entries Name: Nationwide Crash Repair Centres Ltd Location: 7, High Street, Corsham, Wiltshire, SN13 0ES Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	727	-	387171 170297
65	Contemporary Trade Directory Entries Name: Bright Maid Cleaning Services Location: 8, Hobbs Walk, Corsham, Wiltshire, SN13 0EY Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	719	-	387212 170498
66	Contemporary Trade Directory Entries Name: What A Load Of Rubbish Location: 38, Macle Drive, Corsham, Wiltshire, SN13 9EJ Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	744	-	386282 169843
67	Contemporary Trade Directory Entries Name: The Methuen Arms Location: 2, High Street, Corsham, SN13 0HB Classification: Brewery Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (SE)	767	-	387195 170251

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	Contemporary Trade Directory Entries Name: Pressed Express Location: 9, Nine Acre Drive, Corsham, Wiltshire, SN13 9ER Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (SW)	775	-	385814 170119
69	Contemporary Trade Directory Entries Name: Modern Mirror Design Location: 9a Station Road, Corsham, Wiltshire, SN13 9EU Classification: Mirrors & Decorative Glass Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	782	-	387184 170195
69	Contemporary Trade Directory Entries Name: Goulding Bronze Location: 9a, Station Road, Corsham, Wiltshire, SN13 9EU Classification: Foundries Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NE (SE)	785	-	387188 170194
70	Contemporary Trade Directory Entries Name: Pickwick Location: Unit 1, Park Lane Trading Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	833	-	385682 170238
70	Contemporary Trade Directory Entries Name: Sps Tuning Location: Unit 1, Park Lane Trading Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	833	-	385682 170238
70	Contemporary Trade Directory Entries Name: C C C Clutch Centre Location: Unit 1, Park Lane Trading Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Brake & Clutch Service Centres Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NW (SW)	833	-	385682 170238
70	Contemporary Trade Directory Entries Name: Ripe Digital Ltd Location: Unit 1, Park Lane Trading Estate, Park Lane, Corsham, SN13 9LG Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SW)	835	-	385680 170236
70	Contemporary Trade Directory Entries Name: A J M Engineering Company Ltd Location: Unit 2, Park Lane Trading Estate, Park Lane, Corsham, SN13 9LG Classification: Engineering Services Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	844	-	385664 170253
71	Contemporary Trade Directory Entries Name: Global Resins Ltd Location: Unit 7, Park Lane Industrial Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Gum & Resin Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	857	-	385632 170302
71	Contemporary Trade Directory Entries Name: Global Resins Ltd Location: Unit 7, Park Lane Industrial Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Gum & Resin Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	873	-	385605 170338
72	Contemporary Trade Directory Entries Name: Cleaning Solutions Location: 9, South Street, Corsham, Wiltshire, SN13 9HB Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	861	-	387043 169903
72	Contemporary Trade Directory Entries Name: Corsham Accident Repair Location: 11, South Street, Corsham, SN13 9HB Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	865	-	387044 169898

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	Contemporary Trade Directory Entries Name: Christopher James Printers Ltd Location: Unit 10, Park Lane Trading Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	908	-	385582 170292
73	Contemporary Trade Directory Entries Name: Christopher James Printers Ltd Location: Unit 10, Park Lane Trading Estate, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	908	-	385582 170292
73	Contemporary Trade Directory Entries Name: Corsham Auto Repairs Location: Unit 8-9, Park Lane Trading Estate, Park Lane, CORSHAM, Wiltshire, SN13 9LG Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	914	-	385577 170288
73	Contemporary Trade Directory Entries Name: Munchies Location: Unit 8-9, Park Lane, Corsham, Wiltshire, SN13 9LG Classification: Food Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	914	-	385577 170288
73	Contemporary Trade Directory Entries Name: J J Lee Ltd Location: Unit 11, Park Lane Trading Estate, Park Lane, Corsham, SN13 9LG Classification: Boxes & Cartons Status: Active Positional Accuracy: Automatically positioned to the address	A12SW (W)	918	-	385578 170272
74	Contemporary Trade Directory Entries Name: Flamingo Paperie Location: 22, Southerwicks, Corsham, Wiltshire, SN13 9NH Classification: Greeting Card Publishers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	915	-	386952 169774
74	Contemporary Trade Directory Entries Name: Euro Freight (Gb) Ltd Uk Headquarters Location: Unit 15-17, 33, South Street, Corsham, Wiltshire, SN13 9HB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	930	-	386981 169774
74	Contemporary Trade Directory Entries Name: Euro Freight (Gb) Ltd Location: Unit 15-17, 33, South Street, Corsham, Wiltshire, SN13 9HB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	931	-	386981 169774
74	Contemporary Trade Directory Entries Name: Mike'S Services Location: Unit 2-4, 33, South Street, Corsham, Wiltshire, SN13 9HB Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	931	-	386981 169774
74	Contemporary Trade Directory Entries Name: Euro-Freights (Group) Ltd Location: Unit 15-17, 33, South Street, Corsham, Wiltshire, SN13 9HB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	931	-	386981 169774
75	Contemporary Trade Directory Entries Name: Globe Cleaning Contractors Ltd Location: 2, Pound Pill, Corsham, Wiltshire, SN13 9HT Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A9NE (SE)	955	-	387310 170068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	Contemporary Trade Directory Entries Name: Pickwick Caravans Location: Unit 1, Priory Business Park, Bradford Road, Corsham, Wiltshire, SN13 0RB Classification: Caravans - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	987	-	385485 170347
76	Contemporary Trade Directory Entries Name: Corsham Calor Gas Location: Priory Business Park, Bradford Rd, Corsham, Wiltshire, SN13 0QR Classification: Gas Suppliers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12SW (W)	988	-	385484 170346
77	Fuel Station Entries Name: Co-Op Pickwick Location: 101, Pickwick Road , Corsham , Chippenham, Wiltshire, SN13 9DA Brand: TEXACO Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A13SE (E)	0	-	386487 170580
78	Fuel Station Entries Name: Pickwick Motor Works Location: 9, Pickwick , , Corsham, Wiltshire, SN13 0JD Brand: Q8 Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A13NE (NE)	345	-	386636 170916
79	Fuel Station Entries Name: Newlands Road Garage Location: Newlands Road , , Corsham, Wiltshire, SN13 0BH Brand: UNBRANDED Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A14SW (E)	575	-	387049 170409

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	Areas of Outstanding Natural Beauty Name: Cotswolds Multiple Areas: N Total Area (m2): 2041091141.36 Designation Date: 30th August 1966 Source: Natural England	A18NW (N)	908	9	386464 171506
81	Nitrate Vulnerable Zones Name: Bydemill Bk - Source To Conf River Avon (Brist) Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SE (SW)	0	4	386474 170583
82	Sites of Special Scientific Interest Name: Corsham Railway Cutting Multiple Areas: Y Total Area (m2): 52479.07 Source: Natural England Reference: 1003317 Designation Details: Geological Conservation Review Designation Date: 6th February 1987 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 6th February 1987 Date Type: Notified	A8SE (S)	968	9	386722 169627

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices South Gloucestershire Council - Environmental Services Department Bath and North East Somerset Council - Environmental Health Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire Council - Environmental Health Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services	January 2015 January 2020 June 2008 March 2015 May 2008	Annual Rolling Update Annual Rolling Update Not Applicable Annually Not Applicable
Discharge Consents Environment Agency - South West Region	October 2019	Quarterly
Enforcement and Prohibition Notices Environment Agency - South West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - South West Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - South West Region	October 2019	Quarterly
Local Authority Integrated Pollution Prevention And Control Bath and North East Somerset Council - Environmental Health Department South Gloucestershire Council - Environmental Services Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire Council - Environmental Health Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services	February 2015 January 2015 July 2008 July 2015 September 2008	Variable Variable Not Applicable Variable Not Applicable
Local Authority Pollution Prevention and Controls Bath and North East Somerset Council - Environmental Health Department South Gloucestershire Council - Environmental Services Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire Council - Environmental Health Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services	February 2015 January 2015 July 2008 July 2015 September 2008	Not Applicable Annual Rolling Update Not Applicable Annually Not Applicable
Local Authority Pollution Prevention and Control Enforcements Bath and North East Somerset Council - Environmental Health Department South Gloucestershire Council - Environmental Services Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire Council - Environmental Health Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services	February 2015 January 2015 July 2008 July 2015 September 2008	Variable Variable Not Applicable Variable Not Applicable
Nearest Surface Water Feature Ordnance Survey	January 2020	
Pollution Incidents to Controlled Waters Environment Agency - South West Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - South West Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - South West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - South West Region	June 2016	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually

Agency & Hydrological	Version	Update Cycle
Substantiated Pollution Incident Register Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	October 2019 October 2019	Quarterly Quarterly
Water Abstractions Environment Agency - South West Region	October 2019	Quarterly
Water Industry Act Referrals Environment Agency - South West Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	November 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	November 2019	Quarterly
Flood Defences Environment Agency - Head Office	November 2019	Quarterly
OS Water Network Lines Ordnance Survey	January 2020	Quarterly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - South West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	November 2019 November 2019	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	October 2019 October 2019	Quarterly Quarterly
Local Authority Landfill Coverage Bath and North East Somerset Council - Planning Services Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services South Gloucestershire Council - Environmental Services Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire County Council (now part of Wiltshire Council)	May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Bath and North East Somerset Council - Planning Services Department North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services South Gloucestershire Council - Environmental Services Department West Wiltshire District Council (now part of Wiltshire Council) - Environmental Health Department Wiltshire County Council (now part of Wiltshire Council)	May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - South West Region - North Wessex Area Environment Agency - South West Region - Wessex Area	March 2003 March 2003	Not Applicable Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Wiltshire County Council (now part of Wiltshire Council) Bath and North East Somerset Council - Economic and Environmental Development Wiltshire Council - Planning Department North Wiltshire District Council (now part of Wiltshire Council) South Gloucestershire Council - Development Control: Planning West Wiltshire District Council (now part of Wiltshire Council)	December 2008 February 2016 February 2016 June 2009 May 2016 September 2009	Annual Rolling Update Variable Variable Not Applicable Variable Not Applicable
Planning Hazardous Substance Consents Wiltshire County Council (now part of Wiltshire Council) Bath and North East Somerset Council - Economic and Environmental Development Wiltshire Council - Planning Department North Wiltshire District Council (now part of Wiltshire Council) South Gloucestershire Council - Development Control: Planning West Wiltshire District Council (now part of Wiltshire Council)	December 2008 February 2016 February 2016 June 2009 May 2016 September 2009	Annual Rolling Update Variable Variable Not Applicable Variable Not Applicable
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	October 2019	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	December 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Underground Electrical Cables National Grid	December 2015	
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	August 2018	Bi-Annually
Areas of Adopted Green Belt Bath and North East Somerset Council North Wiltshire District Council (now part of Wiltshire Council) South Gloucestershire Council West Wiltshire District Council (now part of Wiltshire Council) Wiltshire Council - Planning Department	February 2020 February 2020 February 2020 February 2020 February 2020	As notified As notified As notified As notified As notified
Areas of Unadopted Green Belt Bath and North East Somerset Council North Wiltshire District Council (now part of Wiltshire Council) South Gloucestershire Council West Wiltshire District Council (now part of Wiltshire Council) Wiltshire Council - Planning Department	February 2020 February 2020 February 2020 February 2020 February 2020	As notified As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	March 2019	Bi-Annually
Marine Nature Reserves Natural England	July 2019	Bi-Annually
National Nature Reserves Natural England	July 2019	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	April 2019	Bi-Annually
Sites of Special Scientific Interest Natural England	March 2019	Bi-Annually
Special Areas of Conservation Natural England	June 2019	Bi-Annually
Special Protection Areas Natural England	April 2019	Bi-Annually

A selection of organisations who provide data within this report

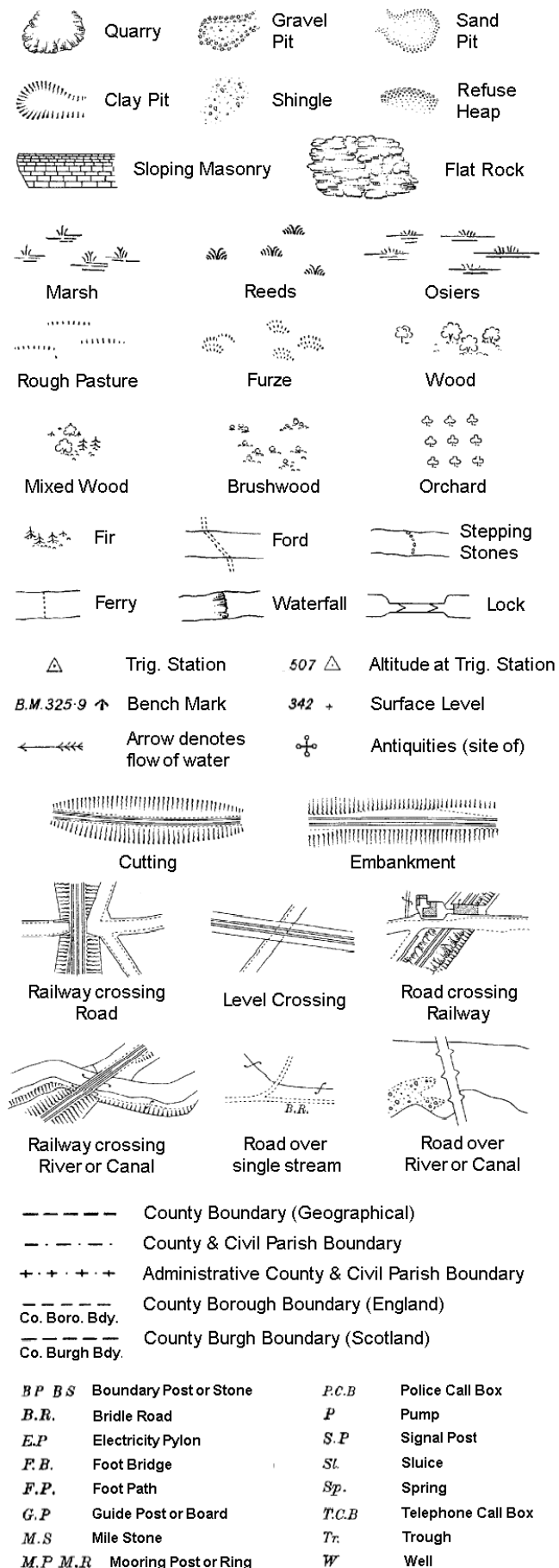
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Wiltshire Council - Environmental Health Department County Hall, Bythesea Road, Trowbridge, Wiltshire, BA14 8JN	Telephone: 01225 713000 Email: customerservices@wiltshire.gov.uk Website: www.wiltshire.gov.uk
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	North Wiltshire District Council (now part of Wiltshire Council) - Environmental Services County Hall, Bythesea Road, Trowbridge, Wiltshire, BA14 8JN	Telephone: 0300 456 0100 Website: www.wiltshire.gov.uk
7	Wiltshire County Council (now part of Wiltshire Council) County Hall, Bythesea Road, Trowbridge, Wiltshire, BA14 8JN	Telephone: 01225 713000 Email: communications@wiltshire.gov.uk Website: www.wiltshire.gov.uk
8	Peter Brett Associates Caversham Bridge House, Waterman Place, Reading, Berkshire, RG1 8DN	Telephone: 0118 950 0761 Fax: 0118 959 7498 Email: reading@pba.co.uk Website: www.pba.co.uk
9	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
10	Wiltshire Council - Planning Department County Hall, Bythesea Road, Trowbridge, Wiltshire, BA14 8JN	Telephone: 01225 713000 Email: customerservices@wiltshire.gov.uk Website: www.wiltshire.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

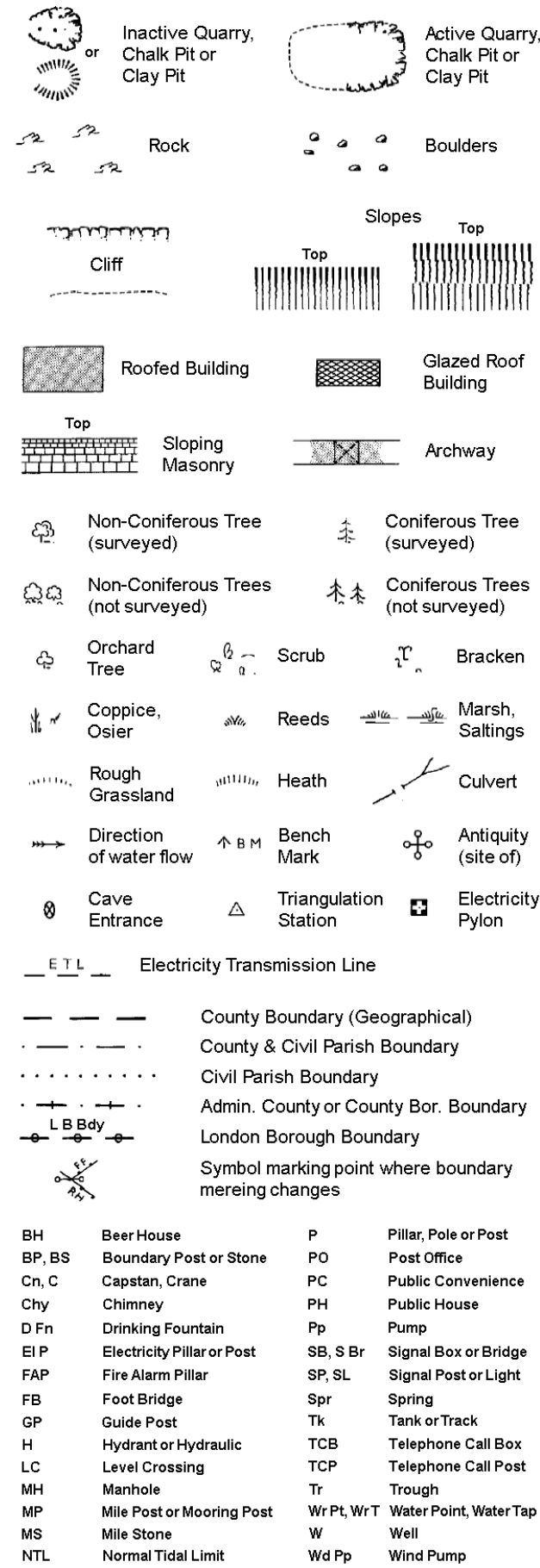
Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

Historical Mapping Legends

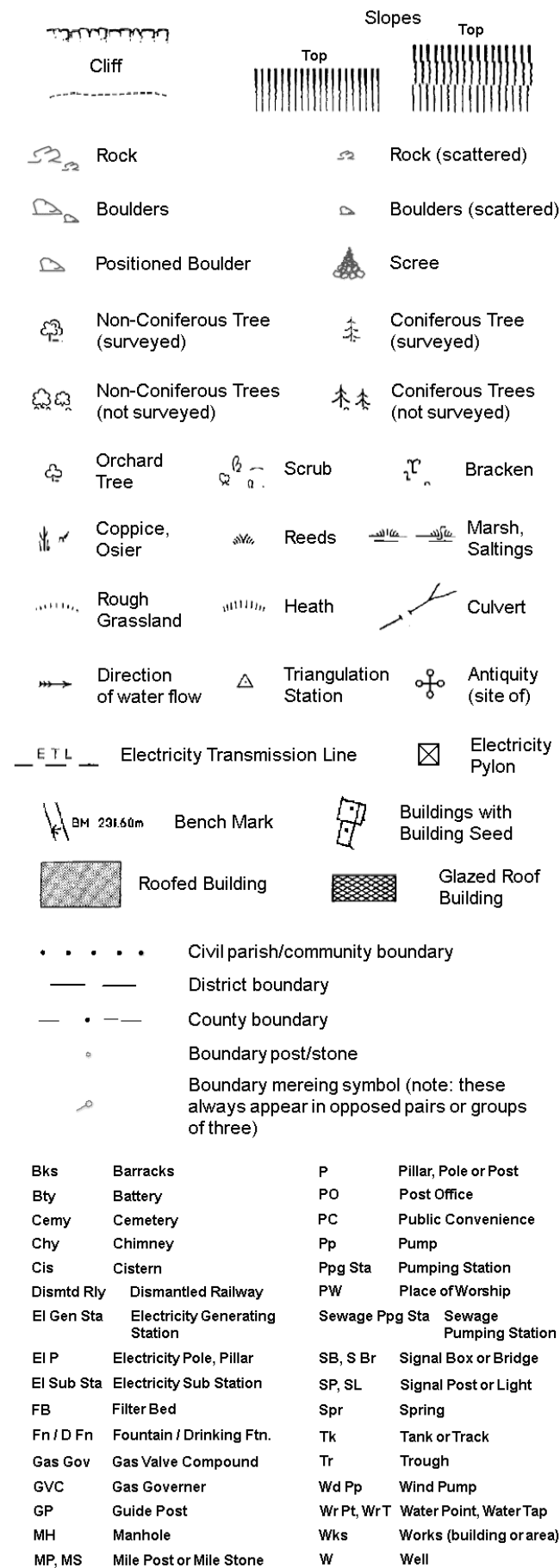
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



Large-Scale National Grid Data 1:2,500 and 1:1,250



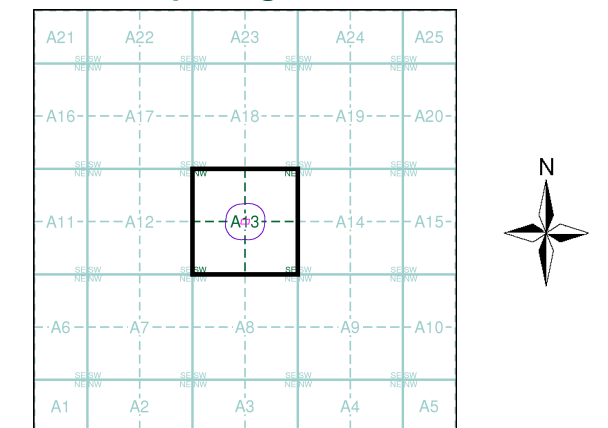
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Wiltshire	1:2,500	1886	2
Wiltshire	1:2,500	1900	3
Wiltshire	1:2,500	1921	4
Ordnance Survey Plan	1:2,500	1970	5
Ordnance Survey Plan	1:2,500	1976	6
Additional SIMs	1:2,500	1987	7
Ordnance Survey Plan	1:2,500	1988	8
Additional SIMs	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1993	10
Large-Scale National Grid Data	1:2,500	1996	11

Historical Map - Segment A13



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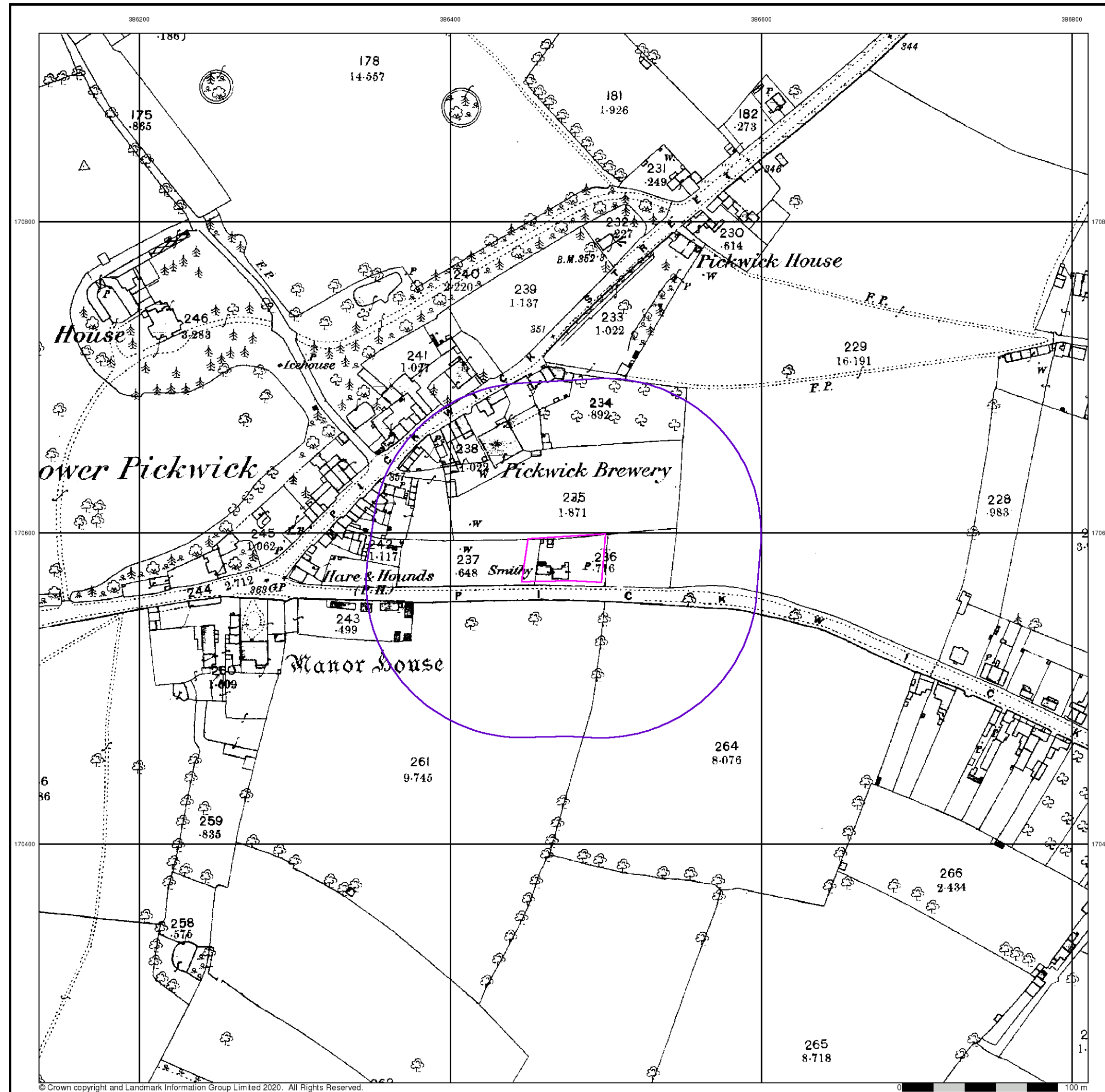
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Slice: A
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Search Buffer (m): 100

Site Details

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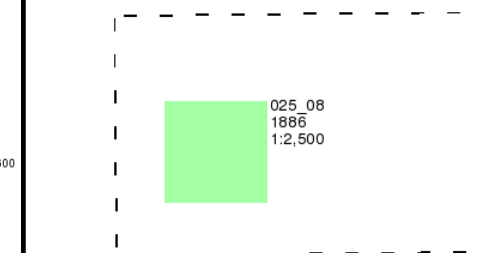
Wiltshire

Published 1886

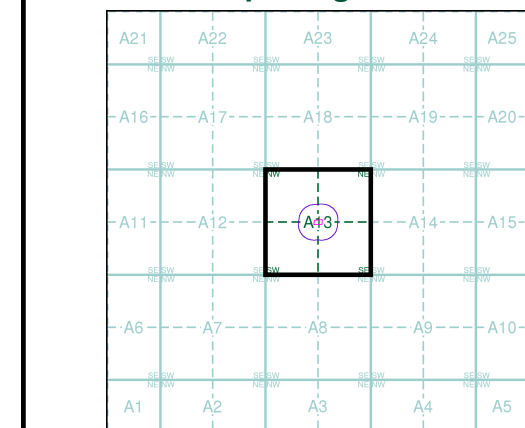
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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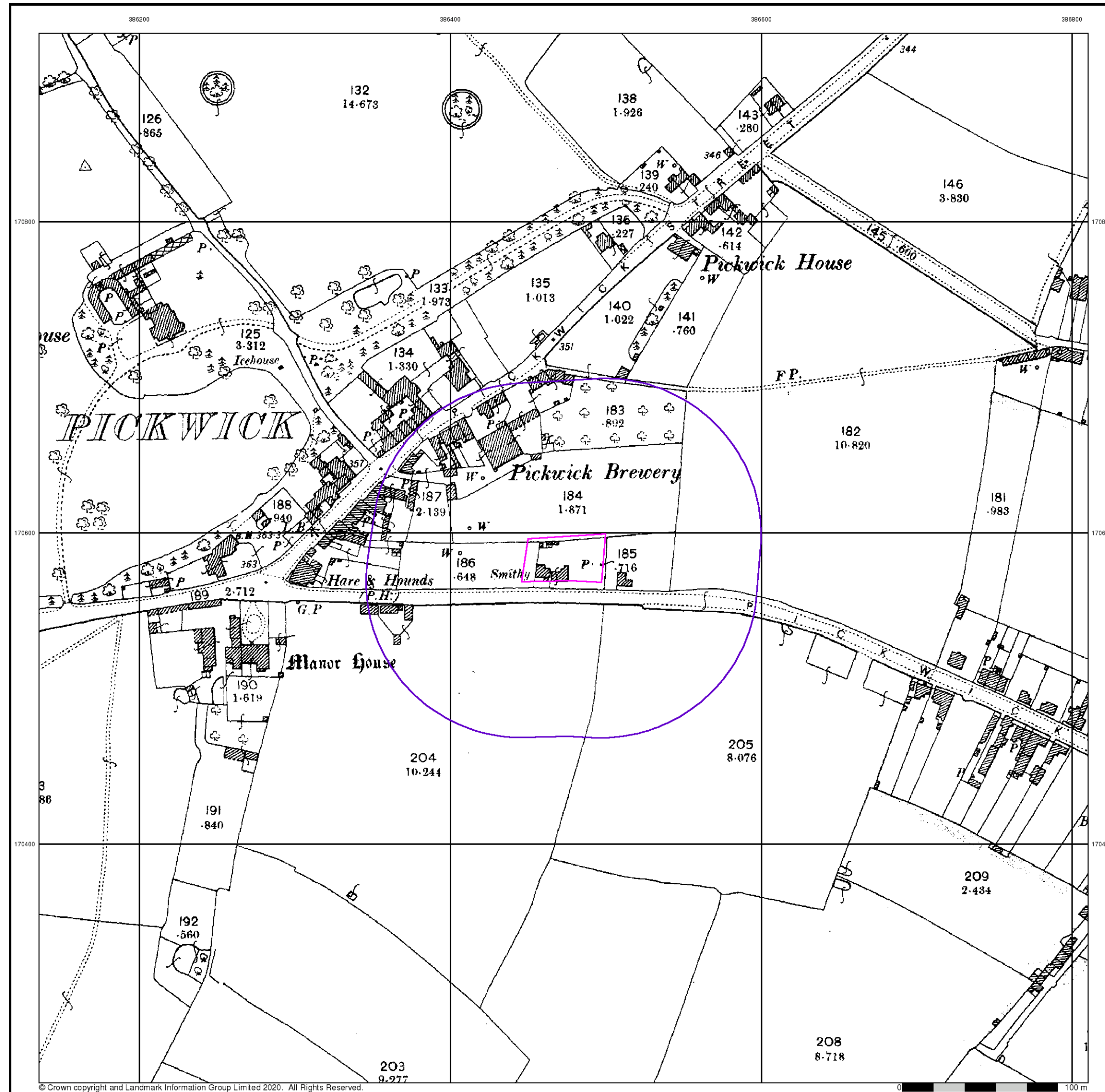
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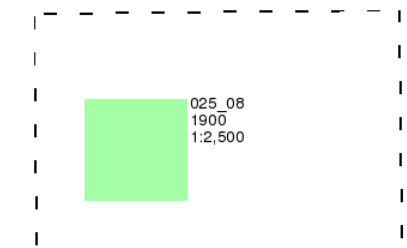
Wiltshire

Published 1900

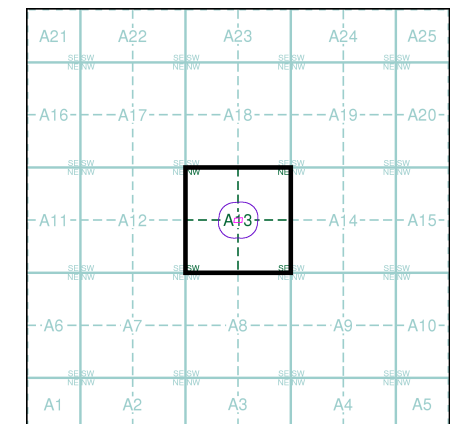
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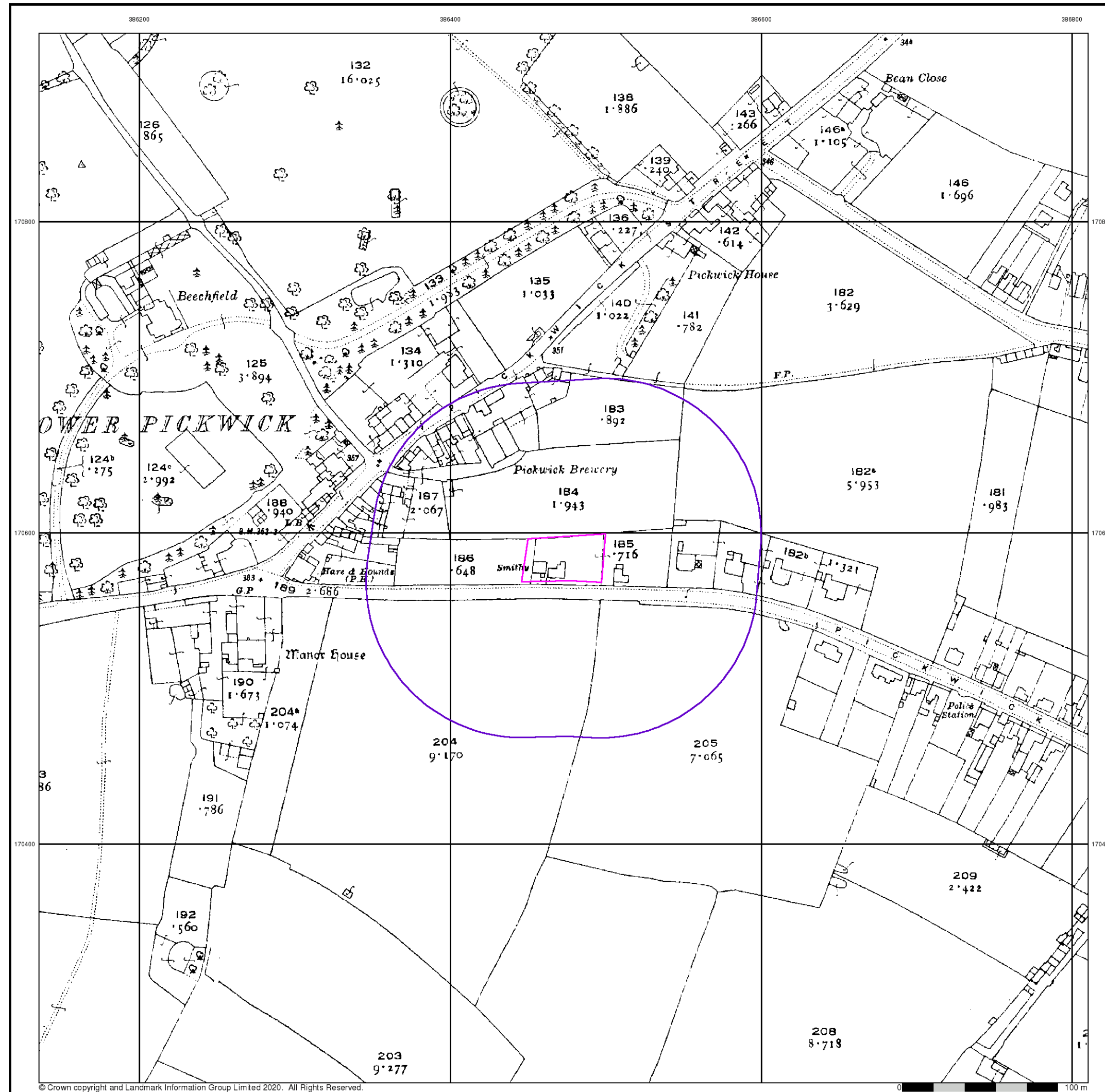
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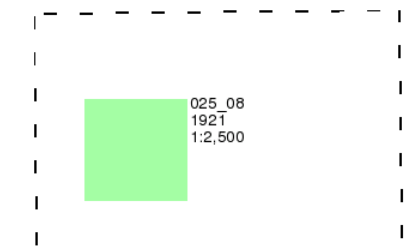
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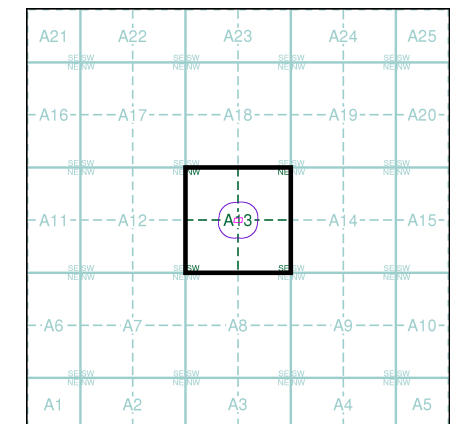
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Map Name(s) and Date(s)



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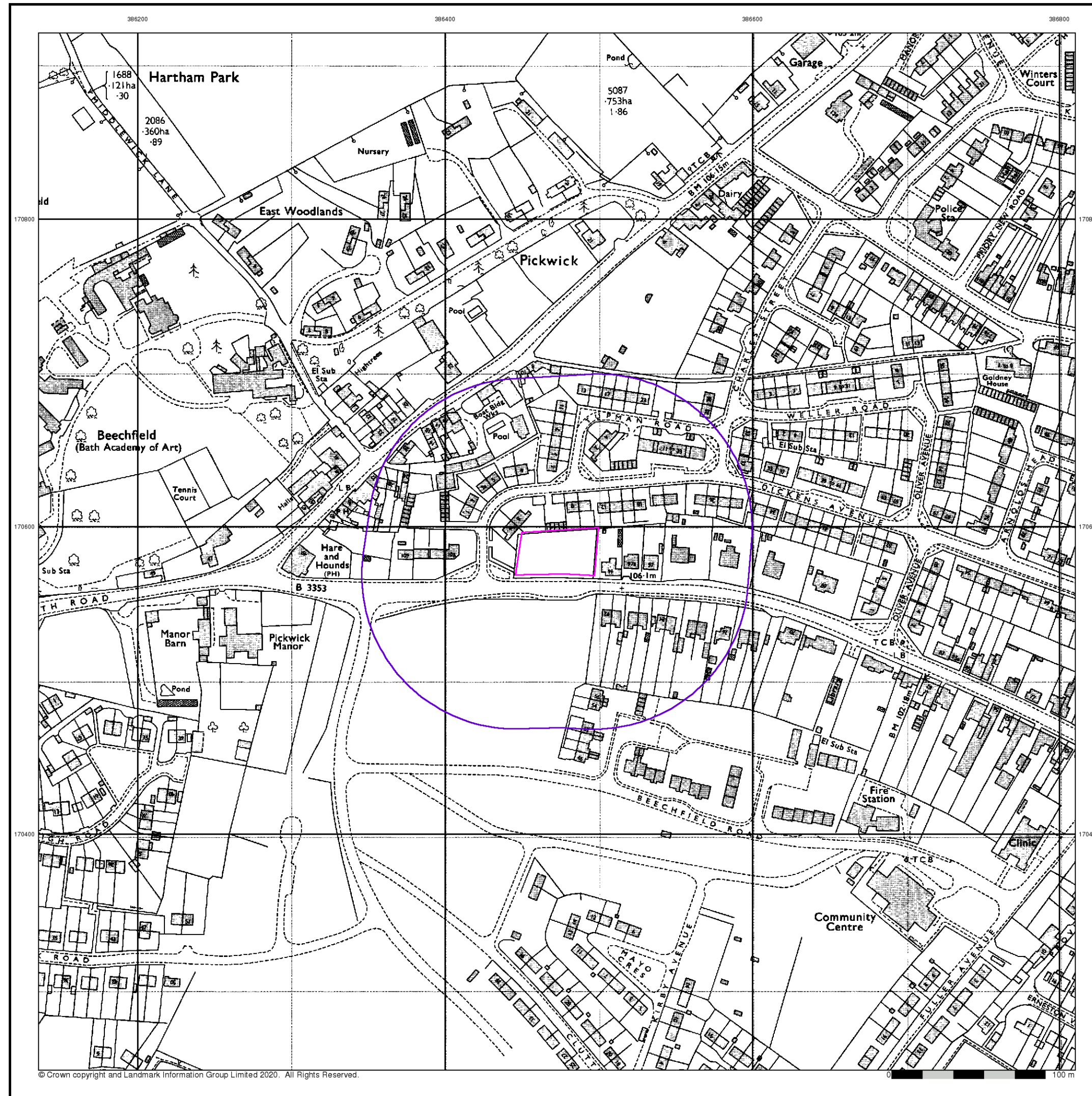
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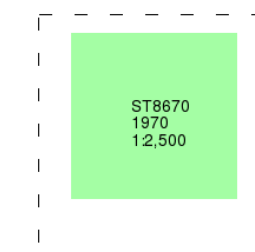
Ordnance Survey Plan

Published 1970

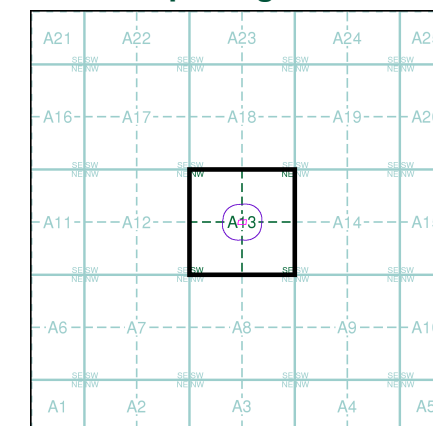
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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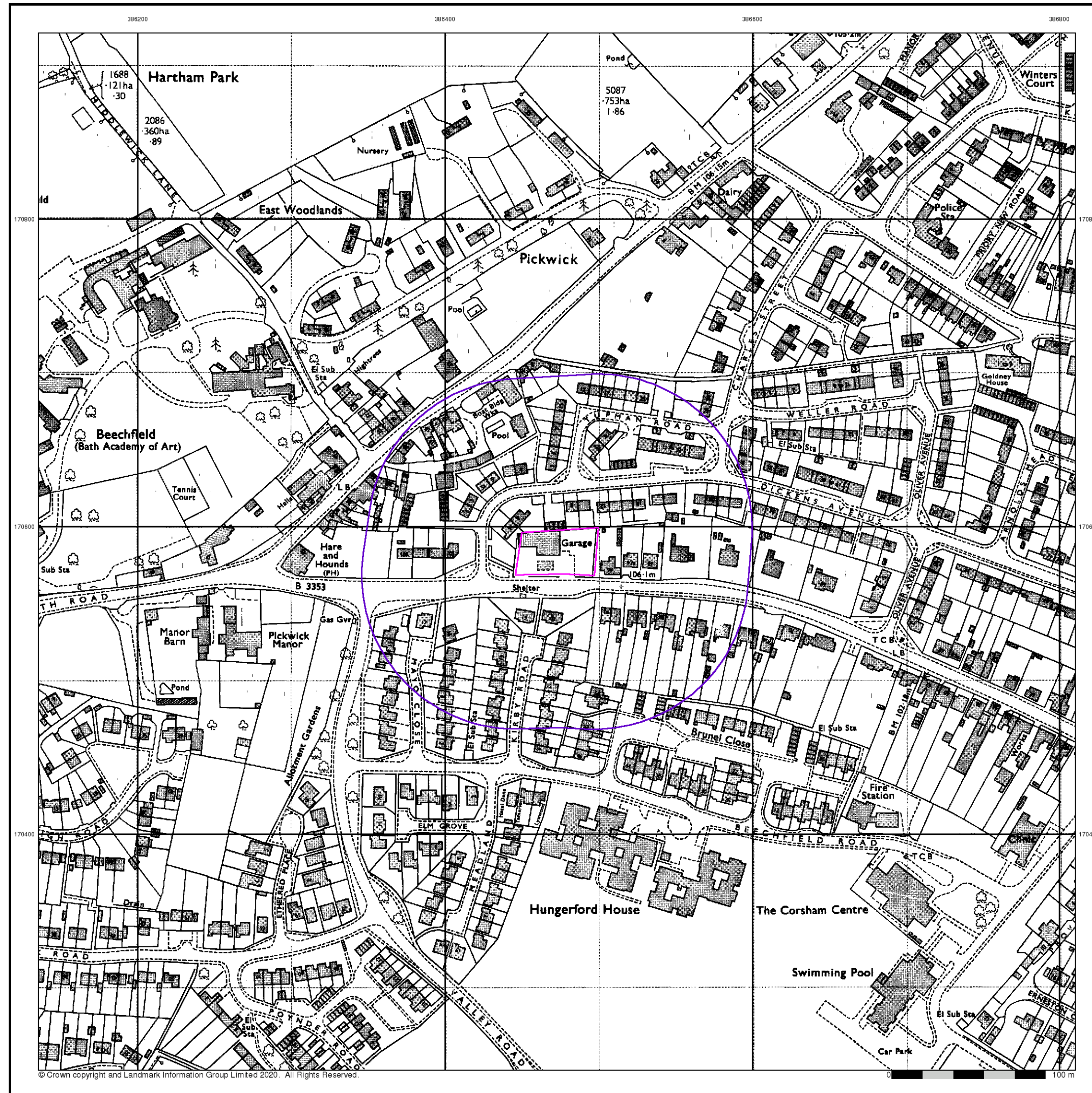
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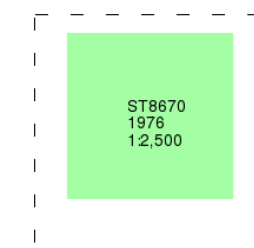
Ordnance Survey Plan

Published 1976

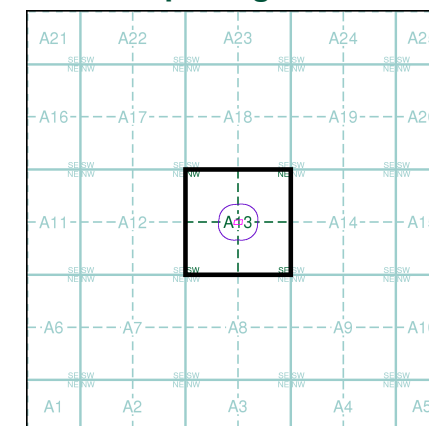
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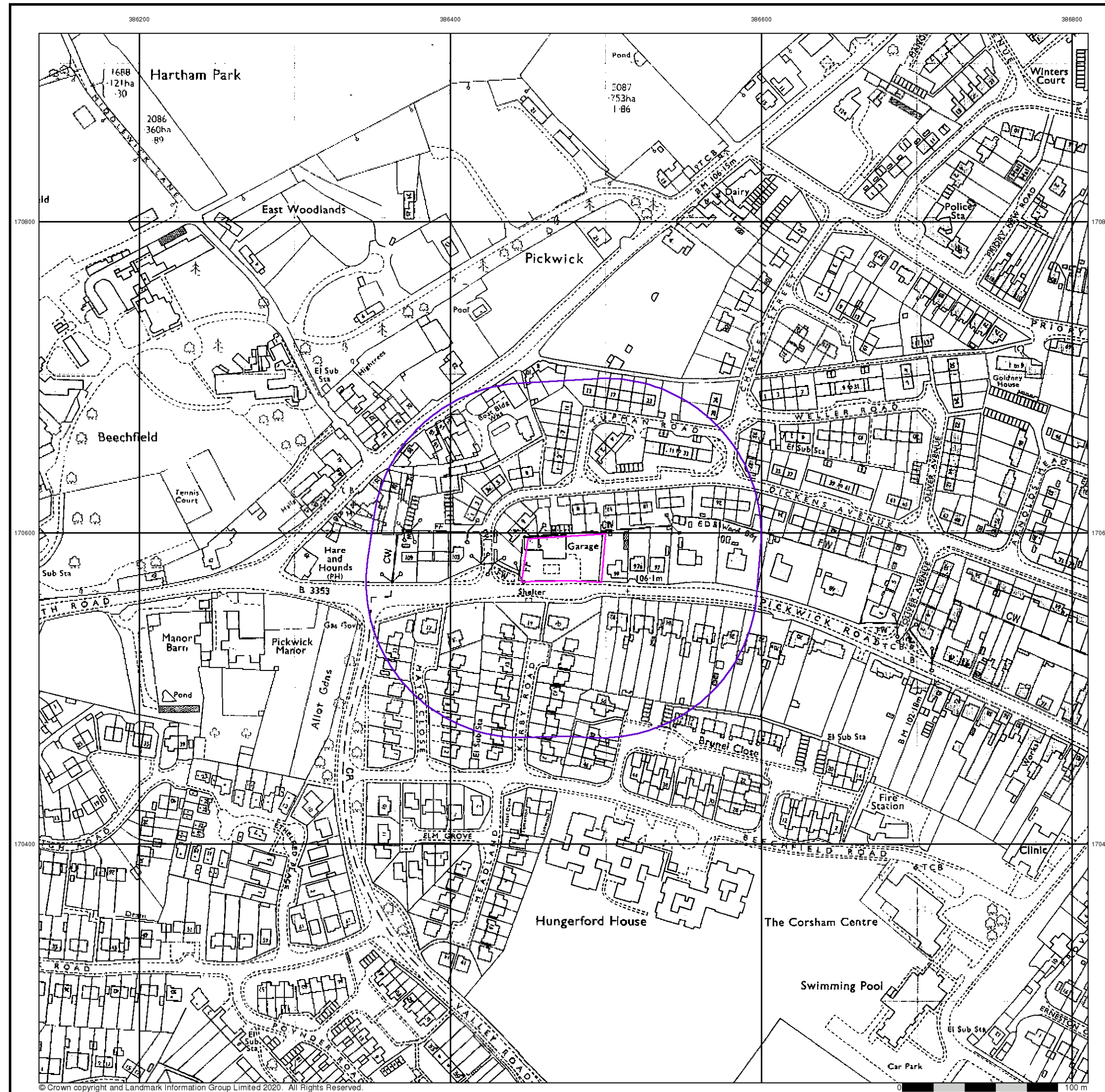
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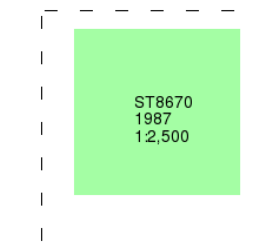
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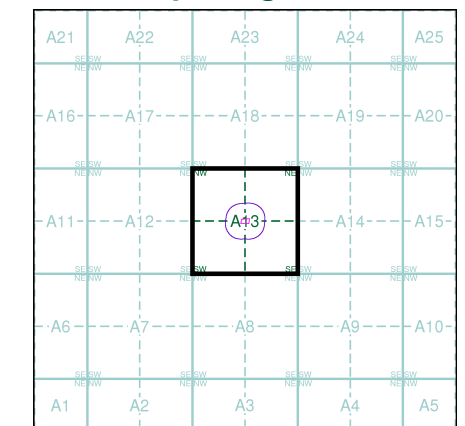
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The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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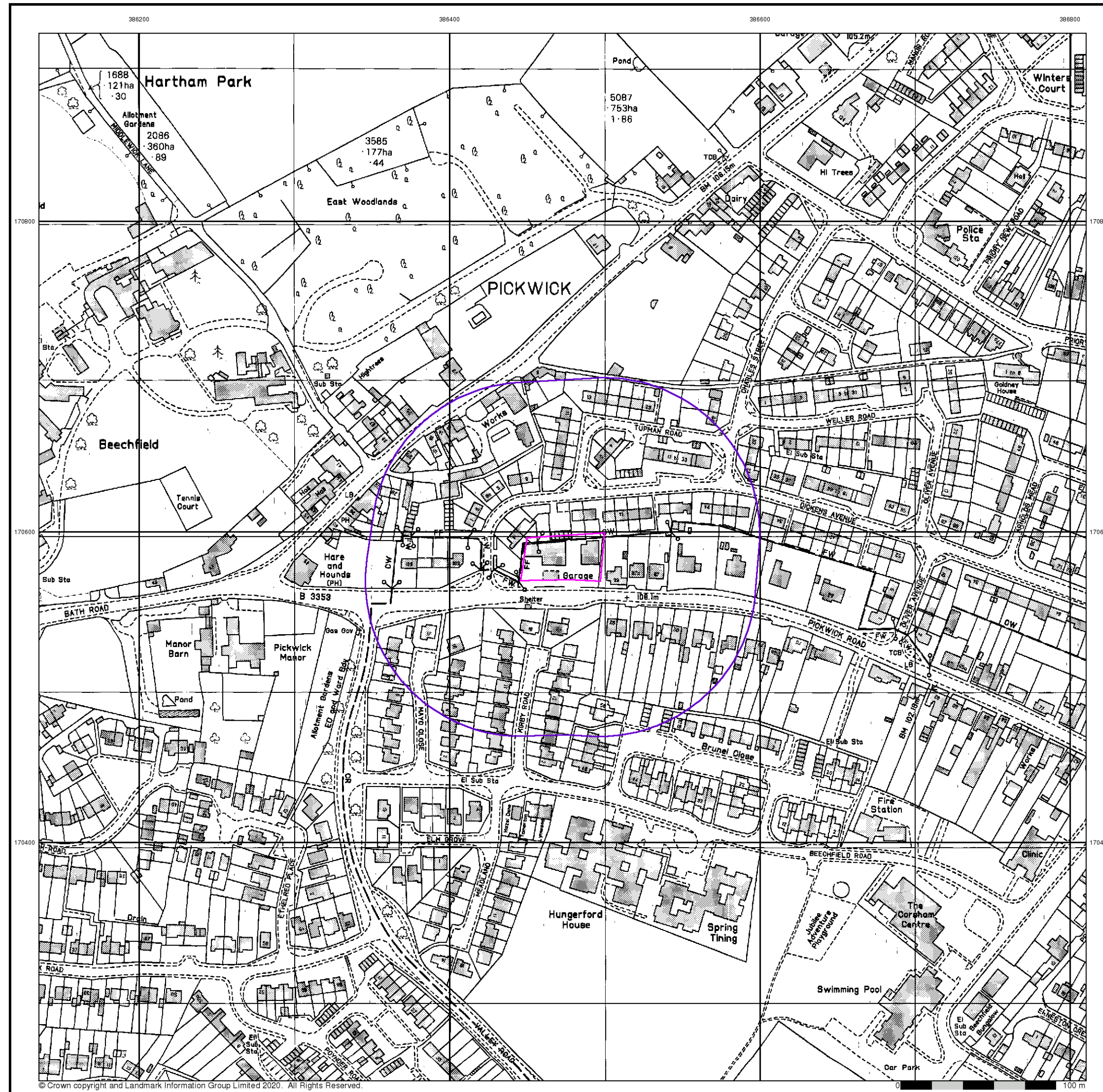
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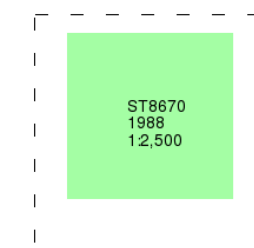
Ordnance Survey Plan

Published 1988

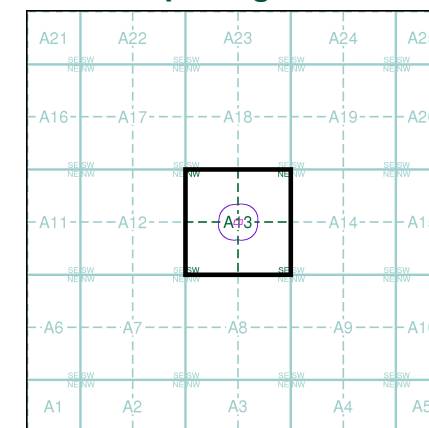
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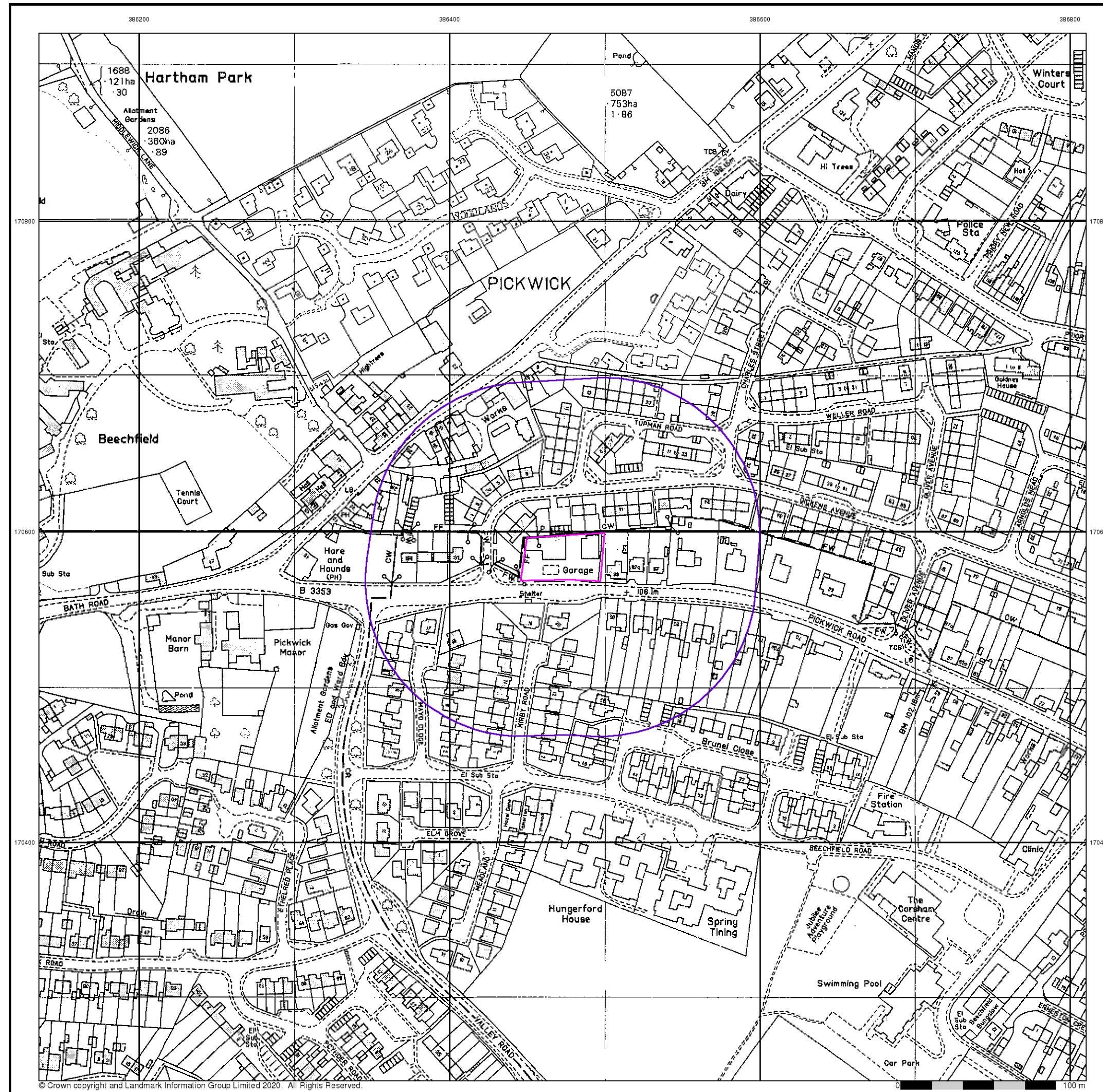
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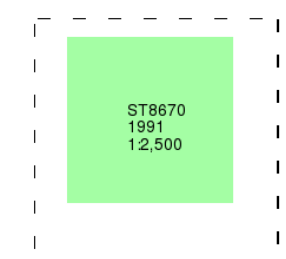
Additional SIMs

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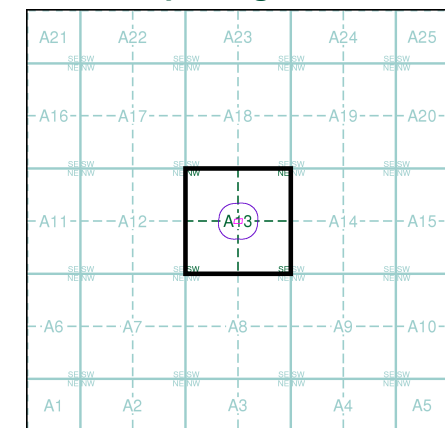
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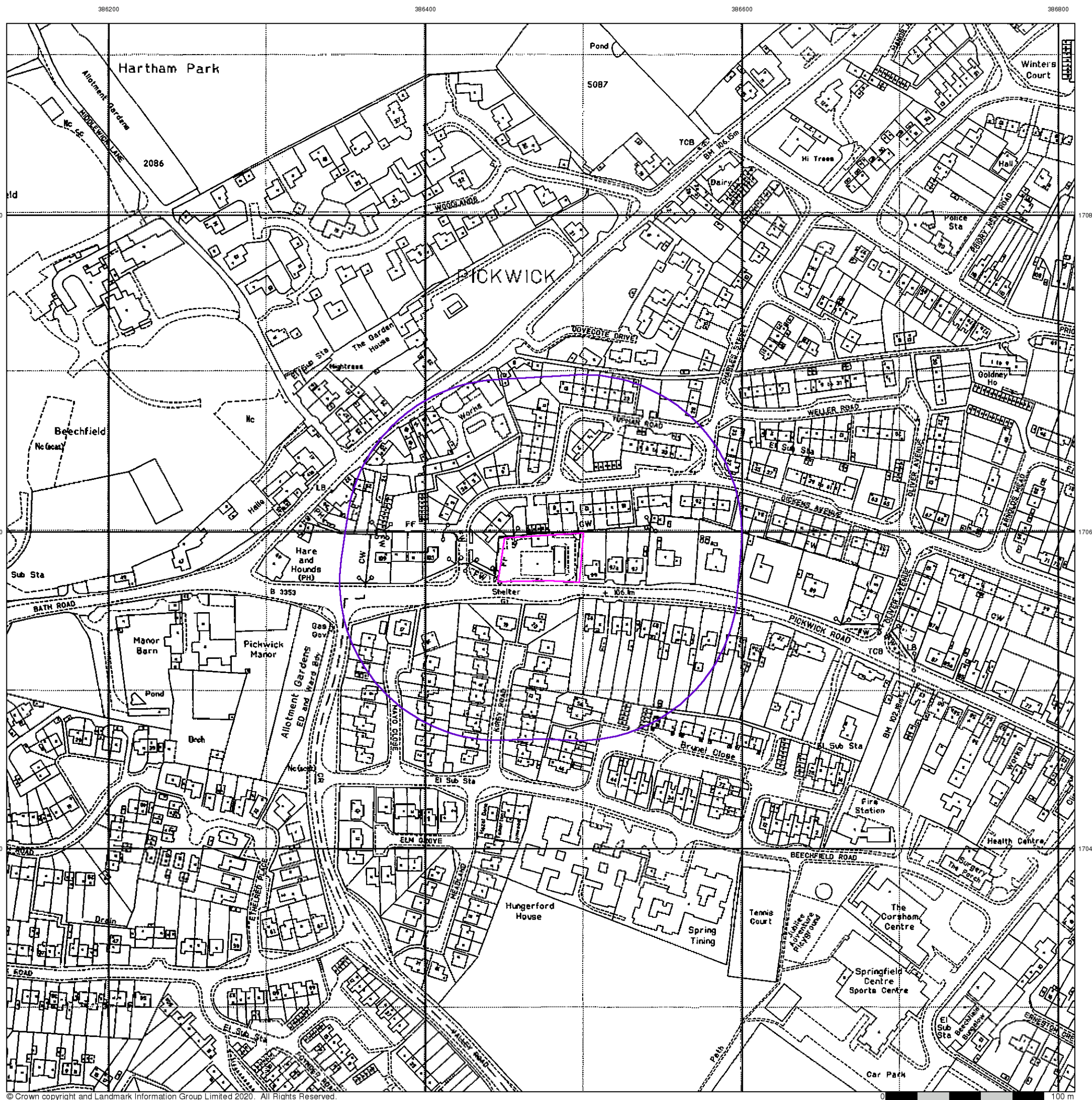
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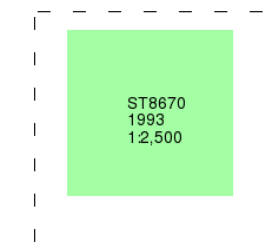
Large-Scale National Grid Data

Published 1993

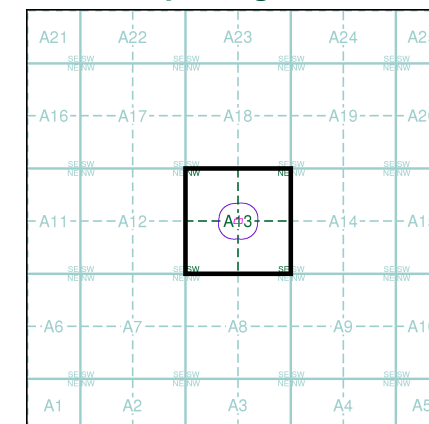
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



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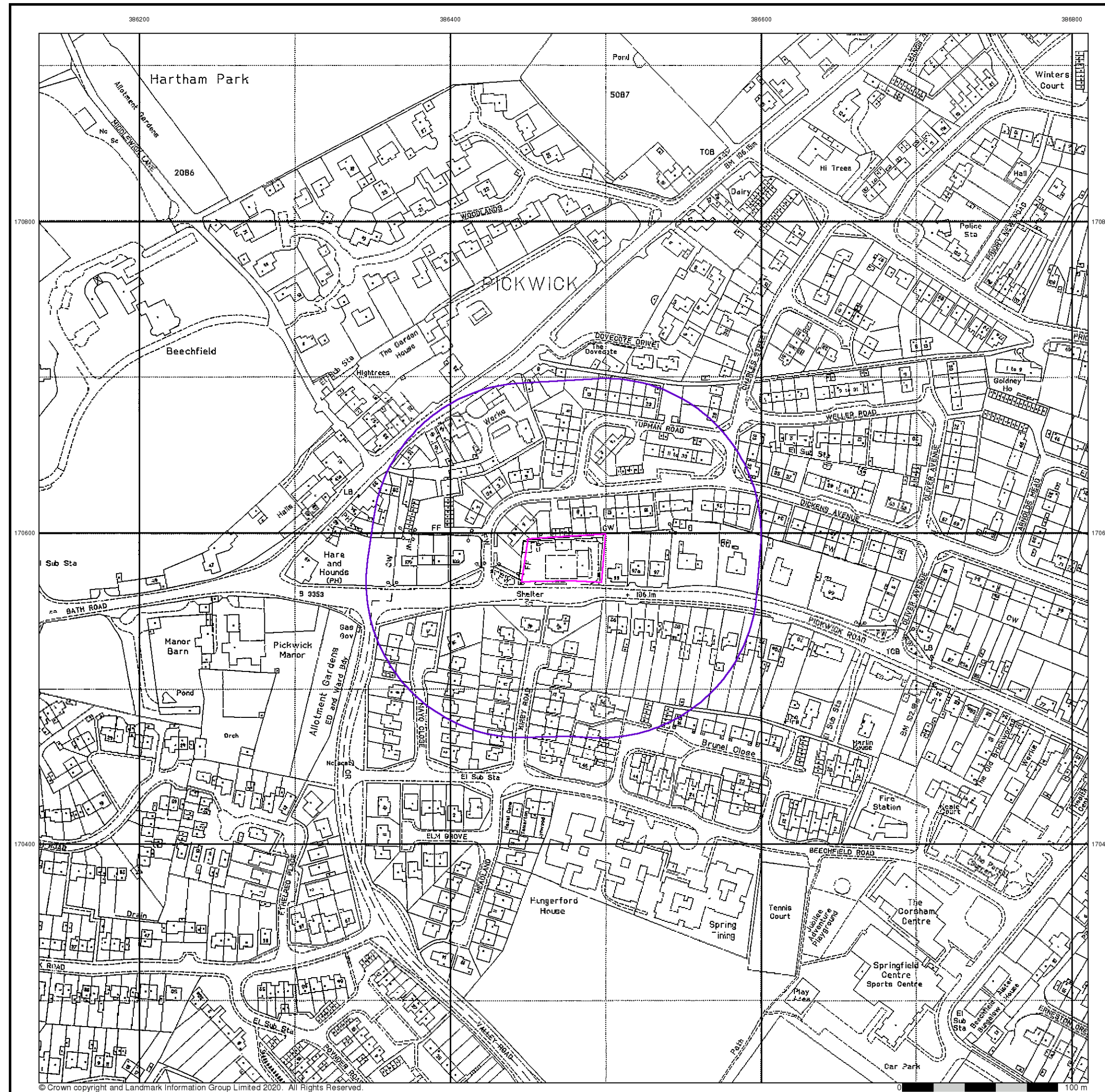
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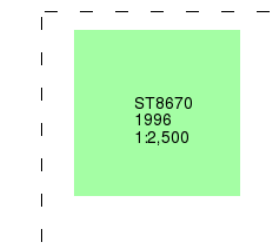
Large-Scale National Grid Data

Published 1996

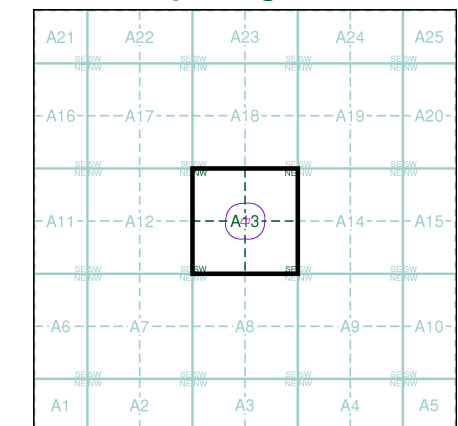
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Historical Map - Segment A13



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Slice: A
Site Area (Ha): 0.15
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Site Details

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Petrol Pickwick, Corsham

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

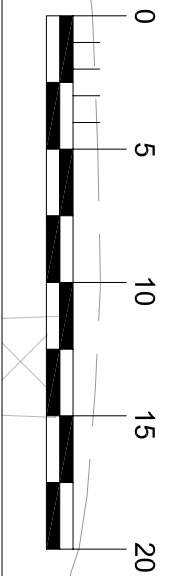
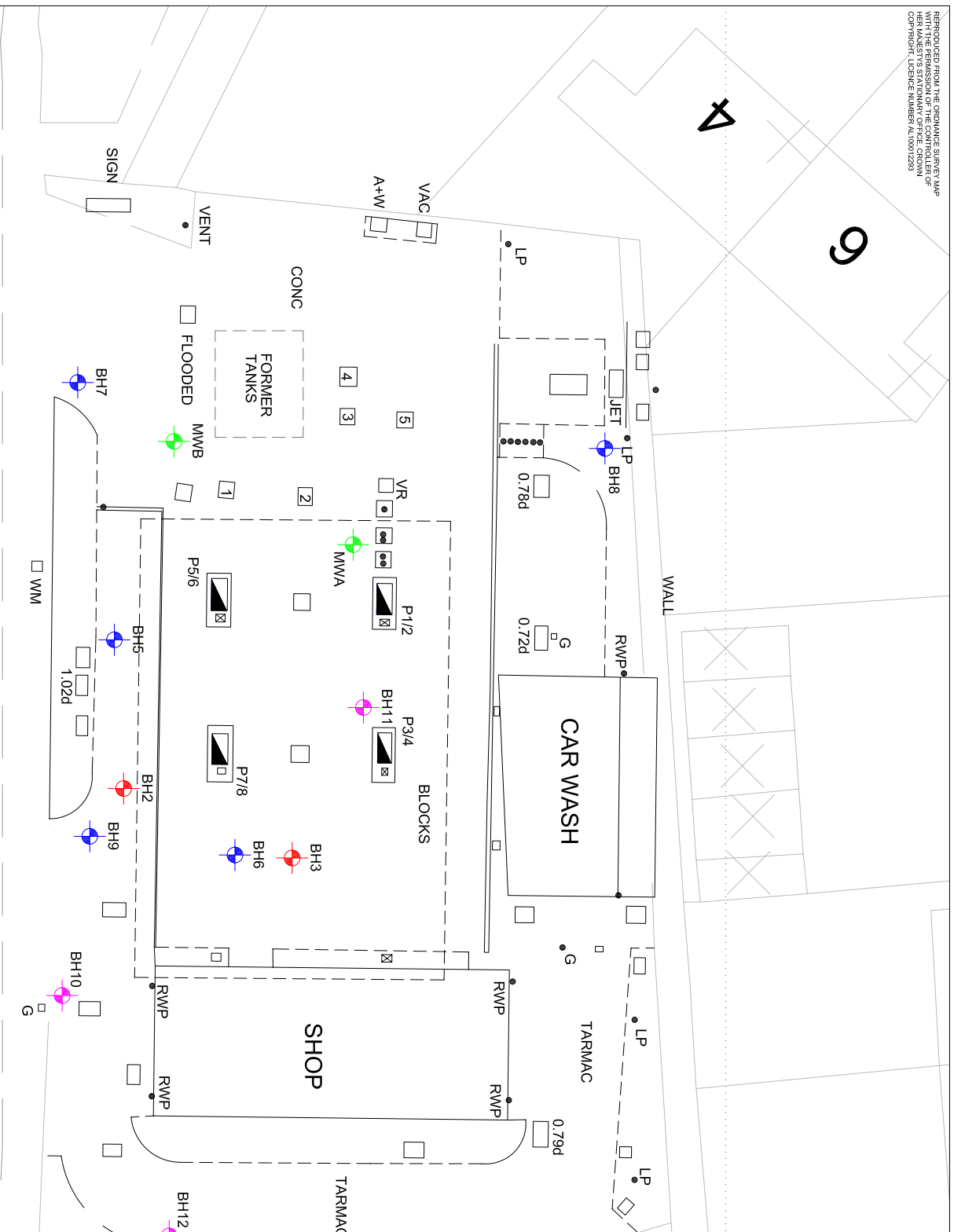
13 Triangle Business Park, Wendover Road
Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT THREE:
SITE PLAN SHOWING HISTORICAL MONITORING WELL LOCATIONS**

Client: The Co-operative Group Ltd

Report	CP20210 CL 001
Date	March 2020
Page	Attachment Three - 1



Petrol Pickwick, Corsham

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Stoke Mandeville, Bucks HP22 5BL

Tel. 01296 739400 Email: consultants@subadra.com

**ATTACHMENT FOUR:
PETROLEUM OFFICER'S REPORT**

Client: The Co-operative Group Ltd

Report

CP20210 CL 001

Date

March 2020

Page

Attachment Four - 1

Records Information Request for Petroleum Officers

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Tel: 01296 739400 Email: consultants@subadra.com

Site Name:	Pickwick Service Station			
Site Location:	101 Pickwick Road Corsham SN13 9DA			
Permission for Release of Information Granted by:				
Date of Search:	29 January 2020			
Note: If there are any fees associated with the search please contact Gill Cameron (camerong@subadra.com / 01296 739406)				
Petroleum Records Questionnaire				
Current Petroleum Installation	When was the site first licensed to store petroleum spirit?	Our only record show 1980		
	Number of operational tanks on record / Details?		grade	capacity
		Tank 1	U/L	29100
		Tank 2	Super Diesel	9600
		Tank 3	Diesel	15300
		Tank 4	Super U/L	13500
		Tank 5	Diesel	29100
	Age of operational tanks?	Only record states 1980		

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Registered Office 13 Triangle Business Park, Stoke Mandeville, HP22 5BL

Records Information Request for Petroleum Officers

SUBADRA

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Tel: 01296 739400 Email: consultants@subadra.com

	Construction details of operational tanks? double / single skin, steel / GRP etc)	Record shows double skin monitored
	Construction details of fuel lines? (double / single skin, steel / GRP etc)	New pipework detailed on attached drawings
	Have the tanks or lines been pressure tested in the last 5 years?	2020
	What type of wetstock gauge /system does the site operate?	Third party monitoring
	What type of vapour recovery system is present?	Stage 2

Records Information Request for
Petroleum Officers

Records Information Request for Petroleum Officers

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL
Tel: 01296 739400 Email: consultants@subadra.com

Petroleum Records Questionnaire (continued)

Other Information	When was the site last redeveloped (i.e. new tanks/lines etc?)	One record shows 1980 and 2020 see drawings
	To the best of your knowledge are there any old / decommissioned tanks present at the site? Please provide details (number, location, construction details, decommissioning detail)	Records show 5 tanks all in use
	Are historical site plans available? Please provide plans if possible - or advise if plans are available for viewing	See attached drawings
	Is there any information regarding reported fuel leaks or spillages at the site? If yes, please provide details i.e. volume lost, fuel type, cause, actions taken etc	Our records go back to 1995 with no leaks or spillages being recorded

Records Information Request for
Petroleum Officers

**Records Information Request
for Petroleum Officers**

SUBADRA

Environmental - Geotechnical - Laboratory - Foundations

13 Triangle Business Park, Stoke Mandeville, HP22 5BL
Tel: 01296 739400 Email: consultants@subadra.com

Is there any information
relating to previous site
investigation and/or
remediation works

See attached drawings and information works carried out
2019/2020

Pump replacement summary as below and as formal PO
application 23.10.2019 letter and enclosures

4No. Sk700 II 8 hose Pumps to be installed to existing
islands with all grades to all pumps with minor pipework 'T'
off existing lines Existing 4No. 4 hose pumps to be
removed Existing cabling specification to pumps to be
reviewed / upgraded to suit Doms to be upgraded as
necessary Existing gauge to be replaced with a new
TLS450 Grade changes required to tank 2,3,4 and 5
VR2 pipework adaptations New hoop protection around
existing vents New hoop protection to rear of pumps
Trenching to pipework to be finished in concrete New
ACO channel to be installed to bottom of forecourt for
containment and tarmac area replaced with concrete
DCD and probes replaced

Please return this form to camerong@subadra.com

Records Information Request for
Petroleum Officers

Drainage Plan Key

- SW New Surface Water Drainage
- SW Existing Surface Water Drainage
- BSW New Brown Surface Water Drainage
- BSW Existing Brown Surface Water Drainage
- FW New below Foul Water Drainage
- FW Existing Foul Water Drainage
- COMB New Combined Water Drainage

Services Plan Key

- E 100mm dia electric duct
- 100mm dia data duct
- Water duct
- Earth duct

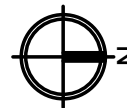
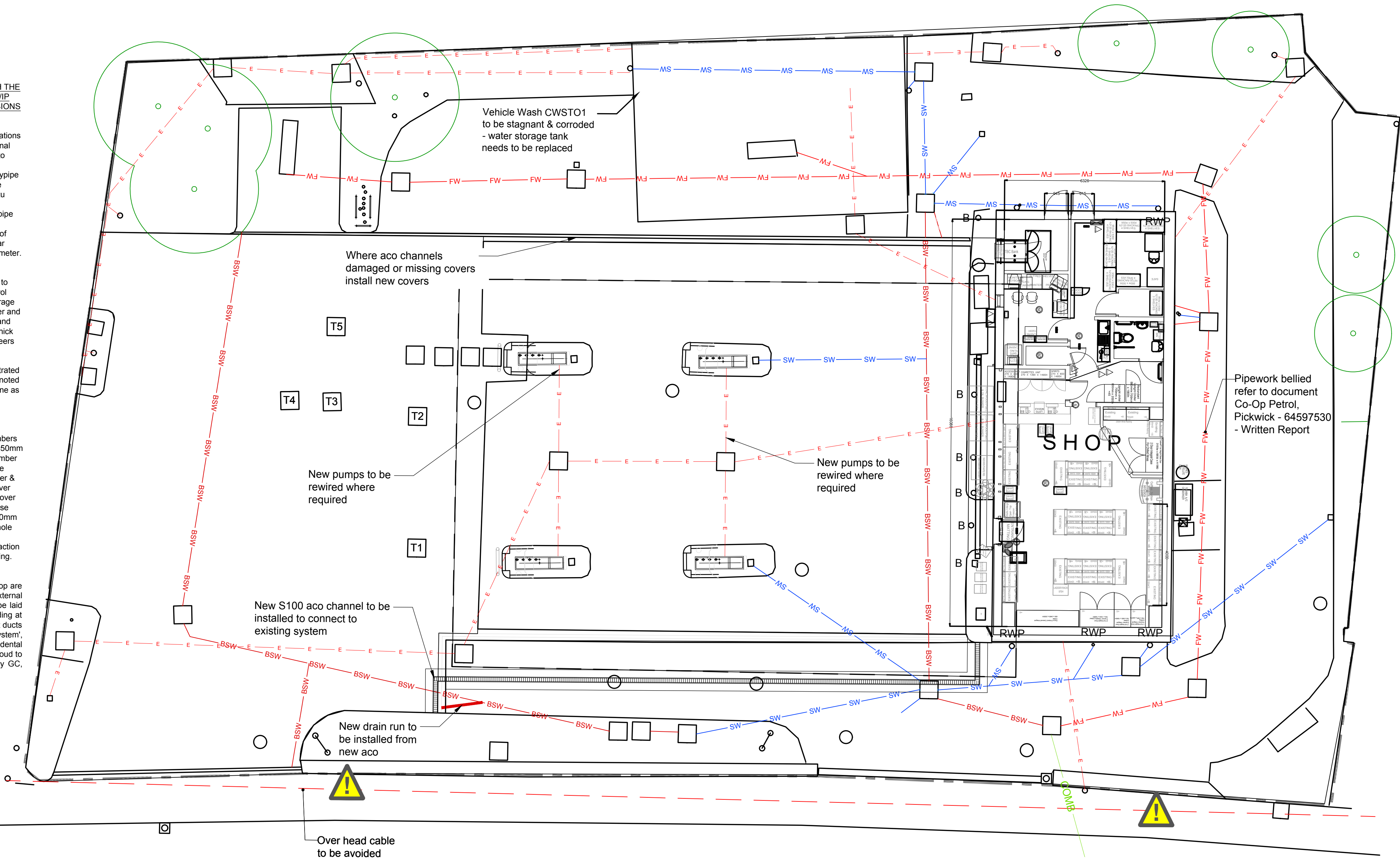
ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE LOCAL LICENSING AUTHORITY AND ALL CURRENT APEA/PP BLUE BOOK DOCUMENTATION AND SUBSEQUENT REVISIONS

DRAINAGE
All drainage is to be in accordance with current Building Regulations and to the satisfaction of the Local Building Control including final inspection and testing. Upon hand over General Contractor is to arrange and carry out CCTV survey of all new drainage with duplicate copies to Supervising Officer. Pipework to be an Polypropylene Solid wall straight lengths (not flexible) PVC-U drain with Nitrile rubber gaskets to BSW. All drainage to have 100mm thick insitu concrete saddle protection where drain inverts are less than 1200mm, including 18mm fibreboard movement joint to every pipe joint it is recommended that 3.0m pipe lengths are used where concrete encasement is required. Pipes with inverts in excess of 1200mm to be bedded and encased in 150mm of 8mm granular material. All drainage to be sized as noted and are internal diameter.

PETROL INTERCEPTOR
Only tanker standing & forecourt dispensing surface areas are to have their surface water passed through the Brown Water Petrol Interceptor, a Klargestor Forecourt Interceptor 10,000 Litre storage capacity class 1 petrol interceptor with float and coalescing filter and alarm as manufacturers details. Interceptor alarm to be wired and located within Shop Building. PI tank to be sited on a 350mm thick sulphate resistant situ concrete C40 base, reinforced as engineers details. Unit to be encased in min 150mm thick concrete with progressively charged with water as encasement proceeds. Interceptor to have 100mmØ MDPE vent pipe installed as illustrated with a grey stand alone vent pipe, min 2.4m high. It should be noted that the petrol interceptor vent has a 1m Zone 1 Hazardous zone as denoted in the 'Blue Book'

DRAINAGE INSPECTION CHAMBERS (MH)
All Manholes to be constructed as noted or as specified: Chambers where cover to invert is 0-1200mm, base to comprise of min. 150mm thick grade C30P concrete base to take 460mmØ PVC-U Chamber by Polypropylene or similar approved & 600Ø Ductile Iron D400 to be painted black upon completion (In trafficked areas) access cover & frame encased in min. 150mm thick grade C20P concrete. (cover single sealed for SW and double sealed for FW) All chambers over 1200mm in depth are to be formed off 150mm situ concrete base with 1050mmØ spun concrete ring manhole chambers with 150mm grade 30 concrete encasement. Step irons incorporated. Manhole covers and frames to suit locations. All drainage is to be in accordance with current Building Regulations and to the satisfaction of the Local Building Control including final inspection and testing.

SITE ELECTRICS
The existing electrical ducts feeding the forecourt from the shop are to be used and new runs taken and terminated in a external shuttered pit adjacent to the MBC (where possible ducts to be laid with falls away from building). All cables are to enter the building at a high level (min 1M above ground level). Both the entry & exit ducts are to be sealed with a 'CSD Water & Gas Tight Sealing System', the exposed cables are then to be protected against accidental impact, vandalism or climate degradation with a protective shroud to allow natural ventilation. Shroud to be supplied and fitted by GC, PPC colour to be confirmed. Existing incoming mains power to be retained and protected.



Do not scale from this drawing
All dimensions and levels are to be checked and confirmed on site.
Any discrepancies must be reported immediately.
This drawing is to be read in conjunction with all specialist documents and drawings.
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A1
ORIGINAL
PLOT SIZE

REVISION HISTORY



Site
Co-op Pickwick
101 Pickwick Rd, Corsham
SN13 9DA

Title
Underground Services Plan

Status	PRE-CONSTRUCTION	Drawn	GKD
Checked	MDW	Checked	MDW
Signature 1	Signature 2	Signature 3	Void
Date	11/10/19	Date	11/10/19
Scale	A1	Scale	A1



Design By:
Merlango Limited
7 King Street
King's Lynn, Norfolk
PE30 1ET

Dwg no.
1329-MER-101

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GENERAL NOTES

ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE LOCAL LICENSING AUTHORITY AND ALL CURRENT APEA/IP BLUE BOOK DOCUMENTATION AND SUBSEQUENT REVISIONS

This drawing is to be read in conjunction with all other relevant site drawings and details to identify any relevant and affected service runs.

EXISTING TANK FARM TO BE REUSED WITH GRADE CHANGES TO TANKS 2, 3, 4, AND 5.

PIPEWORK (OSF, VENTS, SUCTION LINES)

All below ground pipework to be fully supplied and installed by Pipework Contractor including testing and certification. All pipes sized as noted and encased by General Contractor in Min. 150mm pea gravel wrapped fully in terram to prevent migration. ALL encasement to be witnessed and recorded by Pipework Contractor. Pipework to be specified by approved pipework contractor

PUMP EQUIPMENT (3 phase equipment)

Existing pumps are to be made safe, uplifted and removed from site for use elsewhere. Refurbished pumps to comprise of the following:

- 4No. NEW GILBARCO SK700 II 4 HOSE PUMP

Principle Contractor is to allow for new pump cradles.

TESTING & CERTIFICATION

During and upon completion of the project written confirmation and certification where applicable is to be provided to the Project Manager by the contractor.

Upon completion of pipework installation, Contractor to contact Architect to organise As Built site meeting prior to backfilling.

Pressure testing of all fuel pipework including, vents and fills in accordance with standard test procedures to the satisfaction of the Local Licensing Authority and Project Manager & leave under pressure until completion or second line test to be completed following laying of the surfacing.

Both Stage I and II vapour recovery system should be leak tested to the satisfaction of the local Environmental Health Department.

The contractor is to ensure that all materials used including pipefittings, jointing compounds etc. have been inspected and are sound and free from defect. The entire fuel installation system is free from debris and particulate and all traces of water are removed and certified as such.

Systems, tank and lines have been correctly identified and marked and dimensioned on a 'As Built' drawing together with relevant photographs are produced on completion of the installation. These are to be passed to the Project manager and included in the Site File.

Tank leak & pipework monitoring system is to be tested to ensure fully operational on completion.

Ensure all drawings, grade labels and tank tag capacities match and that each nozzle has been flushed through with product to verify that the correct grade is being discharged from the correct tank. Confirm product has been tested.

TANK GAUGES

Existing DCD box DIS50 to be upgraded to DIS500

Existing DOMS to be modified for new pumps.

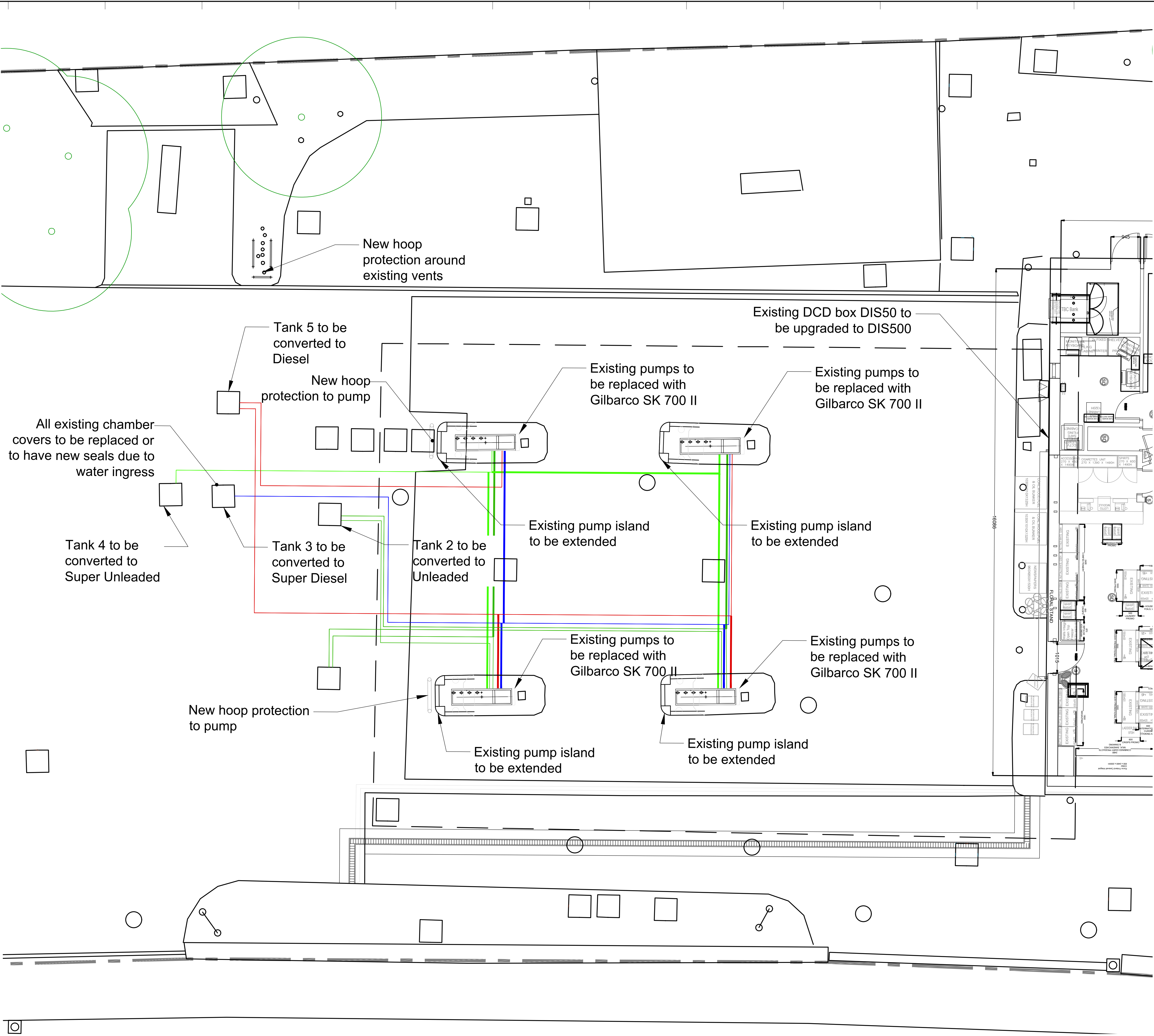
EXISTING TANK TO PUMP SCHEDULE							
Tank No.	Fuel Grade	Maximum Capacity (Litres)	Working Capacity (Litres) - 95%	Pumps Served			
				1/2	3/4	5/6	7/8
Tank No. 1	Unleaded	30,000	28,500				
Tank No. 2	Diesel	10,000	9,500				
Tank No. 3	Diesel	14,000	13,300				
Tank No. 4	Unleaded	14,000	13,300				
Tank No. 5	Unleaded	28,000	26,600				

PROPOSED TANK TO PUMP SCHEDULE							
Tank No.	Fuel Grade	Maximum Capacity (Litres)	Working Capacity (Litres) - 95%	Pumps Served			
				1/2	3/4	5/6	7/8
Tank No. 1	Unleaded	30,000	28,500				
Tank No. 2	Unleaded	10,000	9,500				
Tank No. 3	Super Diesel	14,000	13,300				
Tank No. 4	Super Unleaded	14,000	13,300				
Tank No. 5	Diesel	28,000	26,600				

PIPEWORK LEGEND

- 63mm dia straight length Unleaded Teed line
- 63mm dia straight length Diesel Teed line
- 63mm dia straight length Super UL Teed line
- 63mm dia straight length Supreme Diesel Teed line

Petroleum Details Plan - 1:50



Do not scale from this drawing.
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Any discrepancies must be reported immediately.
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A1
ORIGINAL
PLOT SIZE

REVISION HISTORY



Site
Co-op Pickwick
101 Pickwick Rd, Corsham
SN13 9DA

Title
TEED PETROLEUM DETAILS
PLAN

Status	PRE-CONSTRUCTION	Drawn	GKD
Checked	MDW	Date	11/10/19
Scale	A1	1:50	

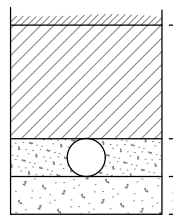
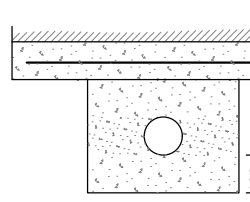
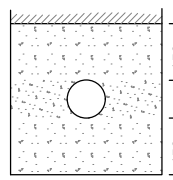


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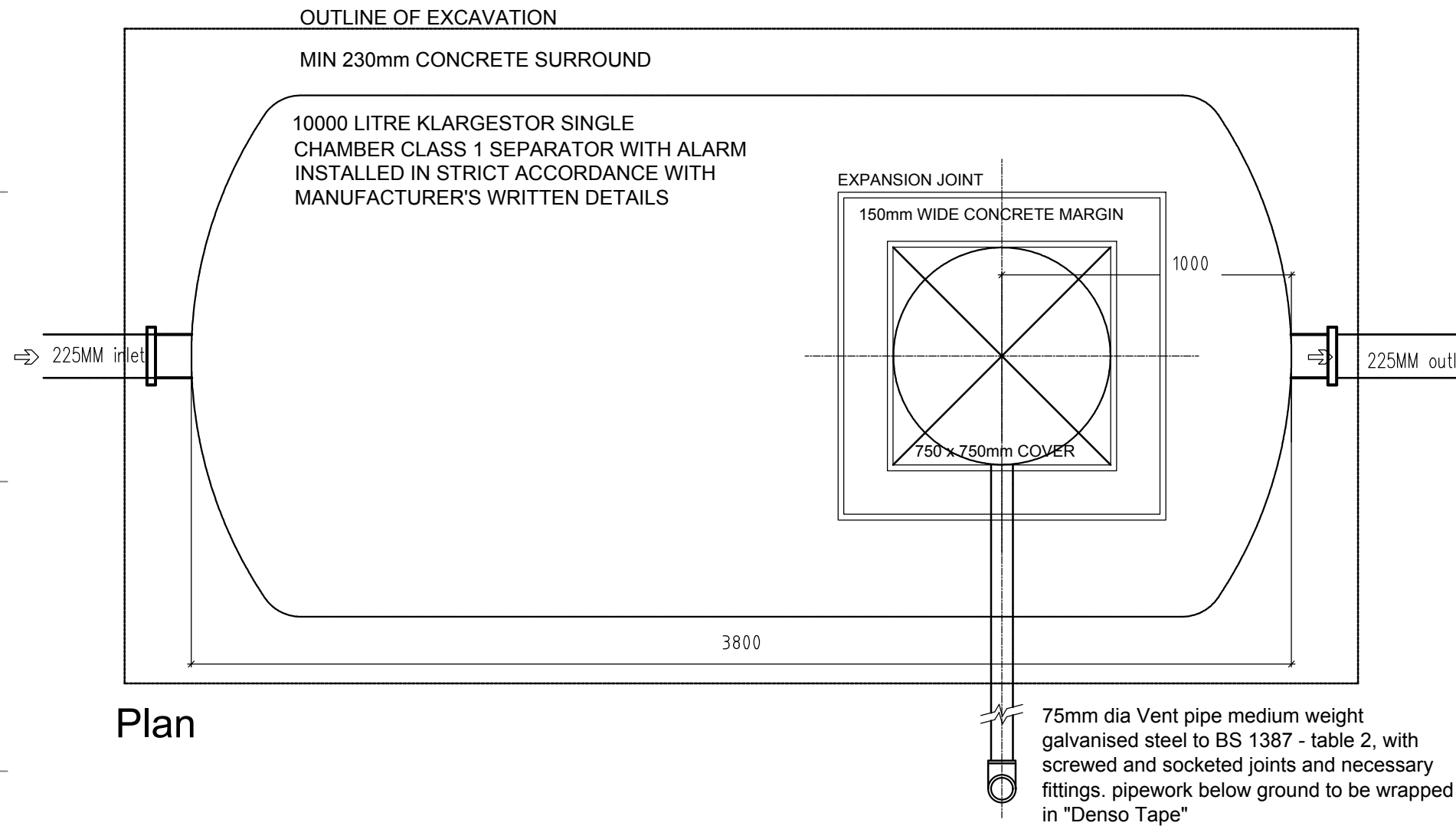
Drainage details

	100mm flexible jointed	150mm flexible jointed	230mm flexible jointed	Notes
	300mm-4200mm under fields and gardens	300mm-4200mm under fields and gardens	300mm-4200mm under fields and gardens	For most conditions
	1200mm-4200mm under roads	1200mm-4200mm under roads	1200mm-4200mm under roads	
Recommended minimum cover under roads and verges is 1200mm, and under fields and gardens 900mm. If circumstances require the pipes to be laid at shallower depths then adequate protection must be provided as detailed below.				
	450mm-1200mm under roads or heavily loaded areas	450mm-1200mm under roads or heavily loaded areas	450mm-1200mm under roads or heavily loaded areas	
	RC slab width 1200mm	RC slab width 1200mm	RC slab width 1200mm	
	Under buildings	Under buildings	Under buildings	

Notes

- Where rock or mixed soil containing rock bands, boulders, large stones or other irregular spots exist, the depth of gravel bed under the pipe is increased to 200mm.
- Trench width stated in the table relate to the width of excavation 300mm above the crown of the pipe and these dimensions must not be exceeded without the permission of the Architect. If the trench widths are exceeded, extra bedding may be required.
- Granular bed - For rock and coarse-grained soils - 10mm nominal broken stone or gravel - single sized aggregate. For fine graded soils, clays, silts or fine sand especially under wet conditions, add the above one part of free draining coarse sand and two parts of stone or gravel and mix thoroughly, or use a free draining oil in mixture of similar particle size.
- Selected fill - Uniform readily compactable material free from tree roots, vegetable matter, building rubbish and frozen soil, and preferably excluding clay lumps above 75mm or stone above 25mm.
- All drainage pipes to be "Hepworth "superSieve" or similar equal approved fully vitrified clayware

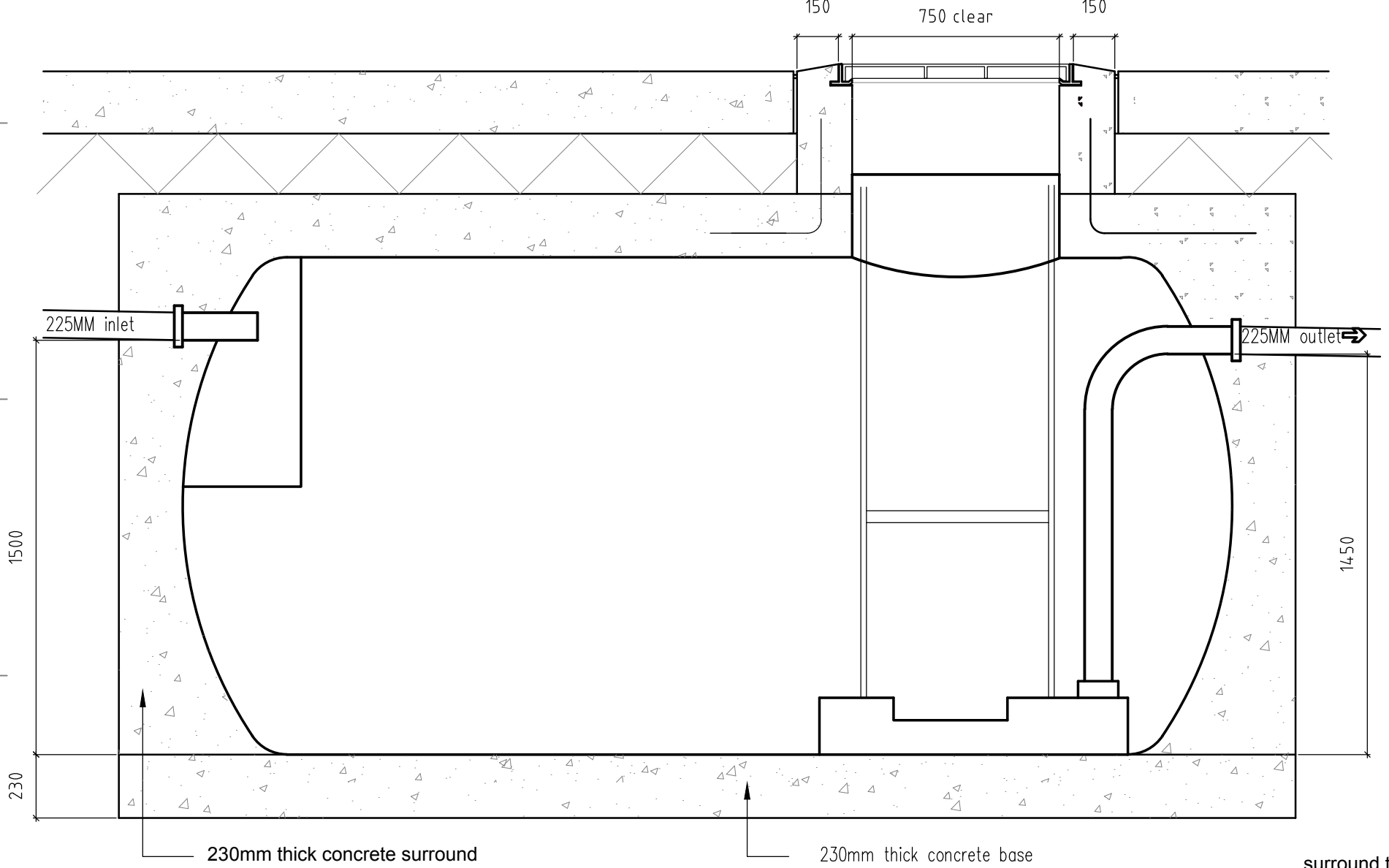
10000 ltr Petrol Interceptor



Plan

drain pipe to be required diameter clayware or similar approved pipe all laid to suitable falls and invert as shown on site drainage drawings.

concrete surround to manhole cover, to have "Flexcell" joint if interceptor positioned in forecourt or path



Longitudinal Section

Manhole details

MINIMUM SIZES FOR DRAINAGE CHAMBERS					
TYPE	DEPTH	INTERNAL SIZES		COVER SIZES	
		L	W	L	W
INSPECTION CHAMBER	LESS THAN 1m	450	450	450	450
	LESS THAN 1.5m	1200	750	1050	600
	1.5m TO 2.7m	1200	750	1200	600
MANHOLE	OVER 2.7m	1200	840	1200	600
	OVER 2.7m	900	840	900	600
SHAFT	OVER 2.7m	900	840	900	600

for actual manhole length allow 300mm per 100mm dia branch pipe & 375mm per 150mm dia branch pipe plus adequate allowance on downstream side side for angle of entry

COVER SIZES:- sizes given are minimum clear opening size

ALL TO BE IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS PART H

MANHOLE COVERS:

450 x 450mm SINGLE SEAL COVER & FRAME
600 x 600mm SINGLE SEAL COVER & FRAME

750 x 750mm SINGLE SEAL COVER & FRAME TO PETROL INTERCEPTOR

COVER & FRAME TO BE PETROL & OIL RESISTANT ENAMEL FINISH AND :-

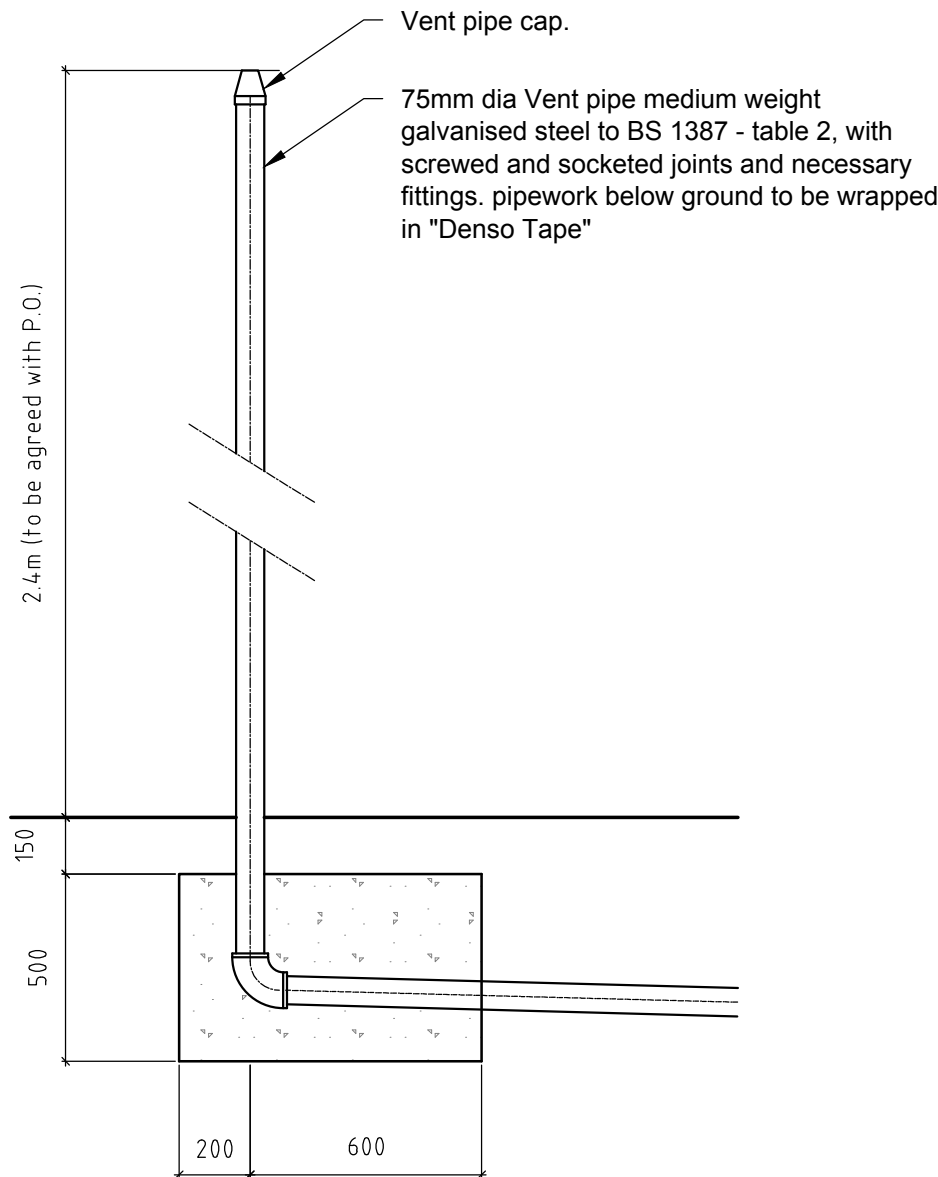
LIGHT DUTY: IN AREAS OF LANDSCAPING

MEDIUM DUTY: IN PATHS AND ISLANDS

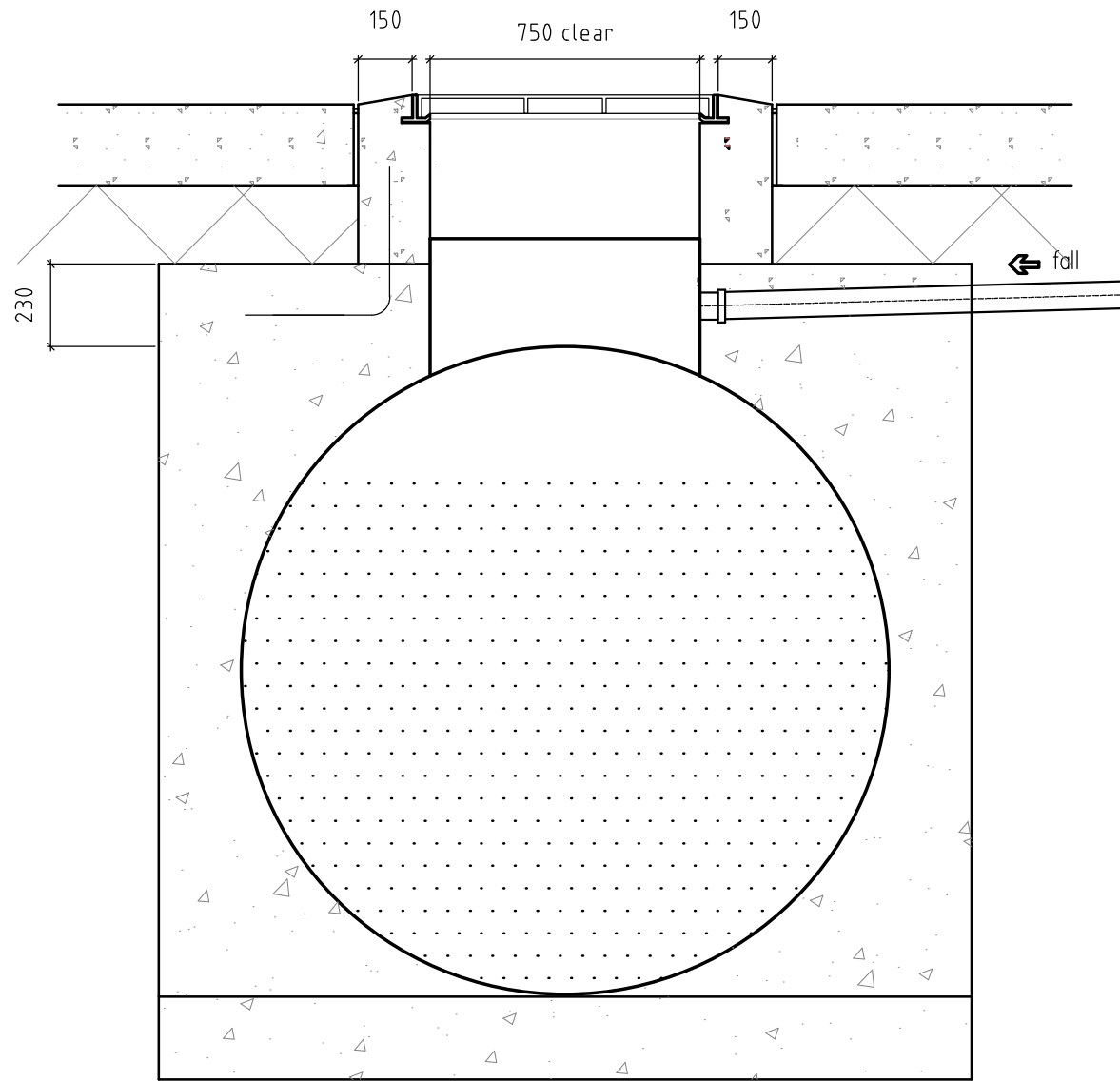
HEAVY DUTY: IN FORECOURT

SIZES GIVEN ARE CLEAR OPENING SIZE.

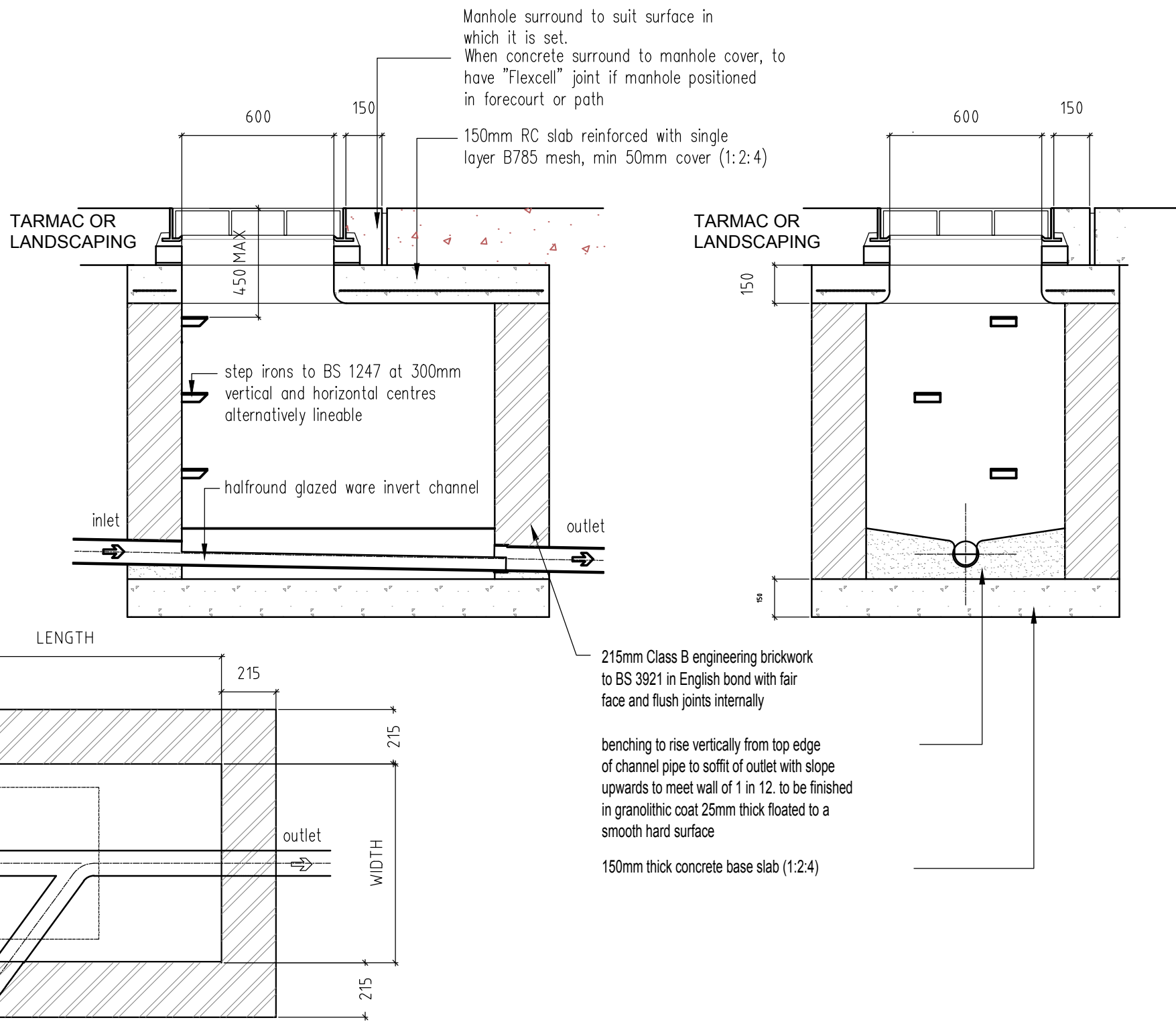
AVAILABLE FROM: GLOBAL MSI PLC
CARR HILL
BALBY
DONCASTER
SOUTH YORKSHIRE
DN4 8DH
TEL: 0302 730202



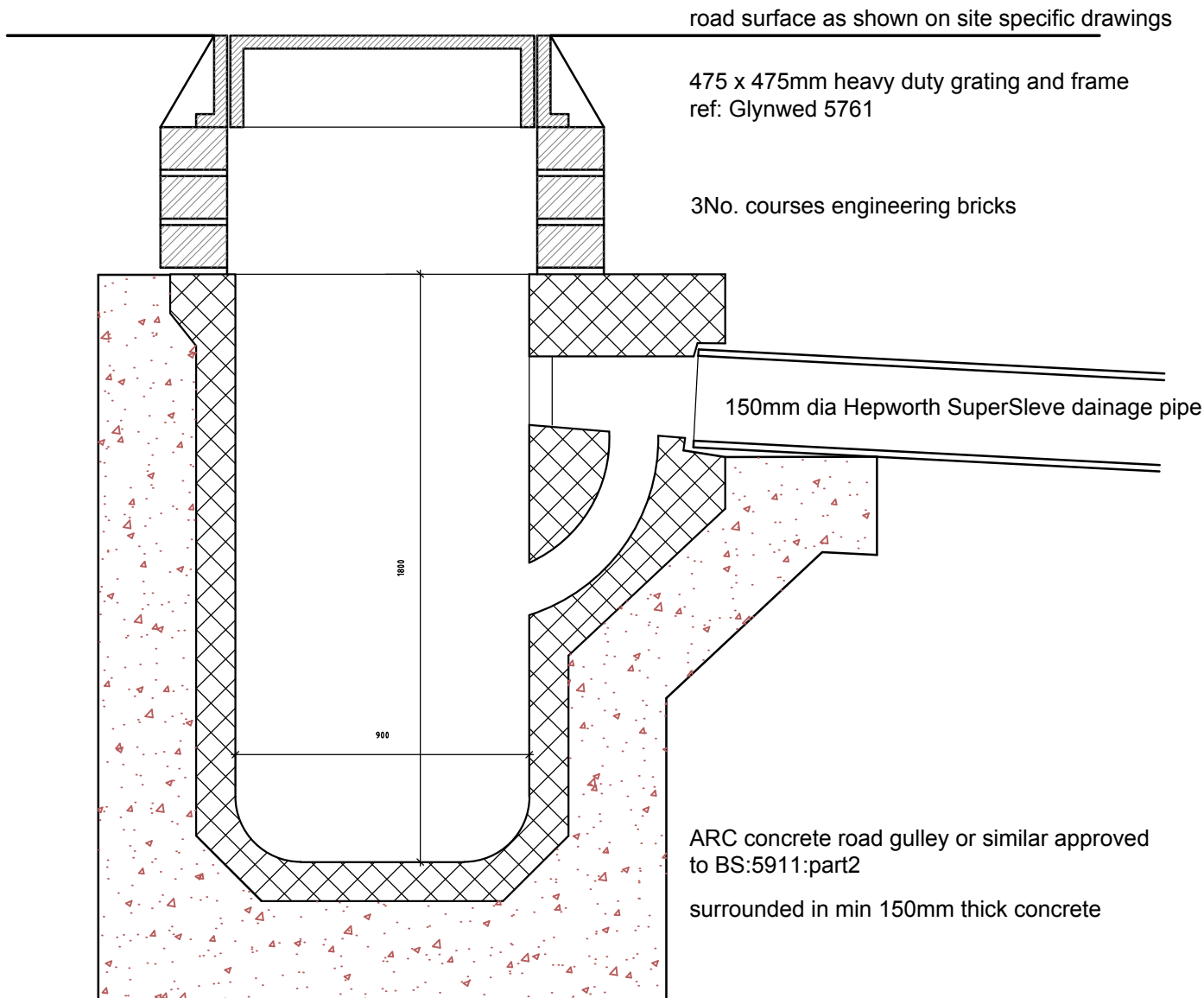
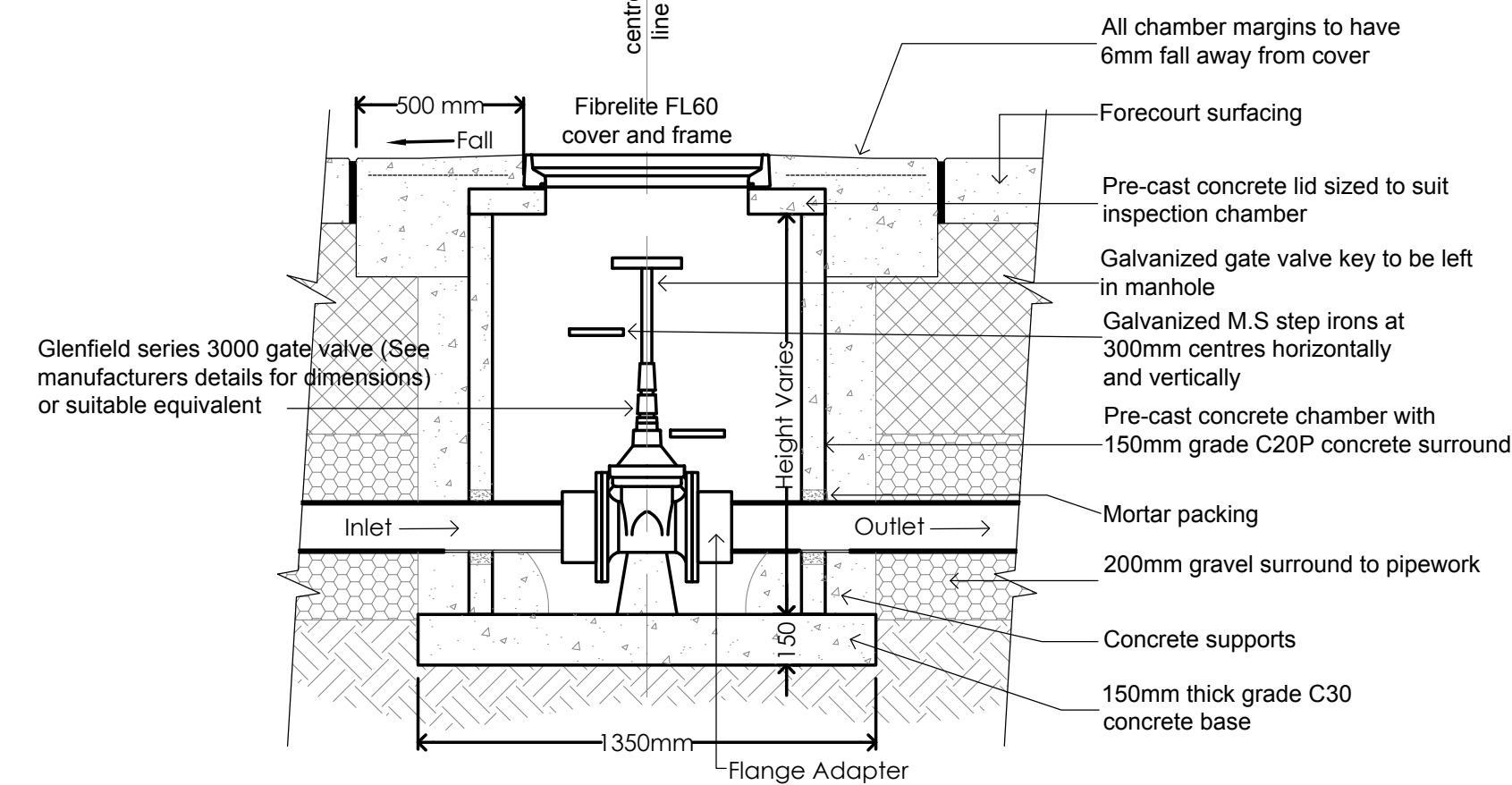
Interceptor vent



Cross Section



Plan



Road gully detail

REVISION HISTORY



Site
Co-op Pickwick
101 Pickwick Rd, Corsham
SN13 9DA

DRAINAGE DETAILS

Status	Drawn	GKD
PRE-CONSTRUCTION	Checked	MDW
Signature 1	Signature 2	Signature 3
Date	11/10/19	Scale(A1)
	1:100	

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1329-MER-142

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STRUCTURAL ENGINEERS

Proposed Drainage Strategy for New Petrol Filling Station & Retail store

At 101 Pickwick Road Corsham.

- APPENDIX C –

Greenfield & Brown Field Run off Rate Calculations

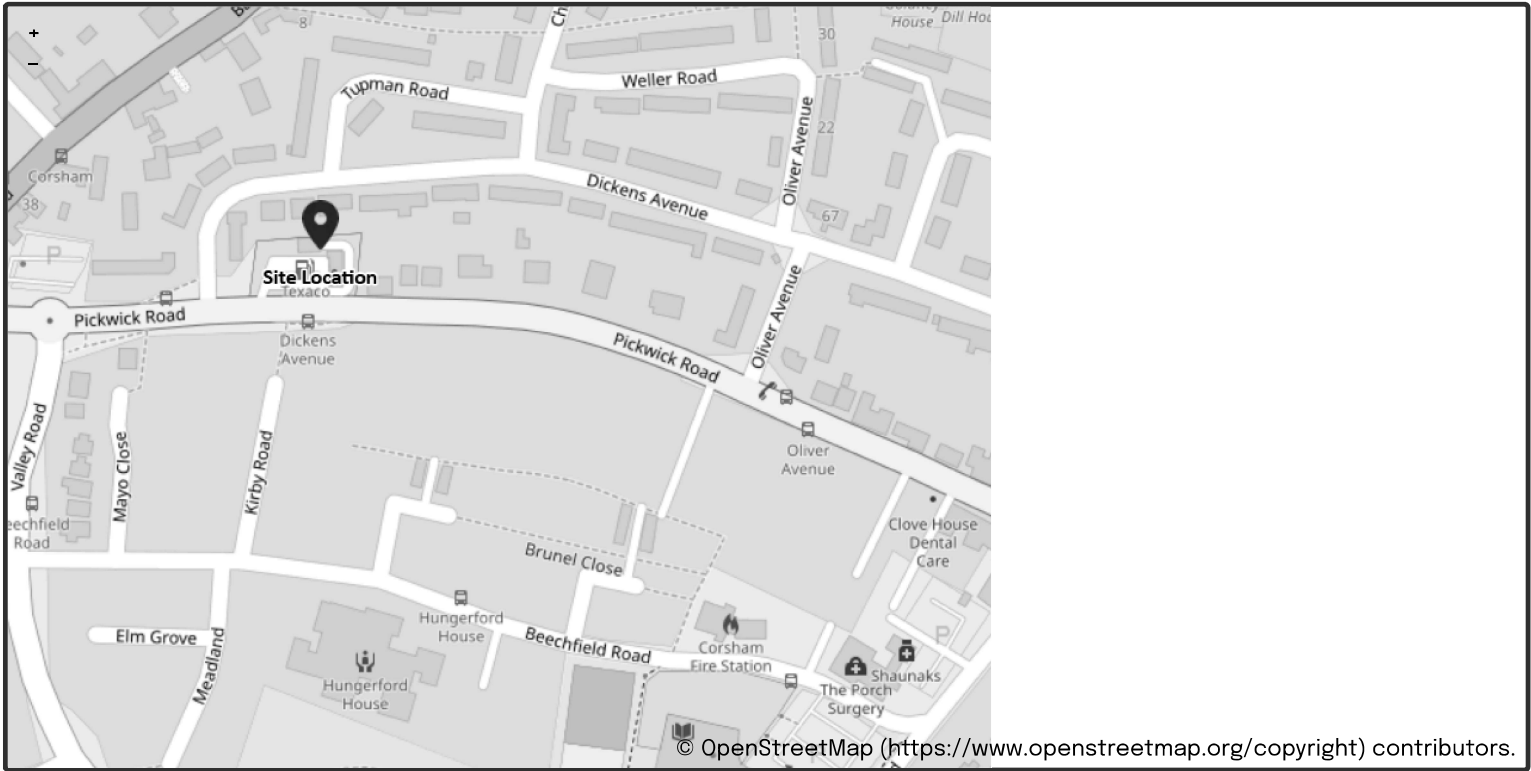
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	30/10/2025
Calculated by	
Reference	
Model version	2.2.1

Location

Site name	Pickwick Road
Site location	Corsham



Site easting (British National Grid)	386481
Site northing (British National Grid)	170581

Site details

Total site area (ha)	0.15	ha
----------------------	-----------------------------------	----

Greenfield runoff

Method

Method	IH124		
IH124			
	<u>My value</u>	☐	<u>Map value</u>
SAAR (mm)	798mm		798
How should SPR be derived?	WRAP soil type		
WRAP soil type	3	☐	3
SPR	0.37		
QBar (IH124) (l/s)	0.5l/s		

Growth curve factors

	<u>My value</u>	☐	<u>Map value</u>
Hydrological region	8		8
1 year growth factor	0.78		
2 year growth factor	0.93		
10 year growth factor	1.49		
30 year growth factor	1.95		
100 year growth factor	2.43		
200 year growth factor	2.78		

Results

Method	IH124
Flow rate 1 year (l/s)	0.4l/s
Flow rate 2 year (l/s)	0.5l/s
Flow rate 10 years (l/s)	0.7l/s
Flow rate 30 years (l/s)	1.0l/s
Flow rate 100 years (l/s)	1.2l/s
Flow rate 200 years (l/s)	1.4l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.1) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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EXISTING BROWNFIELD RUNOFF CALCULATION.

(Using Modified Rational Method, Site Area = 1500 m²)

Site Characteristics

Parameter	Value
Total site area	1500 m ²
Impermeable brownfield area	1214 m ²
Permeable area	286 m ²
Impermeable fraction	1214 / 1500 = 0.809
Permeable fraction	286 / 1500 = 0.191

Runoff Coefficient (C)

To correctly represent the whole brownfield drainage response, use a **weighted runoff coefficient**:

- Impermeable C = **0.90**
- Permeable C (ground / landscaping) = **0.30**

Weighted C calculation

$$C_w = (0.90 \times 0.809) + (0.30 \times 0.191)$$
$$C_w = 0.7281 + 0.0573 = 0.7854$$

Weighted runoff coefficient:

C = 0.79

Conversion of Area to Hectares

$$A = \frac{1500}{10000} = 0.15 \text{ ha}$$

2.6.4. Modified Rational Method Formula

$$Q = 2.78 C i A$$

Where:

- **Q** = peak flow (L/s)
- **C** = runoff coefficient
- **i** = rainfall intensity (mm/hr)
- **A** = area (ha)

Rainfall Intensities for Critical 15-min Duration

These intensities are consistent with FEH/SuDS values for your earlier table (adjusted to 15-min event).

Return Period Rainfall Intensity i (mm/hr)

1-year	74.4 mm/hr
30-year	114.0 mm/hr
100-year	147.2 mm/hr

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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Peak Runoff Calculations

1/1-year event

$$Q_1 = 2.78 \times 0.79 \times 74.4 \times 0.15$$
$$Q_1 = 24.5 \text{ L/s (approx.)}$$

1/30-year event

$$Q_{30} = 2.78 \times 0.79 \times 114.0 \times 0.15$$
$$Q_{30} = 37.5 \text{ L/s (approx.)}$$

1/100-year event

$$Q_{100} = 2.78 \times 0.79 \times 147.2 \times 0.15$$
$$Q_{100} = 48.3 \text{ L/s (approx.)}$$

Summary of Existing Brownfield Peak Runoff Rates

Return Period Peak Flow Q (L/s)

1-year $\approx 24.5 \text{ L/s}$

30-year $\approx 37.5 \text{ L/s}$

100-year $\approx 48.3 \text{ L/s}$



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Proposed Drainage Strategy for New Petrol Filling Station & Retail store

At 101 Pickwick Road Corsham.

- APPENDIX D -

Drainage Calculations

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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SURFACE WATER DRAINAGE

2.0 DESIGN CALCULATIONS (45% CC, $Q_{100} = 2 \text{ L/s}$)

2.1. Site Parameters

Parameter	Value
Impermeable Area A	1,274 m ²
Outflow rate – 1:100 yr	2.0 L/s
Outflow rate – 1:30 yr	1.0 L/s
Outflow rate – 1:10 yr	0.40 L/s
Climate Change Uplift	45%

2.2 Rainfall Depths (45% Climate Change Applied)

2.2.1 M100-D (mm)

Duration (min)	Rainfall (mm)
10	30.0
15	36.8
30	47.5
60	58.8
120	69.4
240	79.2
360	85.3
600	93.5
1440	109.0

2.2.2 M30-D (mm)

Duration (min)	Rainfall (mm)
10	23.3
15	28.5
30	36.4
60	44.6
120	53.1
240	60.8
360	65.7
600	72.6
1440	84.7

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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2.2. 3 M10-D (mm)

Duration (min) Rainfall (mm)

10	19.1
15	23.2
30	29.5
60	35.9
120	42.8
240	48.8
360	53.0
600	58.4
1440	70.0

2.3 Attenuation Storage Calculations ($Q_{100} = 2 \text{ L/s}$)

General equations

1. Inflow – $I \text{ (m}^3\text{)}$:

$$I = \frac{A \times R}{1000}$$

2. Outflow – $O \text{ (m}^3\text{)}$:

$$O = \frac{Q \times D \times 60}{1000}$$

3. Storage – $S \text{ (m}^3\text{)}$:

$$S = I - O$$

Where:

- $A = 1274 \text{ m}^2$
- R = rainfall depth in mm
- Q = outflow limit (L/s)
- D = storm duration (minutes)

1:100-year +45% CC ($Q = 2.0 \text{ L/s}$)

Duration (min) Rainfall (mm) Inflow $I \text{ (m}^3\text{)}$ Outflow $O \text{ (m}^3\text{)}$ Storage $S \text{ (m}^3\text{)}$

10	30.0	38.2200	1.20	37.0200
15	36.8	46.8832	1.80	45.0832
30	47.5	60.5150	3.60	56.9150
60	58.8	74.9112	7.20	67.7112
120	69.4	88.4156	14.40	74.0156
240	79.2	100.9008	28.80	72.1008
360	85.3	108.6722	43.20	65.4722
600	93.5	119.1190	72.00	47.1190
1440	109.0	138.8660	172.80	-33.9340

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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Critical storage requirement: $S_{100, \max} = 74.02 \text{ m}^3$

1:30-year +45% CC ($Q = 1.0 \text{ L/s}$)

Duration (min)	Rainfall (mm)	Inflow I (m^3)	Outflow O (m^3)	Storage S (m^3)
10	23.3	29.6842	0.60	29.0842
15	28.5	36.3090	0.90	35.4090
30	36.4	46.3736	1.80	44.5736
60	44.6	56.8204	3.60	53.2204
120	53.1	67.6494	7.20	60.4494
240	60.8	77.4592	14.40	63.0592
360	65.7	83.7018	21.60	62.1018
600	72.6	92.4924	36.00	56.4924
1440	84.7	107.9078	86.40	21.5078

$S_{30, \max} = 63.06 \text{ m}^3$

1:10-year +45% CC ($Q = 0.40 \text{ L/s}$)

Duration (min)	Rainfall (mm)	Inflow I (m^3)	Outflow O (m^3)	Storage S (m^3)
10	19.1	24.3334	0.24	24.0934
15	23.2	29.5568	0.36	29.1968
30	29.5	37.5830	0.72	36.8630
60	35.9	45.7366	1.44	44.2966
120	42.8	54.5272	2.88	51.6472
240	48.8	62.1712	5.76	56.4112
360	53.0	67.5220	8.64	58.8820
600	58.4	74.4016	14.40	60.0016
1440	70.0	89.1800	34.56	54.6200

$S_{10, \max} = 60.00 \text{ m}^3$

2.4 LONG-TERM STORAGE CALCULATION

The SuDS Manual requires **runoff volume control** such that the additional runoff from the development (for the 1:100 year, 6-hour storm) is retained and released slowly.

Variable		Value
RD	1:100 yr, 6-hour rainfall depth	63 mm
A _{site}	Total site area	0.15 ha
SPR	Standard Percentage Runoff (greenfield)	0.30
PIMP	Post-development impermeability	84.93%

Impermeability to runoff factor

$$0.8 \times \frac{PIMP}{100} = 0.8 \times 0.8493 = 0.67944$$

Volume runoff factor

$$0.67944 - 0.30 = 0.37944$$

Base rainfall volume

$$\frac{RD \times A_{site} \times 10}{63 \times 0.15 \times 10 = 94.5}$$

Long-term storage volume

$$V_{LTS} = 94.5 \times 0.37944 = 35.86 \text{ m}^3$$

2.5. TOTAL STORAGE VOLUME REQUIRED

$$V_{Total} = S_{100,max} + V_{LTS}$$

$$V_{Total} = 74.02 + 35.86 = 109.88$$

SUMMARY

Component	Volume (m ³)
1:100 yr +45% CC attenuation	74.02
1:30 yr +45% CC attenuation	63.06
1:10 yr +45% CC attenuation	60.00
Long-term storage	35.86
Total Required Storage	≈110 m³

Drainage Calculations

New Petrol Filling Station 101 Pickwick Rd
Corsham Wiltshire



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ASSOCIATES
STRUCTURAL ENGINEERS

2.6 EXISTING BROWNFIELD RUNOFF CALCULATION.

(Using Modified Rational Method, Site Area = 1500 m²)

2.6.1. Site Characteristics

Parameter	Value
Total site area	1500 m ²
Impermeable brownfield area	1214 m ²
Permeable area	286 m ²
Impermeable fraction	1214 / 1500 = 0.809
Permeable fraction	286 / 1500 = 0.191

2.6.2. Runoff Coefficient (C)

To correctly represent the whole brownfield drainage response, use a **weighted runoff coefficient**:

- Impermeable C = **0.90**
- Permeable C (ground / landscaping) = **0.30**

Weighted C calculation

$$C_w = (0.90 \times 0.809) + (0.30 \times 0.191)$$
$$C_w = 0.7281 + 0.0573 = 0.7854$$

Weighted runoff coefficient:

C = 0.79

Conversion of Area to Hectares

$$A = \frac{1500}{10000} = 0.15 \text{ ha}$$

2.6.4. Modified Rational Method Formula

$$Q = 2.78 C i A$$

Where:

- Q = peak flow (L/s)
- C = runoff coefficient
- i = rainfall intensity (mm/hr)
- A = area (ha)

2.6.5 Rainfall Intensities for Critical 15-min Duration

These intensities are consistent with FEH/SuDS values for your earlier table (adjusted to 15-min event).

Return Period Rainfall Intensity i (mm/hr)

1-year	74.4 mm/hr
30-year	114.0 mm/hr

Drainage Calculations

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Return Period Rainfall Intensity i (mm/hr)

100-year 147.2 mm/hr

Peak Runoff Calculations

1/1-year event

$$Q_1 = 2.78 \times 0.79 \times 74.4 \times 0.15$$
$$Q_1 = 24.5 \text{ L/s (approx.)}$$

1/30-year event

$$Q_{30} = 2.78 \times 0.79 \times 114.0 \times 0.15$$
$$Q_{30} = 37.5 \text{ L/s (approx.)}$$

1/100-year event

$$Q_{100} = 2.78 \times 0.79 \times 147.2 \times 0.15$$
$$Q_{100} = 48.3 \text{ L/s (approx.)}$$

2.6.6. Summary of Existing Brownfield Peak Runoff Rates

Return Period Peak Flow Q (L/s)

1-year $\approx 24.5 \text{ L/s}$

30-year $\approx 37.5 \text{ L/s}$

100-year $\approx 48.3 \text{ L/s}$

2.6.7. Comparison to Proposed Discharge

Scenario	Flow (L/s)
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Existing brownfield 1-year	24.5
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Existing brownfield 30-year	37.5
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Existing brownfield 100-year	48.3
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Proposed controlled discharge 2.0 L/s

Result:

The development reduces brownfield peak discharges by approximately:

- **>90% reduction** in 1-year event
- **>94% reduction** in 30-year event
- **>96% reduction** in 100-year event

This provides a **major betterment** relative to the existing uncontrolled brownfield runoff into the combined sewer. The surface water discharge into the surface water sewer is as near as feasible to the green field run of rate and the betterment overall is greater than normally expected, in such circumstances.

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