APPENDIX 1: SCREENING REPORT AND LETTER FROM TEMPLE GROUP, 11 APRIL 2016

Our ref: T3563.1

8 April 2016

Jonathan Markwell
Principal Planning Officer
Planning Section
Directorate of Environment and Neighbourhood Services
Reading Borough Council
Civic Offices,
Bridge Street,
Reading, RG1 2LU

Dear Mr Markwell,

Request for a Screening Opinion for the redevelopment of Kenavon Drive, Reading

We are writing to you pursuant to Regulation 5 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2015 in connection with the proposals for the demolition of existing buildings and the development of residential units, commercial/community/retail floorspace and revitalisation of the riverside public realm, on Keanvon Drive, Reading.

This letter formally requests an EIA Screening Opinion from the Council.

Proposed Development

The site is identified within the Reading Borough Local Development Framework and Central Area Action Plan 2009 which state the area will be used for medium density residential use, preserving the east-west links through the site. Development principles of the site are also presented within the Kenavon Drive Urban Design Concept Statement (2004). The Proposed Development responds to this local policy context, with the main characteristics of the Proposed Development comprising:

- demolition of the existing buildings on site (Toys R Us and Homebase Units);
- erection of between 700-800 residential units (to a maximum of 19 storeys);
- 1200sqm of commercial/ community/retail floorspace; and
- revitalisation of the riverside public realm, including two new squares (one on the riverside and one at the entrance to the site).

EIA Requirements

The Proposed Development does not fall within 'Schedule 1' of the EIA Regulations, however it does fall within Schedule 2 10(b) Urban Development Projects. The thresholds for developments under Schedule 2 (10 a and b) are:

- The development includes more than 1 hectare of urban development which is not dwelling house development; or
- the development includes more than 150 dwellings; or
- the overall area of the development exceeds 5 hectares.

The Proposed Development and Application Site:

- Includes approximately 0.12ha of non-residential floorspace (by Gross Internal Area). It therefore does not meet or exceed this particular threshold.

- Includes provision for between 700 and 800 residential dwellings. It therefore exceeds the applicable threshold of 150 dwellings.
- Includes an overall area of development of approximately 2.8ha. It therefore does not meet or exceed this particular threshold.

Given one or more of the applicable thresholds are exceeded, the Proposed Development constitutes "Schedule 2 development". The enclosed Screening Report considers any possible effects that the Proposed Development may have on the existing environment, in relation to the criteria set out in Schedule 3 of the EIA Regulations. The outcomes of this analysis indicate that significant environmental effects as a result of the Proposed Development are not considered likely.

Conclusions

Although the site area exceeds the threshold for 'urban development projects', the site does not lie within or partly within a 'sensitive' area as defined the by EIA Regulations, and the Proposed Development is not considered likely to lead to any significant environmental effects. It is therefore considered that no EIA would be required.

The following standalone environmental reports will, however, be submitted as part of the application:

- Sustainability Statement.
- Energy Strategy.
- Code of Construction Practice (CoCP) including Traffic Management Plan (TMP).
- Noise Assessment (site suitability).
- Piling Risk Assessment.
- Air Quality Assessment.
- Heritage Statement.
- Stage 1 Arboricultural Assessment and Preliminary Ecological Assessment.
- Ecological Mitigation Plan.
- Site specific Flood Risk Assessment (considering new climate change allowance).
- Drainage Strategy (including SuDS).

As you are aware, the EIA Regulations allow for the Local Planning Authority to adopt a Screening Opinion within 3 weeks of receiving the request. Therefore we would greatly appreciate your reply to our request by 3 May 2016.

Should you have any queries on any aspect of this letter or the Screening Report, please do not hesitate to contact us. We look forward to receiving confirmation of your receipt of the report.

Yours sincerely



Peter Cole
Associate Director

Encl. EIA Screening Report

Screening Report

11 April 2016

TEMPLE

LEADERS IN ENVIRONMENT, PLANNING & SUSTAINABILITY.

Report for – London and Quadrant Housing Trust
T3563 – Kenavon Drive
EIA Screening Report
Final v2



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1.0 Screening Report

1.1 Introduction

Temple Group has been commissioned by London and Quadrant Housing Trust to prepare a Screening Report in relation to a planning application for the redevelopment of the Kenavon Drive site.

This Screening Report considers the Proposed Development within the screening process described in the Department for Communities and Local Government online National Planning Practice Guidance and as set out in Schedule 3 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015), taking into account the environmental considerations set out in Schedule 4 of these Regulations. The Screening Report provides an analysis of the potential environmental effects of the Proposed Development identified through a series of site surveys and existing data sources to enable a thorough understanding of its effects.

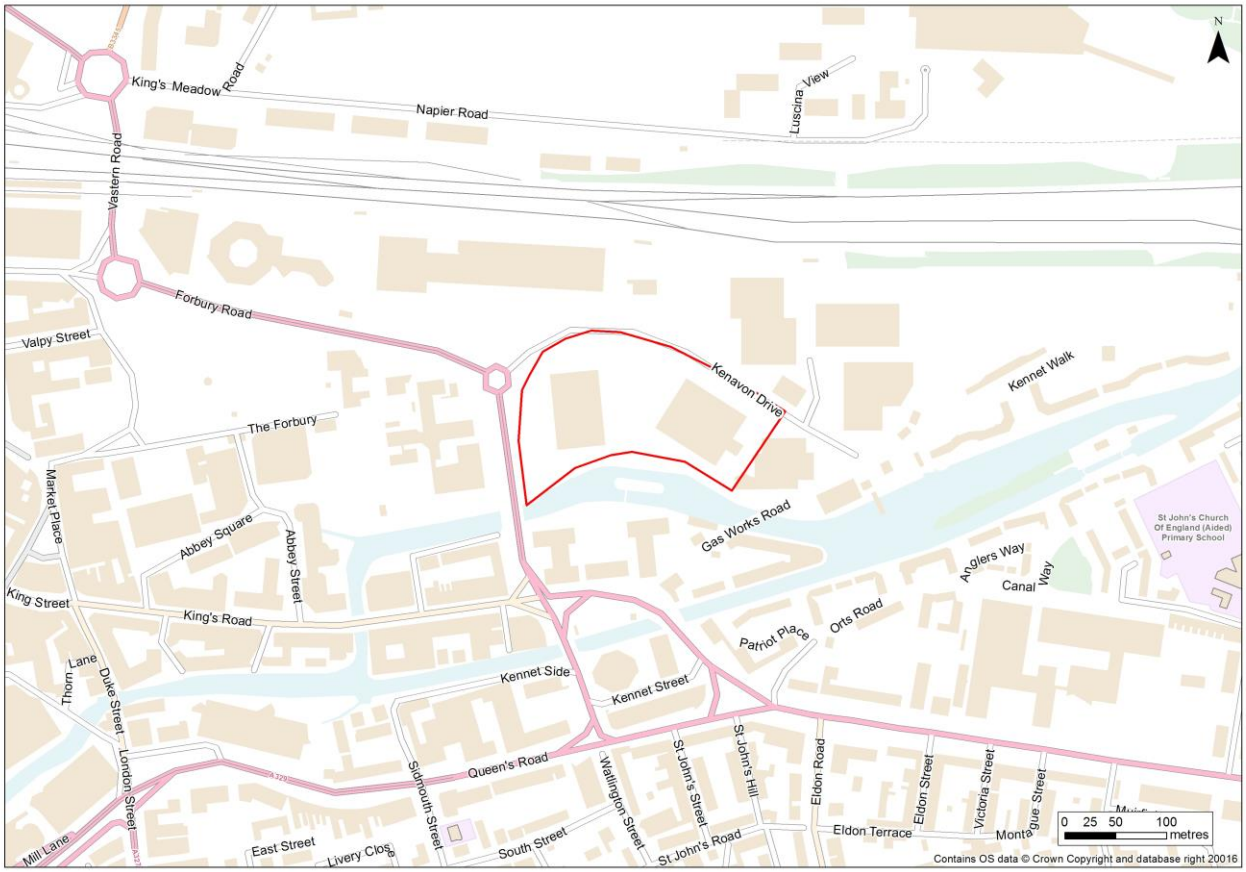


Figure 1.1: Location of the Proposed Development Site

1.2 Purpose and Structure of the Screening Report

The purpose of this report is to consider the need for Environmental Impact Assessment (EIA). The Screening Report is submitted to Reading Borough Council to seek their formal Screening Opinion pursuant to Regulation 5 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015). Information required by Regulation 5 is supplied in this document and includes:

- a plan sufficient to identify the land;
- a brief description of the nature and purpose of the development and of its possible effects on the environment;

This report is set out as follows:

- **Chapter 2** sets out the EIA framework;
- **Chapter 3** provides a brief description of the Proposed Development;
- **Chapter 4** considers possible effects on the environment;
- **Chapter 5** concludes the Screening Report.

2.0 Background to Environmental Impact Assessment (EIA)

2.1 Legislative and Regulatory Context

The process for determining whether a formal Environmental Impact Assessment (EIA) is needed and the requirements of an EIA are statutory processes that are governed by UK and European law. The need for EIA was established through the Council of the European Union Directive 85/337/EEC. This has been amended several times since 1985, most recently by Council Directive 2014/52/EU. This latest amendment has yet to be implemented within England and Wales, however, and the most recent version the 'EIA Regulations': the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015), currently reflects the previous version of the Directive (Directive 2011/92/EU, adopted in December 2011).

2.2 The EIA Process

EIA follows an iterative process that usually has the following stages. Screening is the first stage of the EIA process where the relevant authorities (local authorities or the Secretary of State) decide if EIA is required. If EIA is not required, the planning application follows the normal pattern, including any necessary environmental studies.

Development that falls within Schedule 1 of the Regulations always requires an EIA. This is referred to as 'Schedule 1 Development'.

Development that does not fall within Schedule 1, may be described under Schedule 2. Where development does fall within this description and is located in a 'sensitive area'[1] or exceeds one of the relevant criteria/thresholds given in Schedule 2, an EIA is more likely to be required.

Where the Schedule 2 thresholds are met or exceeded, it should then be considered whether the Proposed Development is likely to have significant effects on the environment, in relation to the criteria set out within Schedule 3 of the EIA Regulations. Only development that is likely to have significant environmental effects, due to its size, location or nature, will require an EIA.

Development that requires an EIA is known as 'EIA development'.

If EIA is required, a series of further steps are undertaken which often include scoping the extent of the assessment required before the formal assessment is undertaken taking into account the requirements of Schedule 4 of the EIA Regulations. The significant environmental effects of a proposal during its construction and operation and any cumulative effects with other permitted developments are then reported in an Environmental Statement (ES) and any mitigation measures required are identified. Once the EIA is completed, the ES is submitted to the local planning authority for consideration with the planning application.

2.3 Screening – Is EIA required?

The Proposed Development at Kenavon Drive falls within Schedule 2 10(b) Urban Development Projects. The thresholds for developments under Schedule 2 (10 a and b) are:

[1] As defined in Regulation 2 (1)

- The development includes more than 1 hectare of urban development which is not dwelling house development; or
- the development includes more than 150 dwellings; or
- the overall area of the development exceeds 5 hectares.

The Proposed Development and Application Site:

- Includes approximately 0.12ha of non-residential floorspace (by Gross Internal Area). It therefore does not meet or exceed this particular threshold.
- Includes provision for between 700 and 800 residential dwellings. It therefore exceeds the applicable threshold of 150 dwellings.
- Includes an overall area of development of approximately 2.8ha. It therefore does not meet or exceed this particular threshold.

Given one or more of the applicable thresholds are exceeded, the Proposed Development constitutes “Schedule 2 development”. Establishing whether an EIA is needed will therefore, be based upon the consideration of any possible significant effects that the Proposed Development may have on the existing environment, in relation to the criteria set out in Schedule 3 of the EIA Regulations.

3.0 The Site and Proposed Development

3.1 Site Location

The topography of the site is flat, being adjacent to the River Kennet. The Proposed Development site is located to the south of Kenavon Drive, Reading. It is approximately 600m east of Reading railway station, at grid reference SU722735 (Easting: 472251, Northing: 173592).

The character of the both the site and the surrounding area are of a developed and dense urban nature. It is bounded by A329 to the west, Kenavon Drive to the north, River Kennet and Gas Works Road to the south and residential development (Berkshire Rooms Meridian House) to the east. The site is currently accessed from the north and the far north-eastern corner, via Kenavon Drive. Surrounding the commercial units and car parking on north, west and south is a thin line of mature trees.

The site itself (2.8ha) holds few features of interest, being almost entirely comprised of hard standing (designated for car parking, and two large warehouse-type outlet retail units). Surrounding the commercial units and car parking on north, west and south is a thin line of mature trees. The western half of the site is within the Reading AQMA, declared for nitrogen dioxide and the southern section of the site sits within flood zone 2 (medium probability)

There are a number of features within the local area that are of interest including:

- Reading Abbey Ruins Grade I Listed Building to the west
- Reading Goal (main building) former Her Majesty's Prison Grade II Listed Building to the west
- Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork (Scheduled Ancient Monument) to the west
- The Forbury Garden Grade II listed registered park and garden to the west
- River Kennet to the south, a tributary of the River Thames with confluence approximately 750m north east of the Proposed Development
- Market Place/London Road conservation area to the west and Eldon Square conservation area to the East

The wider area to the south, west and northwest is densely developed. To the northwest and south, it is predominately residential development and some commercial usage. In addition, to the south, is Reading College. Reading Town centre is to the west and south west containing mixed use properties containing mainly residential and commercial as well as Reading railway station which has direct trains to London Paddington.

The wider area to the north contains the undeveloped Christchurch and King's Meadows with residential properties north beyond the River Thames. To the northwest is Caversham Lakes including the Redgrave Pinsent Rowing Lake.

An environmental constraints map can be found in **Appendix I**.

3.2 Proposed Development

The site is identified within the Reading Borough Local Development Framework and Central Area Action Plan 2009 which state the area will be used for medium density residential use, preserving the east-west links through the site. Development principles of the site are also presented within the Kenavon Drive Urban Design Concept Statement (2004). The Proposed Development responds to this local policy context, with the main characteristics of the Proposed Development comprising:

- demolition of the existing buildings on site (Toys R Us and Homebase Units);
- erection of between 700-800 residential units (to a maximum of 19 storeys);
- 1200sqm of commercial/ community/retail floorspace; and
- revitalisation of the riverside public realm, including two new squares (one on the riverside and one at the entrance to the site).

This Screening Report is based upon the above description of the Proposed Development.

4.0 Description of Possible Effects

4.1 Socio-Economic

The aim of the development is to create a new residential hub including open space by the riverside of the River Kennet. The site is part on an ongoing wider policy consideration that is looking to refresh the Kenavon Drive area. Development of the site would unlock great potential in the surrounding areas creating the possibility for the clear, legible network of spaces and streets that reconnects King's Meadow and the Kennet walk to the town. The development of Kenavon Drive would increase the provision of public open space, improve pedestrian and cycle routes along the north bank of the River Kennet and improve access to the river from the wider area.

A number of jobs at both Homebase and Toys R Us would be lost as a result of their demolition. The majority of these jobs are likely to be retail related and therefore involve skills that are highly transferable to other locations, and whilst this effect is adverse, it is considered not likely to be significant.

The Proposed Development will also create jobs during both the construction and operational phase. Appointed contractors will be required to make best use of local labour during the construction phase, creating a beneficial but temporary effect on the local job market and once the Proposed Development is operational, a number of jobs will be created through the retail, leisure and community uses proposed.

An increased residential population, resulting from the operation of the Proposed Development is likely to lead to an increase in local spending and the operation of the Proposed Development will give rise to the need for services that may most efficiently be provided by local businesses. However, the same increase in population may also lead to an increased pressure on both local educational and healthcare facilities. It is intended that the educational and healthcare requirements resulting from the Proposed Development will be addressed through appropriate financial contributions to be agreed with Reading Borough Council as part of the Community Infrastructure Levy and S106 process.

4.2 Waste

The Proposed Development is likely to generate a number of waste streams through demolition, construction and operation. These include:

- Demolition waste related to existing built elements of the site.
- Construction waste related to any remediation strategy and site earthworks required. This may include contaminated materials (i.e. hazardous waste).
- Excess materials and packaging related to the build out process.
- Domestic waste and a limited element of commercial waste related to the operation of the completed development.

Impacts resulting from the storage, handling and management of these waste streams can include:

- Traffic related impacts related to the vehicles trips generated by the need to transport construction and demolition waste.
- Local air quality and noise impacts related to these vehicle trips.

- Risk of contamination pathways resulting from the storage of waste onsite (e.g. wind blown construction dust, contaminated run-off to surface waterbodies and contaminated leachate to groundwater).
- Traffic, local air quality and noise impacts related to the transport of waste generated by the Proposed Development's operations.
- Impacts upon the capacity of local waste management facilities.

During construction and demolition, the effects of waste are, however, likely to be limited, with the wastage of construction materials to be minimised through good onsite management practices, managed through effective implementation of a Code of Construction Practice (CoCP). The CoCP will form part of the planning application as a document for approval.

In operational terms, the generation of commercial waste is likely to be reduced relative to the existing commercial operations on the site. A residential domestic waste stream will be introduced to the site, however, the provision and use of appropriate waste recycling and composting facilities will reduce the effect of the Proposed Development on the capacity of local waste management facilities. A Sustainability Statement is to be submitted alongside the planning application which will include a consideration of the potential impacts in relation to waste management and a strategy for ensuring any impacts are managed effectively.

Impacts related to the storage, transport and management of waste will be considered within a number of technical reports to be submitted as part of the planning application. These technical assessments will ensure that any impacts are avoided or minimised, and therefore, the Proposed Development is not considered likely to lead to any significant effects related to the storage, handling and management of waste.

These technical reports will include:

A Transport Assessment, to be prepared to accompany the planning application, will consider the likely traffic to be generated through both the construction and operational elements of the Proposed Development, and any resultant significant effects will need to be mitigated.

An Air Quality Assessment, also to be prepared to accompany the planning application, will identify the potential likely impacts upon existing surrounding sensitive receptors from construction dust (i.e. from stockpiled materials), construction waste related traffic, and waste management vehicles during the Proposed Development's operation. Any impacts will be mitigated through the provisions of the CoCP to be prepared as part of the planning application.

In addition, the Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix III**), has identified that no significant contamination exists on site, and the risk of contaminated run-off or ground leachate from stockpiled waste on site, is therefore negligible.

4.3 Energy

An Energy Strategy is to be prepared for approval as part of the planning application which will set out how the Proposed Development is to achieve the requirements of current building regulations and conformance with local policy.

4.4 Traffic and Transport

Traffic and transport impacts related to new development proposals, during both construction and operation, can include:

- Safety, amenity, severance and delay of pedestrians and cyclists.
- Road network delay and safety of road users.
- Public transport patronage and parking capacity changes.

Construction traffic (including HGVs) routeing to and from the Proposed Development would be, as far as possible, directed along the strategic road network and use a designated road for access to the construction site. A CoCP will be produced, which will seek to minimise the environmental effects, including any transport effects, of the construction of the Proposed Development. The measures in the CoCP will include the requirement for the production of a Traffic Management Plan in consultation with the highway and traffic authorities and the emergency services.

The Traffic Management Plan will include safety measures for the public and construction staff during traffic management and temporary traffic control measures, as well as the agreement of routes for HGVs with the Local Authority prior to commencing works at any worksite.

Current traffic generation on the site is related to the two large commercial units operating on the site. The Proposed Development will change the character of traffic flows generated by the site. Morning peak flows are likely to increase, whilst flows throughout the rest of the day are likely to be reduced. Annualised net flows are unlikely to increase significantly from existing flows given the existing large scale retail land use and the significant levels of existing free car parking on the site.

A Transport Assessment is to be carried out and will accompany the planning application. This assessment will consider changes to flow on the surrounding road network, and will inform the development of the Proposed Development's S.278, parking and servicing requirements as well as the level of any appropriate financial contributions for transport improvements on the wider road network.

Significant effects related to traffic and transport are not anticipated as a result of the construction or operation of the Proposed Development. Requirements identified with the CoCP and the Transport Assessment will ensure that any effects are mitigated to acceptable levels.

4.5 Noise and Vibration

Environmental noise conditions at the site are predominantly formed by road traffic noise from the road network around the site, in particular the A329 to the west and Kenavon Drive to the north.

During construction, noise and vibration will also be generated by construction plant, pilling, general construction noise and additional construction traffic.

There are few residential receptors nearby and surrounding the site with the exception of the Berkshire Rooms Meridian House residential development to the immediate east of the site. It is likely residents will experience some disruption during construction. However, this will be temporary, and managed and mitigated through the CoCP to be submitted as part of this application.

Existing operational noise sources on the site include noise generated by mechanical plant used by the two large retail outlets, as well as vehicles entering and exiting the site (including

servicing/delivery vehicles). Operational noise generated by the Proposed Development (predominantly residential), is likely to be similar in character to the existing, i.e. mechanical building plant and traffic generated), albeit that the temporal characteristics of the operational traffic flows may be different. Overall, it is considered not likely that the Proposed Development will generate significant operational noise or vibration impacts upon surrounding receptors.

The following sensitive environmental and heritage designations are within close proximity of the proposed development:

- Reading Abbey Ruins Grade I Listed Building;
- Reading Goal (main building) former Her Majesty's Prison Grade II Listed Building;
- Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork (Scheduled Ancient Monument); and
- The Forbury Garden Grade II listed Registered Park and Garden.

All of these receptors are some way to the west of the Proposed Development, and separated from the site by the slightly elevated Forbury Road (A329). The existing noise environment for these receptors is dominated by the road noise from the intervening road and therefore it is not considered likely that there will be any significant increase in noise affecting the settings of these receptors resulting from either the construction of the Proposed Development, or its operation.

Vibration from construction activities (e.g. piling), will be managed to acceptable levels through the provisions of the CoCP and also a Heritage Statement to be prepared as part of the application. Consultation with both Historic England and Reading Borough Council will be undertaken in this respect. It is, however, not considered likely that construction vibration will have an effect on the heritage receptors to the west of the site given the relative distances between the sites. A number of more contemporary office buildings (e.g. Abbots House and Abbey Gardens) lie in closer proximity to the Reading Abbey Ruins and set a useful precedent in this regard.

A noise site suitability assessment will be carried out for the new proposed uses on site which will consider the existing baseline noise levels, particularly from Forbury Road (A329) and the railway line to the north, along with any embedded design mitigation that might be appropriate.

4.6 Ecology and Arboriculture

There aren't any Ramsar, Special Areas of Conservation, Special Protection Areas, National Nature Reserves, Sites of Special Scientific Interest or Biosphere Reserves within 2km of the site.

The closest designated ecological site is a parcel of Priority Habitat Inventory classified as deciduous woodland approximately 280m to the north, however this is separated from the Proposed Development site by the railway line so impacts are unlikely.

The site lies within a breeding area suitable for Lapwing, however, given the existing condition of the site (majority hard standing, car park and building) it is not considered likely to be of value to this species. Given their common sightings across the region and ability to easily relocate, any impacts to the species are expected to be negligible.

The River Kennet is in close proximity to the site but no works are proposed within the river. Appropriate construction management techniques will be enforced through CoCP to prevent any impact on the river such as dust deposition or surface runoff.

The site consists of two large retail units and a large area of hard standing (car park) and therefore there is limited ecological potential within the site itself, however, a Preliminary Ecological Assessment (PEA), including a phase 1 site walkover, will be carried out to confirm this assumption. Should any designated habitats or species (including potential for species) be found during the preliminary environmental assessment, further ecological surveys will be commissioned as required and associated survey reports including ecological mitigation plans will be submitted alongside the planning application.

There are a number of trees and areas of dense scrub currently providing a border to the site (particularly to the southeast of the site). A Stage 1 Arboricultural Report will be prepared and any trees to be lost as part of the Proposed Development will be reprovided to a similar or enhanced condition, with native species being favoured where appropriate. Details will be provided within an Ecological Mitigation Plan to be prepared in consultation with Reading Borough Council, and to be submitted with the planning application.

Given the current condition of the site, the lack of designated or local ecological receptors within or in close proximity to the Proposed Development, and the requirement of the Ecological Mitigation Plan to minimise any ecological impacts identified through site surveys, it is considered that significant effects on ecology are not likely.

4.7 Agricultural Land

None of the site comprises agricultural land and none is part of a farm holding and therefore no impacts on features of agricultural importance are anticipated.

4.8 Ground Conditions

The British Geological Survey on-line mapping data indicates that the site is underlain by superficial deposits of the Taplow Gravel Formation deposits comprising sand and gravels. The Taplow Gravel overlies bedrock of the Seaford Chalk Formation And Newhaven Chalk Formation (Undifferentiated) at depth beneath the Site.

Historically the site was occupied by a biscuit factory prior to its current use, and before that was mainly in agricultural use. Potentially contaminative land uses in the surrounding area include a railway located approximately 120 m north of the site from 1883 to the present day; a gas Works and gas holder located approximately 80 m south of the site (on the opposite side of the River Kennet) from 1900 to 1948; and a Sewage Pumping Station located approximately 75 m south-east of the site from 1883 to 1939.

Ground conditions generally comprised asphalt over Made Ground of gravelly sandy clay to a maximum depth of 4.0 m bgl. Made Ground was generally underlain by Alluvium Deposits, comprising gravelly sand and clay, to a maximum depth of 5.5 m bgl, over chalk. However, Alluvium was absent in some locations and Made Ground directly overlaid the chalk.

The Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix III**), has identified that no significant contamination exists on site, with only slightly elevated concentrations of Total Petroleum Hydrocarbons (TPHs), Polycyclic Aromatic Hydrocarbons (PAHs) (both associated with high ash and cinder content) and lead present at two boreholes (out of 17 sampled). Marginally elevated levels of chromium and copper were found in one out of five groundwater samples, although levels were still below UK drinking water requirements.

The calculated ground gas regime at the Site is a Characteristic Situation 1, however, this may be increased to a Characteristic Situation 2 - low risk due to slightly elevated concentrations of carbon dioxide.

Potential sensitive receptors include groundwater and surface waterbodies, construction workers and future site users. The Environmental Assessment report (2013), formulated a conceptual site model with the main findings being:

- Low risk of vertical or lateral migration of contaminants into surface waterbodies or groundwater, although given a Principal Aquifer underlies the site, a Piling Risk Assessment would be required.
- Low to medium risk of direct contact, ingestion or inhalation of contaminants by construction workers. This risk would be minimised through appropriate toolbox talks which would remind workers of requirements regarding personal protective equipment (PPE) and site health and safety documentation, and also the requirements of the CoCP regarding the suppression of construction dust.
- Low risk to future site users from contaminants in the soil would be obviated by removing the potential exposure pathways through use of a suitable cover system in all soft landscaped areas. It is anticipated that that would comprise a marker geotextile and capillary break layer and a layer of imported certified suitable for use topsoil and subsoil.
- Low risk to future site users from ground-gas. This risk will be removed by the use of basic ground gas protection measures in the construction of new buildings at the site, comprising as a minimum a damp proof membrane and sub-floor void/ventilation.

Given the low risks identified within the site conceptual model and the mitigation measures proposed, it is not considered likely that the Proposed Development will lead to significant contamination effects.

4.9 Water Resources and Flood Risk

Flood Risk

The Environment Agency (EA) Flood Zone mapping identifies the site as being partially within Flood Zone 2 (medium risk) and partially within Flood Zone 1 (low risk), however a Strategic Flood Risk Assessment (SFRA) prepared for Reading Borough Council to accompany the Reading Central Area Action Plan to 2026 indicates that the site would be appropriate for development that was largely residential in nature, providing that a site level Flood Risk Assessment (FRA) was prepared as part of any application.

Further to this, a Preliminary Flood Risk Assessment was produced for Reading Borough Council in June 2011. This helped inform the preparation of Reading's Local Development Framework (LDF). This document includes information on historic floods in the area and indicates no recorded flooding on the site.

A site specific Flood Risk Assessment, taking into account the recent NPPF updates regarding climate change prediction on the flow and flood storage on the site, will also be undertaken and submitted as part of the planning application. However, the new climate change allowances do not change the existing EA Flood Zones for planning purposes and therefore as the site is located within Flood Zone 2, residential development is considered appropriate by NPPF, without requiring an Exception Test.

The predicted 1 in 100 year return period (1% annual event probability or AEP) flood level at the site, including an allowance for climate change is 37.50m AOD (flood level information for the site as provided by the EA – Product 4 Data). The levels on the site are all entirely above this level, with minimum ground levels being above 38.0m AOD. This puts the site outside of Flood Zone 3 with a minimum freeboard of 0.5m above the 1% AEP flood level including climate change.

The development can therefore be considered to be safe from flooding throughout its lifetime (50-100 years) and dry access can be maintained during an extreme fluvial flood event, up to the 1% AEP flood level including climate change with a minimum freeboard of 0.50m. This is consistent with EA guidance which requires a minimum finished floor level 300mm above the1% AEP flood level, including climate change and therefore no further flood mitigation is considered necessary.

Surface Water Drainage

The site is currently almost entirely covered by hard standing and the existing surface water run-off drains to the River Kennet and Thames Water's surface water sewer in Kenavon Drive with little or no upstream attenuation.

The Proposed Development will employ a Sustainable urban Drainage System (SuDS) to substantially reduce run-off from the current brownfield rate. These measures are likely to include permeable paving, podium attenuation, cellular storage, bio-retention and green – brown roofs. This will provide a significant improvement over both the existing rate and water quality of run-off from the site.

It is therefore concluded that the site is not at significant risk of flooding and that the proposed drainage system will result in a reduction to the risk of flooding off-site. As a result, no significant impact on flood risk and drainage is anticipated as a result of the Proposed Development.

Water Quality

The Environment Agency aquifer designation maps indicate that the superficial deposits (Taplow Gravel Deposits) are classified as a *Secondary A Aquifer*. The Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) underlying the Site at depth is understood to be classified as a *Principal Aquifer*.

The Site is located within a Total Catchment Source Protection Zone (SPZ3) of a water abstraction well located approximately 1 km to the south of the Site. The abstraction is from the chalk aquifer at depth. Groundwater is found at depths of between 2.5m to 3m below ground level (bgl) across the site.

The nearest surface watercourse to the Site is The River Kennet which flows within a sheet piled channel along the southern boundary of the Site. The flow is towards the east.

As explained in section 4.8, the Environmental Assessment, Forbury Retail Park, Kenavon Drive report (Delta-Simons, 2013) (**Appendix III)**, has identified that no significant contamination exists on site (including in the groundwater).

Therefore, a significant potential source of soil or groundwater contamination has not been identified at the site. The marginally elevated concentrations of chromium and copper in the groundwater at a single location are not considered to be indicative of wider groundwater contamination or present a risk to controlled waters though migration or the creation of preferential pathways through piling.

However, given the underlying Principal Aquifer it is considered likely that a Piling Risk Assessment will be required.

During construction, effective implementation of the provisions of the Construction Environmental Management Plan (CEMP) and CoCP, will minimise the potential for accidental pollution events, and polluted runoff to surface waterbodies or groundwater. The CoCP will form part of the planning application as a document for approval.

The Proposed Development will implement a Sustainable urban Drainage System (SuDS), which will use lined (tanked) systems to prevent infiltration into the ground and the potential to mobilise contaminants. Water quality will also be improved though the filtration action and biological cleaning processes on attenuated run-off. Oil interceptors, catchpits and gullies will also be utilised where appropriate to provide additional pollution control.

The SuDS system will be designed using the principles specified by the CIRIA SUDs manual, Sewers for adoption and Building Regulations H.

As such no significant effect impact on water quality is anticipated as a result of the Proposed Development.

4.10 Air Quality

The western half of the proposed development site is within the Reading Air Quality Management Area (AQMA) due to elevated levels of nitrogen dioxide.

The existing retail use of the site generates vehicle trips throughout out the day, with peaks during evening hours and at the weekends. The Proposed Development, although having a small element of commercial land use, will be predominantly residential, including approximately 350 allotted parking spaces.

The Proposed Development will therefore change the character of traffic flows generated by the site. Morning peak flows are likely to increase, whilst flows throughout the rest of the day and at weekends may be reduced. Annualised net flows are unlikely to increase significantly from existing flows, and as a consequence, it is considered not considered likely that the change in use will lead to a significant change in effects upon local air quality.

The Energy Strategy for the Proposed Development is currently not known, however, it is likely that it will employ a combination of boilers / CHP. These will be located outside of the AQMA and the specifications for which (e.g. stack height, abatement technology) will be defined once a full Air Quality Assessment has been undertaken.

During construction, there is some potential for wind-blown dust to temporarily affect nearby receptors. However, through the use of best practice measures during construction, such as dampening down of exposed soil heaps and access roads, it is not considered likely that this would result in a significant reduction in amenity. These are industry standard measures that will form part of the CEMP and can be controlled through a standard condition attached to the planning permission.

It is considered that the Proposed Development is not considered likely to lead to significant effects on local air quality, however, an Air Quality Assessment will be submitted alongside the planning application and will consider emissions from traffic generation (both during construction and operation), the energy strategy and also construction dust risk.

4.11 Global Climate Change

In terms of demand for natural resources, the Proposed Development will be built at least to the requirements of the Building Regulations. Furthermore, the size of the Proposed Development means that the effect it would have on the global issue of climate change would be so small as to be immeasurable and therefore highly unlikely to be significant.

In terms of the effects of climate change on the Proposed Development, this is predicted to manifest itself in two ways: changing surface air temperatures and flood risk. The risk and effects of flooding upon the proposed development has been discussed in Section 4.9.

In terms of changing surface air temperatures, these are generally predicted to increase in summers whilst winters are expected to become milder. However, there is little certainty in these predictions. The Proposed Development will have high levels of insulation built in. Furthermore, consideration would be given through the design of the Proposed Development to how each building can optimise its energy efficiency. An Energy Strategy is to be prepared for approval as part of the planning application which will set out how the Proposed Development is to exceed the requirement of current building regulations.

4.12 Microclimate (Wind, Daylight and Sunlight)

In terms of potential microclimate impacts there are few receptors (e.g. residential dwellings, areas of public realm and open space) within sufficient proximity to the site as to be likely to be affected by potential changes to local microclimate as a result of the Proposed Development. Exceptions to this include the riverside walk along the River Kennet and the area of residential development to the east of the Proposed Development.

The built form of the Proposed Development bordering the eastern end of the site (adjacent to the existing residential development) is to be of relatively modest massing and height (approximately 3 storeys). The existing residential units also lie slightly to the south of the proposals and therefore daylight, sunlight and overshadowing effects are expected to be negligible.

The Proposed Development includes for an enhanced waterfront area alongside the River Kennet (as the main area of public realm). Given their southerly orientation, the riverside walk and new public realm area are expected to experience excellent levels of daylight and sunlight, unaffected by the Proposed Development.

Areas to the north of the Proposed Development, across Kenavon Drive, are predominantly car parking, with any retail units at sufficient distance to be unaffected by the Proposed Development. Reading Gaol, Reading Abbey Ruins and public open space to the west are separated from the site by the Forbury Road (A329), and again at sufficient distance so as to be unlikely to suffer any significant microclimate impacts as a result of the Proposed Development.

Wind, daylight, sunlight and overshadowing effects within the Proposed Development are not strictly subject to the provisions of the EIA Regulations, however, they have been considered through the design evolution with the results illustrated within the Design and Access Statement.

4.13 Townscape Character and Visual Effects

Eldon Square Conservation Area lies 170m to the south, and the Market Place / London Street Conservation Area lies 360m to the west, with both conservation areas separated from the site by

areas of dense urban development of varying townscape quality and height. Given the urban nature of the area between both conservation areas and the Proposed Development, along with the significant distance, no significant effects are expected upon those aspects of the conservation areas for which they were designated.

The site itself lies within the Forbury Retail Park character area (as defined within RBC's Tall Building Strategy, 2008), comprising retail warehouses and car parks. The retail units are late 20th century corrugated iron and plastic clad retail units, and the site currently has a low townscape value.

The detailed design of the Proposed Development is yet to be confirmed, however, the underlying principles for the evolving design include the creation of a clear, legible network of spaces and streets, reconnecting Kings Meadow and the Kennet walk to the town. The architectural design will draw upon the heritage of the area and the Proposed Development will include two new public squares, including one that would open out on to the banks of the River Kennet. The principles of the Kenavon Drive Urban Design Concept Statement (2004) will be reflected in the sites development so as to ensure the design concept fits with plans for the wider Kenavon Drive area. Given the existing low value townscape within the site, and the limited public access to areas of quality open space, it is considered likely that the Proposed Development will result in beneficial effects on the local townscape.

There are few notable views within or into the site, although any built form within the Kenavon Drive area would contribute to the view of central Reading from elevated positions in Caversham Park, Balmore Park and Horse Close (Reading Tall Building Strategy, 2008). The Proposed Development would be likely to improve views by virtue of improving the local townscape. The taller elements of the Proposed Development may be visually prominent given surrounding existing building heights, although with careful design and placing, the effect on views towards Reading centre is likely to be minor and potentially beneficial.

Indeed, the Urban Design Concept Statement (2004) for Kenavon Drive allows for higher structures towards the west of the area as a transition to the city centre, and key locations (e.g. the western gateway) should be emphasised by developing taller buildings along the western boundary and approach of Kenavon Drive.

The Proposed Development currently reflects this guidance, with a taller building (maximum 19 storeys) proposed to the northwest of the site creating a sentinel to the threshold of the wider Kenavon area. Considering the proposed location of this built element and assuming careful design, the visual effects associated with the Proposed Development are not considered likely to be significant.

4.14 Archaeology and Cultural Heritage

An Archaeological Desk Based Assessment, supported by a site inspection, has been carried out for application site in December 2015 (see **Appendix II**).

The site lies within an Area of Archaeological Interest (a local authority designation). The Scheduled Monument of Reading Abbey (Clunic and Benedictine Monastery and Civil War earthwork) is located on the opposite side of Forbury Way (A329).

The construction, and subsequent demolition, of the 19th/20th century Huntley and Palmer Biscuit Factory is likely to have had a severe widespread destructive impact on any earlier sub-surface

horizons. Additionally, the development of the current commercial units will have further reduced the archaeological potential of the site.

The Archaeological DBA concluded that the potential for undiscovered archaeological evidence is modest. Any evidence present is likely to consist of Later Prehistoric geoarchaeological deposits at depth within the site, features associated with peripheral Medieval activity and 19th century building remains (e.g. the foundations of the Huntley and Palmer Biscuit Factory), where not truncated by later activity. This evidence is of local interest.

Excavations and earthworks associated with the Proposed Development may have a direct impact on these features of local interest, however, the demolition of the Huntley and Palmer's Factory and the site's subsequent redevelopment in 2000 is likely to have removed most, if not all, archaeological potential of the site.

The Proposed Development, therefore, is not likely to lead to any significant effects on any archaeological receptors, and the site's modest archaeological interest can be secured by an appropriate worded planning condition.

No designated built heritage features are found within the site, however, a number of features lie within 250mm (see **Appendix I**):

- Reading Abbey Ruins Grade I Listed Building;
- Archway Connecting Forbury Gardens To Abbey Ruins. Including Retaining Walls Flanking Path To Abbey Ruins and 173-183, Kings Road Grade II* Listed Building
- The Forbury Garden Grade II listed registered park and garden;
- Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork Scheduled Ancient Monument;
- The following Grade II Listed Buildings:
  - 11 And 12, Abbot's Walk
  - Tracery Fragments To South Of No 10
  - Anglian Cross
  - Church Of St James'
  - St James's Roman Catholic School
  - The Plummery Wall
  - 86,86a And 88, Kings Road
  - The Screens House
  - The Engine House
  - 47-48, Kenavon Drive
  - 163, King Road
  - Wall Between Forbury Road And Abbott's Walk To West Of St James' Church
  - Shelter At North East Corner Of Forbury Gardens
  - 10, Abbot's Walk
  - The Pump And Turbine House
  - 196-200, Kings Road
  - St James's Presbytery
  - Reading Gaol (Main Building) Former Her Majesty's Prison

Direct effects on these receptors may occur as a result of ground borne vibration from construction activities associated with the Proposed Development. Effects associated with this impact are considered within section 4.5 of this report.

Indirect effects upon these receptors, as a result of the Proposed Development, may be derived from visual, noise and air quality impacts upon the setting of the heritage features. Although elements of the Proposed Development may be over 10 storeys in height, the buildings to the west of the site will be substantially less high (maximum 7 storeys). In addition to this, the western part of the site lies approximately 2m below the existing level of Forbury Road (A329) and views to and from the built heritage features within the Reading Abbey Ruins Scheduled Area are likely to be obscured by the high walls of Reading Prison (see Plate 5, Appendix A). Given this limited intervisibity between the Proposed Development and heritage assets to the west, there is not likely to be a significant effect on setting of those heritage assets in visual terms, and indeed, any effect is likely to be beneficial considering the improvement in the quality of the townscape from the existing condition.

Sections 4.5 (Noise and Vibration) and 4.10 (Air Quality) of this report relate to potential effects in relation to sensitive receptors surrounding the site and conclude that no significant noise or air quality effects are likely as a result of the Proposed Development.

4.15 Cumulative Effects

Other committed but not yet operational schemes in the area include:

- 42 Kenavon Drive, to the northeast of the site – 192 residential units partially built (no EIA required).
- Kings Point, to the southwest of the site – 17 storey building, 103 residential units and 351.5sqm of commercial floorspace (no EIA required).

Potential cumulative effects associated with both the Kings Point development and 42 Kenavon Drive development are likely to be limited to operational traffic impacts, specifically network delay, and consequential impacts upon air quality and the noise environment. Sections 4.4, 4.5 and 4.10 of this report suggest that traffic, air quality and noise effects as a result of the operational Proposed Development are not considered likely to be significant. Both Kings Point and the 42 Kenavon Drive development are substantially smaller than the Proposed Development and are not likely to generate a level of additional traffic that would contribute to any in-combination effect that to the extent that it may become significant. In any case, the Transport Assessment to be submitted as part of the application will take into account expected flow generation from cumulative schemes and therefore these schemes will be implicitly considered within the Air Quality Assessment and Noise Site Suitability Assessment.

Additionally, the Kings Point proposals include for one tall building which is likely to lie in the same view corridors (looking towards Reading centre) as the Proposed Development. The visual prominence of both the Kings Point building and the taller elements of the Proposed Development may be reduced with the two developments providing context to each other, however, the cumulative visual effects are likely to be minor in any case given the lack of high value views affected.

5.0 Conclusion

The preceding analysis of the potential for significant effects as a result of the Proposed Development indicates that significant environmental effects are not considered likely.

The Screening Opinion of the Council pursuant to Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015) is requested. The Council are invited to consider the contents of this Report and comment accordingly within the three-week period prescribed by the EIA Regulations.

The applicant confirms that the following stand alone environmental reports will be submitted as part of the application:

- Sustainability Statement.
- Energy Strategy.
- Code of Construction Practice (CoCP) including Traffic Management Plan (TMP).
- Noise Assessment (site suitability).
- Piling Risk Assessment.
- Air Quality Assessment.
- Heritage Statement.
- Stage 1 Arboricultural Assessment and Preliminary Ecological Assessment.
- Ecological Mitigation Plan.
- Site specific Flood Risk Assessment (considering new climate change allowance).
- Drainage Strategy (including SuDS).

Appendix I – Environmental Constraints Map

Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork.

Reading AQMA

Market Place/ London Street

High Bridge

Eldon Square

FORBURY ROAD

NAPIER ROAD

KING'S ROAD

QUEEN'S ROAD

A329

N

0 100 metres

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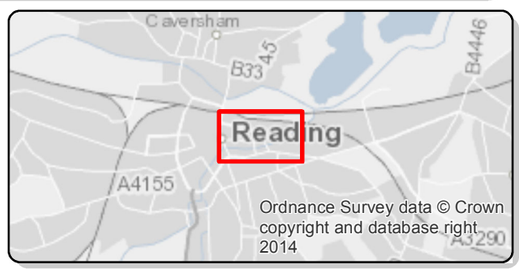
Project: **T3563 - Kenavon Drive**

Client: **L&Q London Housing Association**

Environmental Features

Legend

- Site boundary
- Railway track
- Surface water
- Listed buildings
  - Grade I
  - Grade II*
  - Grade II
- Scheduled monuments
- Area of archaeological interest
- Registered parks and gardens
- Conservation areas
- Priority Habitat Inventory
- Air Quality Management Areas
- Flood zone 2



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APPENDIX 2: SCREENING RESPONSE AND LETTER FROM READING BOROUGH COUNCIL, 11 MAY 2016

Giorgio Framalicco
Head of Planning, Development & Regulatory Services

Civic Offices, Bridge Street,
Reading, RG1 2LU

☎ 0118 9373787

Our Ref: 160733/SCR

Direct: ☎ 0118 9372458

e-mail: jonathan.markwell@reading.gov.uk

11th May 2016

Peter Cole
Associate Director
Temple Group Ltd
Devon House
58-60 St Katherine's Way
London
E1W 1LB

Eve Ladden Timbers
Associate
Planning
PRP Architects LLP
10 Lindsey Street
Smithfield
London
EC1A 9HP

Your contact is: Mr Jonathan Markwell, Planning

Dear Mr Cole & Ms Ladden Timbers,

Planning Reference: 160733/SCR

Description of development: Request for Screening Opinion for redevelopment of the site for the erection of between 700-800 residential units (to a maximum of 19 storeys), 1200sqm of commercial/ community/retail floorspace; and various works to the riverside public realm, including two new squares, following the demolition of existing buildings.

Location: Land at Kenavon Drive, Reading (Existing Homebase & Toys R Us)

Information considered: Letter entitled 'Request for a Screening Opinion for the redevelopment of Kenavon Drive, Reading' by Temple Ref T3563.1, dated 08/04/16, as received 13/04/16; Screening Report by Temple, Ref Final v2, dated 11/04/16, as received 13/04/16.

Screening opinion:

It is considered that the proposal does not fall within Schedule 1 of the EIA Regulations 2011 (as amended). The proposal falls within the description at paragraph 10(b) of Schedule 2 and exceeds the threshold of including more than 150 dwellings in column 2 of the table in Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015 (Adopted as of 06/04/15). Therefore the Council considers

the proposal to be 'Schedule 2 development' within the meaning of the 2011 Regulations (as amended).

Accordingly, the Council has considered if the proposed development is likely to have significant effects on the environment. In determining such effects, the Council has taken into account the criteria for screening Schedule 2 development set out in Schedule 3 of the Regulations. These are the characteristics of the development, its location and the characteristics of the potential impact. Based upon the description of the development provided and the information provided in your submission received on 13/04/16, the development could be considered to be likely to have significant effects on the environment by virtue of factors such as its nature, size and location. More specifically, this is owing to the nature of the location and the potential effects on, in particular, the nearby nationally important Reading Abbey Cluniac and Benedictine monastery and Civil War earthwork scheduled ancient monument (a 'sensitive area' as defined by Regulation 2 of the 2011 Regulations – as amended), various nearby listed buildings/structures and the River Kennet.

Accordingly, in exercise of the powers conferred by Regulation 5 (5) of the 2011 Regulations (as amended) (the timeframe having been agreed to be extended until 18th May 2016, as per correspondence on 13th April 2016), the Council hereby considers that the proposed development described in your request and the documents submitted with it is 'EIA development' within the meaning of the 2011 Regulations (as amended), and hence a positive screening opinion is hereby adopted.

Informatives

You are advised, by virtue of Regulation 5 (7 (b)) of the 2011 Regulations (as amended) (and Paragraph 020 ID 4-020-20150326 of the NPPF PPG) that you have the option to make a request to the Secretary of State to issue a screening direction.

Please note that this screening opinion is provided without prejudice to the formal decision of the Council on this or any other application which may subsequently be submitted.

Yours sincerely

Jonathan Markwell

Jonathan Markwell
Principal Planning Officer
LEB

EIA ANALYSIS AND SCREENING PROFORMA

ANALYSIS

1	Case Details	
a	Applicant Case reference	
	T3563.1	
b	LPA case reference	
	160733	
c	SoS case reference	
	N/A	
d	Site Address	
	Land at Kenavon Drive, Reading (Existing Homebase & Toys R Us sites)	
e	Brief description of development	
	Request for Screening Opinion for redevelopment of the site for the erection of between 700-800 residential units (to a maximum of 19 storeys), 1200sqm of commercial/ community/retail floorspace; and various works to the riverside public realm, including two new squares, following the demolition of existing buildings.	
f	Approval of reserved matters?	
	Yes	
	No	X
	Approval of conditions?	
	Yes	
	No	X
	If Yes, enter the description of development subject of the related planning permission	
	N/A	
g	Area of development/works/new floorspace (as appropriate)	
	2.8ha (as specified by the applicant)	
2	**EIA details**	
A	**Schedule 1**	
(i)	Is the proposed development Schedule 1 development as described in Schedule 1 of the EIA Regulations?	
	Yes	
	No	X
(ii)	If YES, under which description of development i.e. Nos. 1-21?	
	N/A	
B	**Schedule 2**	
(i)	Is the proposed development Schedule 2 development as described in Column 1 of Schedule 2 of the EIA Regulations?	
	Yes	X
	No	

(ii)	If YES, under which description of development in Column 1 i.e. Nos. 1-13?	
	10b	
(iii)	Is the development within, partly within, or near a 'sensitive area' as defined by Regulation 2 of the EIA Regulations?	
	Yes	The site is near Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork scheduled ancient monument, as per the Ancient Monuments and Archaeological Areas Act 1979. As such, it is near a sensitive area as defined by Reg 2 of the EIA Regs (e). For clarity, the site is not within, partly within or near: (a) land notified under section 28(1) (sites of special scientific interest) of the Wildlife and Countryside Act 1981(a); (b) a National Park within the meaning of the National Parks and Access to the Countryside Act 1949(b); (c) the Broads(c); (d) a property appearing on the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage(d); (f) an area of outstanding natural beauty designated as such by an order made by Natural England under section 82(1) (areas of outstanding natural beauty) of the Countryside and Rights of Way Act 2000(f);
	No	
(iv)	If YES, which area?	
	Near to a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979	
(v)	Are the applicable thresholds/criteria in Column 2 exceeded/met?	
	Yes	X
	No	
(vi)	If yes, which applicable threshold/criteria?	
	More than 150 dwellings are proposed (as per column 2 of the table in Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015 (Adopted as of 06/04/15)	
3	**LPA/SOS Screening**	
	All applications inc reserved matters/conditions	
(i)	Has the LPA issued a Screening Opinion (SO)?	
	Yes	
	No	X
(ii)	Has the SoS (GO) issued a Screening Direction (SD)?	
	Yes	
	No	X
(iii)	If yes, is a copy of the SO/SD on the file?	
	Yes	N/A
	No	N/A
(iv)	If yes, is the SO/SD positive?	

	Yes	N/A
	No	N/A
	Reserved matters/conditions applications only	
(i)	Was original PP subject to EIA screening?	
	Yes	N/A
	No	N/A
(ii)	Was a SO/SD issued for the original PP?	
	Yes	N/A
	No	N/A
(iii)	If yes, is a copy of the SO/SD for the original PP on file?	
	Yes	N/A
	No	N/A
4	**Environmental Statement (ES)**	
	Has the applicant supplied an ES for the current or previous (if reserved matters or conditions) application?	
	Yes	N/A
	No	N/A
Name	Jonathan Markwell	
Date	11/05/16	

SCREENING

A. CHECKLIST			
Questions to be considered		**Likely/Unlikely – briefly describe**	**Is this likely to result in a Significant effect?** **Yes/No - why?**
1	Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	Likely - the land use will change from commercial & associated car parking to predominantly residential	No, given the surrounding area is already largely developed within this dense urban setting.
2	Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Likely - construction likely to be in predominantly non-renewable materials, as is the norm for such projects.	Where applicable the applicant will be encouraged to recycle materials, and/or source them from local suppliers. Energy use will be in line with adopted policy. As such, no, given the likely nature of the proposal.
3	Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Likely - but to be managed through a Air Quality Assessment, a Noise Assessment, a Construction Method Statement, a Contaminated Land Assessment waste management plan (all are likely to be submitted with the application - some have already been specified by the applicant as being part of any future	No, given the intimated nature and extent of this element of any proposal.

		application submission) and relevant legislation. The Council's Environmental Protection team has commented that the development is likely to have only local impact rather than wider, so a full EIA is not considered necessary by Environmental Protection staff.	
4	Will the Project produce solid wastes during construction or operation or decommissioning?	See 3 above, with particular reference to the waste management plan.	No, given the intimated nature and extent of this element of any proposal.
5	Will the Project release pollutants or any hazardous, toxic or noxious substances to air?	See 3 above, with particular reference to the Air Quality Assessment, Contaminated Land Report and Construction Method Statement.	
6	Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Likely - proposed uses would be likely to result in noise, possibly light and heat energy during the construction and end use stage.	No - likely to be managed through design development, noise, daylight/sunlight and energy assessments submitted at the time of any application.
7	Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	Likely, given the area is identified as having the potential to contain contaminated land (given the previous Huntley & Palmers biscuit making activities at the site). In this regard the applicant has submitted a report which identifies that no significant contamination exists on site, and the risk of contaminated run-off or ground leachate from stockpiled waste on site, is therefore negligible. The Council's Environmental Protection officer has nevertheless detailed that a contaminated land report will be necessary with any future application.	No, given the contaminated land report, over and above the information submitted at this stage, will be submitted at application stage, this will be likely to mitigate any possible significant effects.
8	Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	Likely - The new development is located in an area of high traffic and poor air quality is predicted. it is also within an Air Quality Management Area.	No, given an air quality assessment will be required to be carried out and appropriate design and mitigation will be required to be proposed to ensure future occupants are not exposed to poor air quality
9	Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	Unlikely to be of a level / nature normally anticipated for a construction project of this nature.	No, given that site management would reduce the liklihood. Furthermore, a construction method statement would also be likely to be secured at application stage.

10	Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?	Possible - In terms of demography, there will be an increase in population in light of the intended number of residential units proposed. Some loss of employment from the existing uses at the site, mitigated to an extent by the employment to be created by the commercial element of the proposals (albeit likely to be of a far smaller scale than exisitng employment levels).	No, given the existing/future facilities within the borough to mitigate the impact of an increased population in the town.
11	Are there any areas on or around the location which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	Likely - No designated built heritage features are found within the site. However, a number lie within 250m (as listed by the applicant below): •Reading Abbey Ruins Grade I Listed Building; •Archway Connecting Forbury Gardens To Abbey Ruins. Including Retaining Walls Flanking Path To Abbey Ruins and 173-183, Kings Road Grade II* Listed Building •The Forbury Garden Grade II listed registered park and garden; •Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork Scheduled Ancient Monument; •The following Grade II Listed Buildings: – 11 And 12, Abbot's Walk – Tracery Fragments To South Of No 10 – Anglian Cross – Church Of St James' – St James's Roman Catholic School – The Plummery Wall – 86,86a And 88, Kings Road – The Screens House – The Engine House – 47-48, Kenavon Drive – 163, King Road – Wall Between Forbury Road And Abbott's Walk To West Of St James' Church – Shelter At North East Corner Of Forbury Gardens – 10, Abbot's Walk – The Pump And Turbine House – 196-200, Kings Road – St James's Presbytery – Reading Gaol (Main Building)	Yes - Reading Abbey: a Cluniac and Benedictine monastery and Civil War earthwork scheduled ancient monument is considered to be of national importance, as confirmed by the Historic England list entry. The application site is adjacent to this to the east (beyond the IDR at this point). It is considered that a development of the nature proposed (in particular the 19 storey element indicated) could significantly affect the scheduled ancient monument and listed buildings / structures in the vicinity of the site. In addition, the River Kennet & Chestnut Walk (public footpath and Oscar Wilde memorial) is also considered to offer cultural value. Berkshire Archaeology has been formally consulted on this screening opinion application and commented as follows: "The archaeological desk-based assessment provides a comprehensive archaeological and historical assessment of the proposal site. In summary the proposal site lies just outside the Scheduled Monument of Reading Abbey and close to Reading Prison which is a Grade II listed building. The report demonstrates that the site lies outside the eastern boundary of the Abbey grounds but with potential for peripheral medieval and post-

		Former Her Majesty's Prison In addition, the River Kennet & Chestnut Walk (public footpath and Oscar Wilde memorial) is also considered to offer cultural value.	medieval activity to be located within the western extent of the site. From 1846 the site was occupied by the Huntley and Palmer Biscuit Factory which expanded across the site and included railway spurs into the site from the north. The factory was subsequently demolished in the 1990's and redeveloped in the early 2000's. As the report states the development of the factory, its demolition and the sites redevelopment to its existing state is likely to have impacted earlier archaeological remains, but any remains that may have escaped this impact and the remains of the factory itself would be of interest. There is also the potential for late prehistoric geoarchaeological deposits to be present at depth and due to the scale of the proposals, which look to include multi-storey buildings, there is the potential for these deposits to be impacted. The archaeological evidence itself does not give grounds for an EIA to be produced however archaeology should be scoped in if an EIA is produced. If the proposals are not an EIA development the desk-based assessment should be submitted in support of any future application. In addition, due to the scale of the proposals and the potential for archaeological remains to be present, pre-determination trial trenching should be undertaken in order to provide further evidence regarding the potential impact of the proposals on surviving remains and the report detailing the results submitted in support of any future application."

			The applicant details that direct effects on the list in the left column "may occur as a result of ground borne vibration from construction activities associated with the Proposed Development". Furthermore, the applicant also outlines that "Indirect effects upon these receptors, as a result of the Proposed Development, may be derived from visual, noise and air quality impacts upon the setting of the heritage features. Although elements of the Proposed Development may be over 10 storeys in height, the buildings to the west of the site will be substantially less high (maximum 7 storeys). In addition to this, the western part of the site lies approximately 2m below the existing level of Forbury Road (A329) and views to and from the built heritage features within the Reading Abbey Ruins Scheduled Area are likely to be obscured by the high walls of Reading Prison (see Plate 5, Appendix A). Given this limited intervisibity between the Proposed Development and heritage assets to the west, there is not likely to be a significant effect on setting of those heritage assets in visual terms, and indeed, any effect is likely to be beneficial considering the improvement in the quality of the townscape from the existing condition." With all of the above in mind, in addition to size of the development proposed, it is therefore considered in overall terms that a positive screening opinion should be issued owing to the proximity of the site to the ancient scheduled monument and numerous listed buildings / structures, which could be significantly impacted by the proposals.

12	Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Unlikely - The Council's Ecologist has commented that, for the reasons set out in the applicant's screening report, the development would not be an EIA development from an ecology perspective.	No, given the nature of the existing site and surrounding area.
13	Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	Unlikely - The Council's Ecologist has commented that, for the reasons set out in the applicant's screening report, the development would not be an EIA development from an ecology perspective.	No, given the nature of the existing site and surrounding area.
14	Are there any inland, coastal, marine or underground waters on or around the location which could be affected by the project?	Likely - The River Kennet is directly to the south of the site. Part of the site is within Flood Zone 2. A flood risk assessment (FRA) will be submitted at application stage.	Possibly, owing to the proximity of the site to the River Kennet, Although any issues identified within a FRA at application stage may be able to be mitigated, this is not clear at this point in time.
15	Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	Likely - Various listed buildings and the River Kennet, as outlined in 11 above.	Yes. See 11 above.
16	Is the project in a location where it is likely to be highly visible to many people?	Likely - given the location of the site close to busy roads, mainline railway and the town centre. Exacerbated by the proposal including an element up to 19 storeys in height.	Yes - the topography and nature of the surrounding area means that the proposed scheme is likely to have a significant effect, with the proposals highly visible from multiple directions. The applicant has concluded that "Considering the proposed location of this built element and assuming carefuldesign, the visual effects associated with the Proposed Development are not considered likely to be significant." This is not considered to be proven at this point in time, with the potential 19 storey element being likely to have a significnat impact.
17	Are there any routes on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	Likely - Footpath to the south of the site alongside the River Kennet is used by members of the public for recreation purposes. There may be some temporary highway closures during construction, but these would be managed under the necessary legislation.	Any adverse impact would be temporary during the construction period only. As such, no, given the anticipated temporary nature of any access impact.

18	Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	Likely - the site is adjacent to the Inner Distribution Road.	No. A Transport Assessment will be required to assess the likely impacts of the development, but it is considered unlikely at this initial stage that the proposal will result in a significant increase in trips, when compared to the existing uses.
19	Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	See 11 above.	Yes. See 11 above.
20	Is the project located in a previously undeveloped area where there will be loss of greenfield land?	No.	No.
21	Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Likely - There are residential, commercial (retail warehouses and significant office developments) uses immediately adjoining the site, which could be affected by the proposals.	No - any proposal would need to be designed to mitigate any significant impact on nearby uses (e.g daylight/sunlight, noise and disturbance, overlooking / overbearing development).
22	Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Meridian House is in residential use to the east of the site - owing to its nature is is densely populated. Prudential offices to the south are densely built up, as is Reading Gaol to the west and the retail warehouses to the north.	Subject to mitigation there are unlikely to be no cumulative significant environmental effects, with the area being developed in a coherent manner.
23	Are there any areas on, or around, the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	Reading Gaol / Reading Abbey Quarter is across the IDR to the west of the site. The Reading Gaol site is presently unoccupied and is likely to come forward as a development site in the short to medium term.	Yes. The proposed development, of the nature detailed as being proposed, could have a significant effect on these nearby sensitive sites. Please see 11 above for more details.
24	Are there any areas on or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?	Reading Abbey Quarter is anticipated to be a future important tourism location.	Possibly, although given the largely future nature of the Reading Abbey Project (from a tourism perspective), it is difficult to substantiate a positive screening opinion on this basis alone.
25	Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic	Possible - The site is within Flood Zone 2, adjacent to the boundary with the River Kennet. The possibly proposed height of	Yes - although it is anticipated that any flooding / wind based issues may be adequated mitigated through

	conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	one building up to 19 storeys in height could result in microclimate / wind impacts.	the planning process, this has not been proven at this point in time.
26	Are there any plans for future land uses on or around the location which could be affected by the project?	The propoals could impact on future proposals coming forward elsewhere in the East Side Major Opportunity Area (2009 RCAAP document), most notably Reading Gaol to the west and land on Kenavon Drive between the prospective application site and Napier Road. Furthermore, the Station / River Major Opportunity Area is also relatively close by, as are the RCAAP identifed Station cluster and Eastern grouping tall building areas.	No - The guidance within the adopted RCAAP will ensure that the area as a whole will be developed in a coherent manner.
27	Are there any other factors which should be considered, such as consequential development which could lead to environmental effects, or the potential for cumulative impacts with other existing or planned activities in the locality?	See 26 above. In addition, it is noted that two objections have been received as a result of the screening opinion request. These are reproduced in full below: 1. "Although very little information has been published on this matter, what has been made public is alarming. Plans to build a monolithic skyscraper of 19 storeys are completely out of keeping with anything in this area and will be a blight on the landscape, dwarfing the current 'tall' buildings such as the Blade. Clearly if I was the land owner, I would also be keen to throw up a huge building and maximize my income, but we are not talking about a City of London site, or even a Reading town centre site, this is a plot of land on the edge of the centre, surrounded by low rise housing and sites on international historical significance, which would be blighted by a sky scraper erected in the pursuit of lining a developer's pockets. Please reject this crazy scheme." 2. "The number of homes on this site would result in extreme traffic problems at the Forbury/Readign Jail/IDR roundabout. An already congested part of the road network and a bottle neck at peak traffic times."	See 26 above. It is considered that the two objections received, although they have been considered, have not been a key determining factor in the issuing of this opinion. All the relevant NPPF PPG sections have been taken into account. The development is considered to be on a significantly greater scale than the previous use (in particular owing to the applicant indicating that the proposal would be up to 19 storeys in height). When this is considered within the context of the senstive location of the site (in particular the proximity of the site to the Reading Abbey Scheduled Ancient Monument and the River Kennet) it is considered in overall terms that a positive screening opinion should be adopted.

		In addition, the NPPF PPG on EIA has been duly taken into account. In particuar, it is noted that the indicative screening thresholds annex (Para 057 ID 4-057-20140306) columns 3 (indicative criteria and threshold) and 4 (key issues to consider) guidance has been taken into account for this 10 (b) urban development project: Column 3 - "Environmental Impact Assessment is unlikely to be required for the redevelopment of land unless the new development is on a significantly greater scale than the previous use, or the types of impact are of a markedly different nature or there is a high level of contamination. Sites which have not previously been intensively developed: (i) area of the scheme is more than 5 hectares; or (ii) it would provide a total of more than 10,000 m2 of new commercial floorspace; or (iii) the development would have significant urbanising effects in a previously non-urbanised area (e.g. a new development of more than 1,000 dwellings)." Column 4: "Physical scale of such developments, potential increase in traffic, emissions and noise." In addition, Para 018 ID 4-018-20140306 of the NPPF PPG states "However, it should not be presumed that developments above the indicative thresholds should always be subject to assessment, or those falling below these thresholds could never give rise to significant effects, especially where the development is in an environmentally sensitive location. Each development will need to be considered on its merits. An informative will be added to the formal decision notice, informing the applicant, as per	

		Para 020 ID 4-020-20150326 of the NPPF PPG that the applicant can request the Secretary of State to make a screening direction.	

B. CONCLUSIONS		
(i)	Schedule and category of development	
	Schedule 2, category 10(b)	
(ii)	Summary of features of project and of its location	
	a	Characteristics of development
		The characteristics of development considerations are: (a) the size of the development; (b) the cumulation with other development; (c) the use of natural resources; (d) the production of waste; (e) pollution and nuisances; (f) the risk of accidents, having regard in particular to substances or technologies used. As detailed in the assessment above in these regards, the size of the development (a), when considered within the context of the location of the development (see b below), contributes towards the overall conclusion that a positive screening opinion should be issued. In terms of (b) - (f) the proposals are not of a nature which warrants a positive screening opinion to be issued.
	b	Location of development
		The location of development considerations are: (a) the existing land use; (b) the relative abundance, quality and regenerative capacity of natural resources in the area; (c) the absorption capacity of the natural environment, paying particular attention to the following areas— (i) wetlands; (ii) coastal zones; (iii) mountain and forest areas; (iv) nature reserves and parks; (v) areas designated by Member States i.e. conservation of wild birds, natural habitats and of wild fauna and flora; (vi) areas in which the environmental quality standards laid down in EU legislation have already been exceeded; (vii) densely populated areas; (viii) landscapes of historical, cultural or archaeological significance. With regard to (c) (viii), the site is located near to a designated 'sensitive area' (scheduled ancient monument (as per Reg 2 of the EIA regs, as amended), which when considered within the size and nature of the proposals is considered to contribute to the overall conclusion that a positive screening opinion should be issued. In respect of other matters, the proposals, within the meaning of the regulations, are not considered to result in any significant effects with regard to any of the other areas noted
	c	Characteristics of the potential impact
		In respect of these matters, the matters to consider are: (a) the extent of the impact (geographical area and size of the affected population); (b) the transfrontier nature of the impact; (c) the magnitude and complexity of the impact; (d) the probability of the impact; (e) the duration, frequency and reversibility of the impact. The potential significant effects of development must also be considered in relation to criteria set out under the aforementioned characteristics of development considerations and location of development (environmental sensitivity) considerations. In respect of these matters it is considered that they have, where relevant, already been discussed in conjunction with other sections of this assessment. In relation to the remaining matters, no further comments are considered necessary. Overall conclusion Given the above, primarily owing to the nature of the proposal and the characteristics of the site and surrounding area, it is considered that the scheme would align with elements of the selection criteria of Schedule 3 of the EIA 2011 regulations (as amended 2015). More specifically, it would have potential effects on the nearby scheduled ancient monument, various listed buildings/strucutes and the River Kennet in particular. Hence, the development could be considered to be likely to have significant effects on the environment by virtue of factors such as its nature, size and location. As such the development is, by definition, Schedule 2 development, and, furthermore, it is considered to be EIA development as defined by Regulation 2(1) of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011 (SI 2001 no. 1824) (as amended 2015 - S1 2015 no. 660). Therefore, a positive screening opinion is adopted. An informative is recommended to be added to the decision notice informing the applicant that,

		by virtue of Part 2 - Section 5. 7(b) of the 2011 Regulations (and Para 020 ID 4-020-20150326 of the NPPF PPG), they can still make a request to the Secretary of State to issue a screening direction. The decision letter will also specify that the following information, as submitted by the applicant on 13/04/16, has been taken into considered in issuing the screening opinion: - Letter entitled 'Request for a Screening Opinion for the redevelopment of Kenavon Drive, Reading' by Temple Ref T3563.1, dated 08/04/16, as received 13/04/16 - Screening Report by Temple, Ref Final v2, dated 11/04/16, as received 13/04/16
(iii)	If a SO/SD has been provided do you agree with it?	
	Yes	
	No	X
(iv)	Is it necessary to issue a SO/SD?	
	Yes	X
	No	
(v)	Is an ES required?	
	Yes	X
	No	

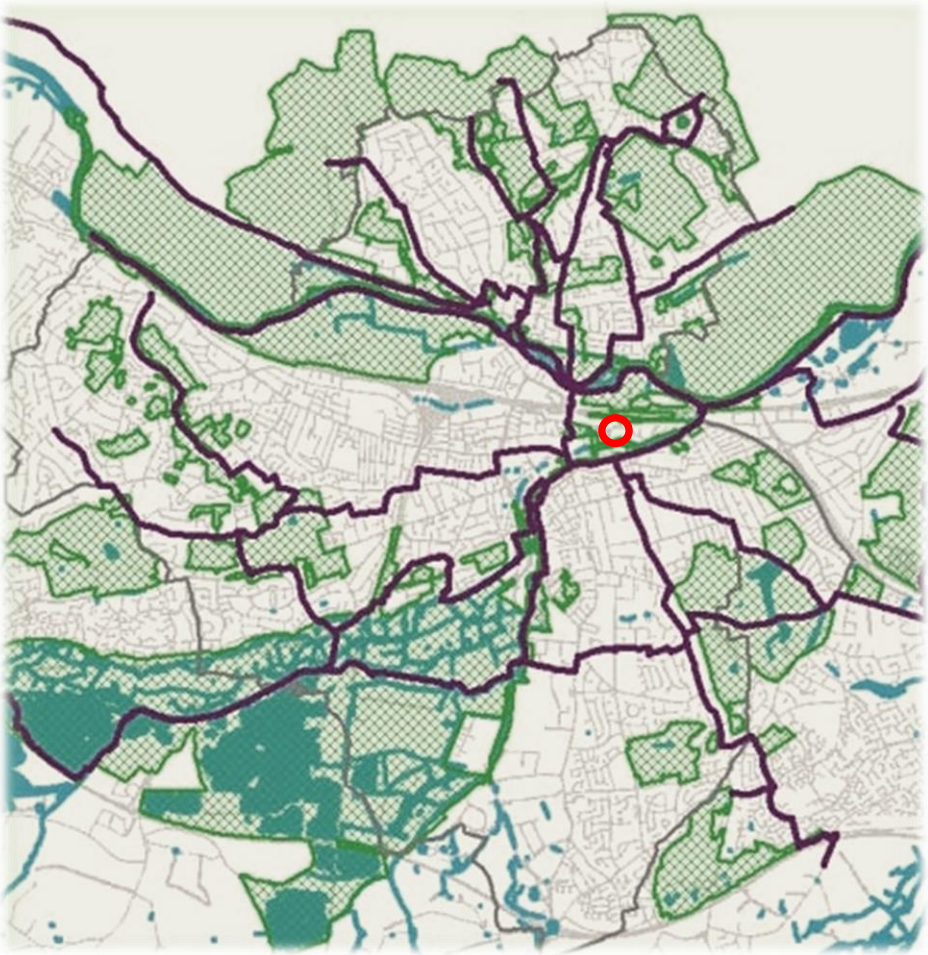
C. SCREENING DECISION (Indicate below which assessment applies)					
Assessment		**Action (produce model letter '*x*')**	☒	**Response due from**	**Date response due**
Sch 1 development	ES required	**Issue positive or negative SO/SD**	☐		
Sch 2 development – threshold exceeded/criterion met/sensitive area and likely to have significant effects on the environment	ES required	**Issue positive or negative SO/SD**	☒	4th May, as per the submission on 13th April 2016. As per section 5(5) of the EIA regs 2011 (as amended)), it was agreed in writing with the applicant (on 13th April 2016) that the screening opinion would be issued by 18th May 2016, rather than by 4th May 2016.	18th May 2016.
Sch 2 development – not likely to have significant effects on the environment	ES not required	**Issue positive or negative**	☐		

		SO/SD			
Sch 2 development but effects not clear at this stage – file to be reviewed at a later stage	N/K	**Review when appropriate – new info/case progresses**	☐		
Sch 2 but not EIA development – negative screening opinion - SoS agrees	ES not required	**No action required**	☐		
Sch 2 but not EIA development – positive screening opinion - SoS disagrees	ES not required	**Issue negative SO/SD**	☐		

Name	Jonathan Markwell, Principal Planning Officer, Reading Borough Council
Date	11/05/16

APPENDIX 3: PRELIMINARY ECOLOGICAL ASSESSMENT, 1 JULY 2016

KENAVON DRIVE: PRELIMINARY ECOLOGICAL APPRAISAL



BIODIVERSITY BY DESIGN

On behalf of

London & Quadrant Housing Trust

01st July 2016

Rev 2.0

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EXECUTIVE SUMMARY

The present report provides a preliminary ecological appraisal of the proposed Kenavon Drive development near the centre of Reading. The Site, which is ca. 2.2ha in area, is largely occupied by two large department stores – Homebase and Toys R Us – and associated car parking, with a fairly complete peripheral belt of planted mid-sized trees and shrubs. The Site itself is largely of negligible ecological interest, except for its vegetated fringes which are of importance to common urban wildlife only in a very local (sub-Parish) level context, with just three trees of at most of 'Low' potential value for roosting bats.

The Site is, however, adjacent to the Forbury Loop section of the River Kennet, which Reading Borough Council categorises as a 'Wildlife Link' in its policy documents. The River Kennet could be an important commuting and foraging route for bats and so further more detailed survey work is being undertaken in this particular respect.

Reading Borough Council considers the current use of the Kenavon Road Site inappropriate for its central location and would like to see it transformed to higher-density mixed-use development.

The Borough believes that *'the existing landscape quality of the Kenavon Drive area is harsh and uninviting'* and that the redevelopment of the area *'offers a rare town centre opportunity to enhance the Kennet waterfront'*; improving greenspace connectivity, promoting biodiversity and providing high levels of public amenity.

Preliminary proposals for the Site include for a number of apartment blocks, which range in height between 3 and 19 storeys. In keeping with Reading Borough policies, redevelopment of the Site would appear to provide a significant opportunity for ecologically enhancing the riverside and extending its influence into the heart of the development. This should be possible to achieve while also maintaining high density development appropriate to the location.

Potential options for ecologically enriching the design include the following:

- Riverside improvements. While the central plaza/square will be hardstanding, the wider riverside zone could be made much greener, and also more biodiverse, in keeping with Borough policy. Vegetated floating rafts could be installed on river walls where these would not constrain Water Fest activities.

- Sustainable Drainage. Multifunctional Sustainable Drainage features could be included as part of the landscape, and could be designed to maximise biodiversity, and amenity value (especially the provision of an enhanced landscape aesthetic), in addition to attenuating and treating rainwater runoff.

- Living architecture. Living (green) roofs and façades could be incorporated on the built form to add biodiversity value and provide many other ecosystem services, especially bioclimatic cooling and improvement of urban air quality.

- Courtyards. Courtyard and podium landscapes could be designed to maximise value to desired species of native fauna, whilst also achieving and very attractive year-round landscape aesthetic, through careful choices of plant species combinations and use of systems such as pergolas to permit the creation of layers of undisturbed habitat above the normal plane of human activity. Where necessary mobile landscape units could be

deployed to provide flexibility of site use. Food production units could be installed with demonstration crops of value to native fauna.

- Water features. To increase faunal activity close to people's place of residence notably, small water features/rills/small fountains could be introduced. Such features are also key elements in biophilic appeal and would provide the opportunity of strengthening the waterside aesthetic throughout the site and create a very strong and saleable sense of place.

- Wildlife refuges. Appropriate planting and the installation of artificial refuges for target species of native fauna throughout the development could help to attract target species listed in the Reading Biodiversity Action Plan.

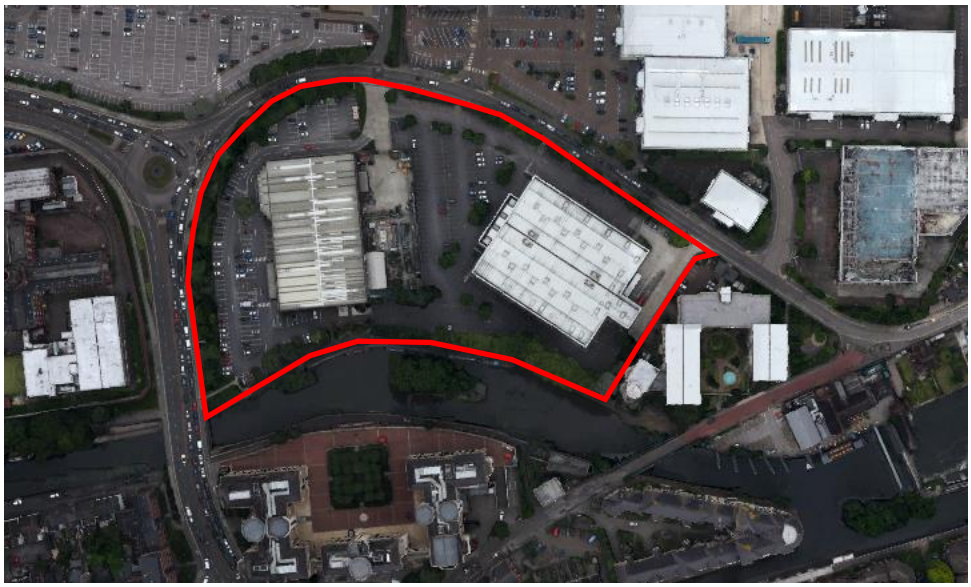
INTRODUCTION

PROJECT BACKGROUND

The present report provides a preliminary ecological appraisal of the proposed Kenavon Drive development near the centre Reading; hereafter also referred to as 'the Site', (see Figure 1.1). The Site, which is ca. 2.2ha in area, is bounded by Kenavon Drive to the north, Forbury Road to west, the River Kennet to the south, and apartment buildings to the east. The Site is largely occupied by two large department stores – Homebase and Toys R Us – and associated car parking, with a fairly complete peripheral belt of planted trees and shrubs.

Reading Borough Council considers the current use of the Site inappropriate for the central location and would like to see it transformed to higher-density mixed-use development. The Borough believes that *'the existing landscape quality of the Kenavon Drive area is harsh and uninviting'* and that the redevelopment of the area *'offers a rare town centre opportunity to enhance the Kennet waterfront'*; improving greenspace connectivity, promoting biodiversity and providing high levels of public amenity.

Preliminary proposals for the Site are shown in Figure 1.2. These include the construction of a number of apartment blocks which range in height between 3 and 19 storeys. These blocks would be focused around three courtyard areas. A large plaza area is proposed near the centre of the Site adjacent to the River Kennet, while two linear areas of open space extend from this area in a 'V' shape, connecting with Kenavon Drive on the northern edge of the Site. The plaza is intended to host various events large and small, including Reading's annual Water Fest. The plaza will also include a shallow hard engineered water feature.



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igure Conceptual design as of une

TERMS OF REFERENCE

The present Preliminary Ecological Appraisal Report sets out the findings of the following:

- policy review and desk study;
- site walkover survey;
- outline ecological design concepts (for mitigation and enhancement).

The aim of this report is to ecologically inform the emerging masterplan, outlining various ecological and other environmental constraints and opportunities. The report is a precursor to a more detailed assessment which will be required for Environmental Statement, which can only be undertaken once all scheme details are known and further, more detailed, ecological surveys (relating to bats) have been completed.

METHODS

DESK STUDY

Information on relevant national and local planning policy relating to biodiversity has been reviewed and the key policies relevant to the proposals summarised.

An ecological desk study was undertaken to review existing ecological information relating to the Site and its ecologically relevant context.

In line with preliminary ecological appraisal guidelines produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016), ecological records were obtained from the Thames Valley Environmental Records Centre (TVERC) from within 2km of the Site, extended to 10km for Annex II bats, based around the OS grid reference SU722735.

The following datasets were reviewed, considering data collated since 2006:

- Legally protected and notable species.
- Invasive non-native species records (2 km search area).
- Designated wildlife sites (2 km search area).
- Section 41 (S.41) Habitats of Principal Importance.
- Phase I habitats.

Data and other relevant information was also requested from the:

- Environment Agency (no reply received at time of writing).
- Kennet and Avon Canal Trust / Kennet Catchment Partnership (John Swift and David Copley).
- Reading and District Angling Society (Alan Hughes; no reply at time of writing).
- Reading Borough Council's Ecologist (Giles Sutton).
- Binfield Badger Group.

Information was also obtained from Multi-Agency Geographic Information for the Countryside (MAGIC) in regards to Statutorily designated sites.

EXTENDED PHASE 1 HABITAT SURVEY

A Phase 1 Habitat Survey of the Site was completed on the 9th May 2015 in line with standard survey methods (JNCC, 2010). This was extended to consider the potential for the presence of protected and/or notable species and also any incidental field observations (CIEEM, 2016). During this survey, all habitats were mapped, using standard habitat definitions, and appropriately described, with target notes (TN) used to further describe areas too small to map or other points of interest. TN descriptions are provided in Appendix A.

All higher plant species (which were identifiable) within each habitat type were recorded and their relative abundance was assessed on the DAFOR scale:

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare]

GROUND LEVEL ASSESSMENT OF TREES AND BUILDINGS FOR BAT-ROOSTING POTENTIAL

Ground Level Assessment of Trees

During the Extended Phase 1 Habitat Survey of the Site, trees within the Site boundary were assessed from ground level (using binoculars and high-powered torches, as necessary) during the daytime to identify features potentially capable of supporting bats (in accordance with Collins, 2016).

In particular, those features that could act as roosting places were searched for, including:

- Hollow trunk / branch;
- Rot hole;
- Split branch;
- Peeling bark;
- Woodpecker holes; and,
- Dense ivy-covering.

Any such features were inspected for the following signs of bat presence:

- Bat droppings;
- Dark staining caused by bat faeces;
- Polished surfaces at a possible access point;
- Staining caused by the natural oils in bat fur; and,
- Scratch marks made by bat claws.

Following the ground-level assessments, each tree was assigned a rating of suitability for supporting bats. The rating was based on a combination of factors, including:

- Presence of the above listed potential roosting features;
- Evidence of presence as described above;
- Each tree's location in the landscape and proximity to features that could be of –
  - Positive value to bats e.g. close to good commuting and foraging habitat, in particular, trees and/or rivers;
  - Negative value i.e. highly urbanised situation, high levels of disturbance and/or high-powered lights.
- Surveyor experience.

The rating system consisted of the following categories:

- Confirmed roost (e.g. bat observed or droppings found).
- High value roosting features.
- Moderate value roosting features.
- Low value roosting features.
- Negligible value roosting features.

Ground-level Assessment of Buildings

On the same date as the tree inspection, a ground-level assessment was made of the Site's buildings, principally the Homebase and Toys R Us stores, checking for evidence / potential of bats, using the same equipment used for the survey of trees. Notes were made relating to relevant characteristics providing potential access and roosting opportunities.

Each of the buildings and structures was assigned a rating of suitability for supporting roosting bats following similar lines to that described above with respect to trees.

SURVEY PERSONNEL

All of the above surveys were undertaken by Fleur Oliver CEnv MCIEEM (licensed bat worker, number: 2015-14626-CLS17).

ASSESSMENT OF ECOLOGICAL IMPORTANCE AND ECOSYSTEM SERVICES

Ecological assessment was undertaken in keeping with the guidelines set out in CIEEM (2016). This includes a qualitative assessment of existing and potential provision of urban ecosystem services.

WILDLIFE LEGISLATION AND PLANNING POLICY

WILDLIFE LEGISLATION

Key wildlife legislation covering protected sites and species relevant to the present project is summarised as follows:

- Conservation of Habitats and Species Regulations 2010 (HR 2010). Provides protection for:
  - European Sites - SACs, Special Protection Areas (SPAs) and Ramsar Sites (N.B. none are relevant to the present proposals).
  - European Protected Species (EPS) / Schedule 2 (Sch.2) listed species.

- Wildlife and Countryside Act 1981 (as amended) (WCA 1981). Provides protection for:
  - Sites of Special Scientific Interest (SSSI) (N.B. additional protection provided under Countryside and Rights of Way Act 2000).
  - Schedule 1 (Sch.1) birds.
  - Schedule 5 (Sch.5) fauna.

- Natural Environment and Rural Communities Act 2006 (NERC 2006). This provides protection via the Biodiversity Duty for S.41 listed habitats, flora and fauna of Principal Importance for the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making throughout the public sector, which should be seeking to make a significant contribution to the achievement of the commitments made by Government in *Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services.* The framework demonstrates how the UK and its component countries are to work to achieve the *'Aichi targets'* set out in the Convention on Biological Diversity report - *'Strategic Plan for Biodiversity 2011–2020'.*

- Protection of Badgers Act 1992 (PBA 1992). Provides protection for Badgers and their setts.

PLANNING POLICY

National Policy

The new National Planning Policy Framework (NPPF) 2012 establishes a presumption in favour of *'sustainable'* development except in case of Natura 2000 sites. For development to be sustainable there should be at least no-net loss of ecological resources.

It prescribes that developments should seek to minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF stipulates that:

- All developments should consider climate change and biodiversity.
- If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.
- Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted. (N.B. The present proposal's primary purpose is for housing but as will be discussed, achieving a significant net gain for biodiversity is a further key aim of the present proposals.)
- Opportunities to incorporate biodiversity in and around developments should be encouraged.
- Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including Ancient Woodland and the loss of aged or veteran trees found outside Ancient Woodland, unless the need for, and benefits of, the Development in that location clearly outweigh the loss.

Reading Borough Council Planning Policies

Reading Borough Council is currently working on producing a new Local Plan, which will replace the current development plans with a new plan setting out how Reading will develop up to 2036. This is not expected to be available for consultation until 2017 and so the present review is based on the existing documents, including of the Core Strategy, Reading Central Area Action Plan, and the Sites and Detailed Policies Document. These and other planning documents are reviewed in Table 3.1 below.

Reading Borough Council also specifically produced in 2004 a Supplementary Planning Guidance Note relating to Kenavon Drive entitled *Kenavon Drive Urban Design Concept Statement*. This document highlights that while the Kenavon Drive Site is expected to be developed primarily for residential purposes, opportunities for making the most of the River Kennet as a destination for leisure and recreation, and as a biodiversity resource, should be maximised.

Other statements and policies relating to biodiversity and green infrastructure more generally are summarised as follows:

- Recognition of the important contribution that open space and biodiversity makes to quality of life, economic prosperity, provision of opportunities for education, and recreation and visual amenity.
- Maintenance and enhancement of the quality of the Borough's landscapes and biodiversity features.
- Incorporation of beneficial biodiversity into the design and planning of new development.
- Use of green and 'brown' roofs[1] to enhance the biodiversity value of developments in the centre.

[1] Note that terms such as green and brown roofs are now considered to be unhelpful misnomers by the UK's Livingroofs.org. So-called brown roofs (the term itself sounds pejorative) can be very green and green very brown. The key consideration is that they are habitats for target species of wildlife and have many other functions. The preferred term is now 'living roofs' which is used throughout the present document.

- Design of new development to adapt to the consequences of climate change, including through the installation of Sustainable Drainage Systems (SuDS); recognising that part of the Kenavon Drive site is situated within Zone 2 with a Medium Probability (1 in 1000) annual chance of flooding.
- The development of a green city is greatly enhanced by the planting of urban trees. Site perimeter tree planting should be a requirement of new development to increase the effective number of street trees and help create green links and corridors. Street trees and other planting is also important in providing shade and contributing to amelioration of the urban heat island effect.
- The network of wildlife links and corridors should be extended and enhanced to provide opportunities for public access and recreation.
- Developments adjacent to watercourses are required to enhance the landscape, amenity and ecological interest of their riverside setting.

The Reading Biodiversity Action Plan was also produced by Reading Borough Council although this document is reviewed separately in the next section.

Reading Biodiversity Action Plan

According to the Reading Borough Council *Open Spaces Strategy* the Reading Biodiversity Action Plan (2007) has been adopted as policy by the Council and hence is a material consideration in planning. Key policies are summarised in Table 3.2. The plan emphasises that the Borough Council will protect and enhance biodiversity through the development control process.

Full Habitat Action Plans have been drawn up for a variety of habitats. Those most relevant to the present proposals are Urban Habitats, Ponds (Standing Open Water) and Reedbeds, and Rivers and Other Waterways. With respect to Urban Habitats and new development policy seeks to promote provision of:

- Nesting and roosting features for birds and bats respectively.
- Green and brown roofs and walls.

Regarding ecological aspects of water policy promotes:

- The protection and enhancement of the waterways in riverside redevelopment, including seeking opportunities for bankside and corridor enhancements.
- Attenuation of runoff entering the Thames and Kennet through Sustainable Drainage Systems.
- Expansion of reedbed habitat.

Full Species Action Plan Priority Lists have been drawn up for [*inter alia*] Bats (that is to say, all those bat species found in Reading), Black Redstart *Phoenicurus ochruros*, House Sparrow *Passer domesticus*, Sand Martin *Riparia riparia*, Stag Beetle *Lucanus cervus*, and Black Poplar *Populus nigra*.

Other Relevant Policy Documents

Policies relating to the lower reaches of the River Kennet produced by the Environment Agency and Kennet and Pang Fishery Action Plan Stakeholder Group are listed in Table 3.3. In summary, key policies aim to promote habitat restoration, fish movement through waterway obstructions and recreational value.

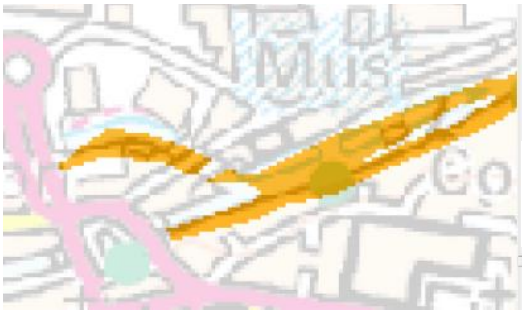
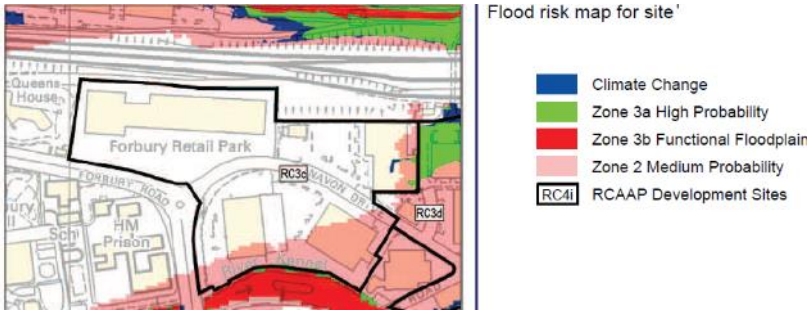
a le Summar of reen lue Infrastructure Planning Policies

Planning Document	Key Statements and Policies
Core Strategy (January 2008 with Alteration Adopted 27th January 2015)	• The effective protection of the natural environment and prudent use of natural resources is crucial to maintaining a high quality environment. • There are also several recognised economic benefits associated with a high-quality natural environment. • Whilst development has the potential to harm biodiversity, it also has the potential to assist habitats and species, for example, though the incorporation of nature conservation measures and improvements. • The vision for biodiversity and the natural environment in Reading is to maintain and enhance the quality of the Borough's landscapes and biodiversity features, so that they contribute to the provision of a distinctive character, make an important contribution to quality of life, and provide opportunities for education and awareness, recreation (particularly open space) and visual amenity. • Developments should seek to enhance biodiversity wherever possible. • Sustainable communities will have access to good quality recreational and ecological resources. • There is an ongoing need to ensure that the impacts of climate change on the natural environment are considered. • Natural environment policies contained within this document will contribute to the wider aims of the UK Biodiversity Action Plan (BAP) [replaced by the UK Post-2010 Biodiversity Framework published in 2012] whilst also being consistent with the objectives of the Reading BAP. • On sites with recognised biodiversity or geological value, development will not be permitted where there would be a direct or indirect adverse impact on the site, unless it can be clearly demonstrated that: o The need for development clearly outweighs the need to protect the value of the site; and o Appropriate compensation, impact minimisation, mitigation and compensation are provided. • Local Nature Reserves and Wildlife Heritage Sites will be safeguarded and where possible, enhanced. Permission will not be granted for any development that would adversely affect a designated nature reserve or Wildlife Heritage Site. • Any development that would sever or threaten the integrity of an established wildlife link, as indicated on an adopted proposals map, will not be permitted. Where applicable, developments should be designed to protect, consolidate, extend and enhance the network of wildlife links and corridors in and adjoining the Borough, • The fragmentation and isolation of natural habitats should be avoided, with such networks being protected from development, and where possible, strengthened. • Proposals are therefore likely to be resisted, where having an adverse impact on the function of wildlife corridors. • Sensitive design and planning will be required, where sites are within close proximity of, or have the potential to fragment corridors. • High levels of accessibility to green networks and spaces should also be maintained. • Targets: tangible increases in the quality and integrity of the Borough's biodiversity features, including: o Incorporation of beneficial biodiversity or geological features and/ or nature conservation measures into the design and planning of new development; o Consolidation and strengthening of existing green network, and improvements in the condition of wildlife links (leading to their enhanced function) over the plan period; o Improved accessibility to green corridors and networks. • Developments should incorporate sustainable urban drainage facilities and techniques as part of the layout of a development as appropriate and

Planning Document	Key Statements and Policies
	as advised by the Environment Agency, including minimising the size of impermeable areas so that peak run-off and annual water run-off is reduced where possible and in any case is no greater than the original conditions of the site. • As a significant part of Reading is at high risk from flooding, increased emphasis on water retention and water recycling is justified to reduce the growth of that risk arising from new development. Targets: 50% of all minor and major applications to contain sustainable drainage systems.
Reading Central Area Action Plan to 2026 (2009)	• The centre of Reading will provide a safe and distinctive high quality environment and commercial and community facilities accessible to all members of society, with easy access to high quality public areas, open space and water spaces. • The centre will make the most of its waterside areas as a destination for leisure and recreation, and protect and enhance wildlife habitats. • The use of green and brown roofs may enhance the biodiversity value of developments in the centre. Brown roofs in particular are of benefit to species such as Black Redstarts, one of the priority species in the Biodiversity Action Plan, which have been sighted in the central area. • Proposals should maintain, improve and create new access along the River Kennet. • Some parts of the banks of the Kennet do not currently have public access, so it is important to ensure that new development seizes any opportunities to create new public routes, as well as enhance the waterside environment for ecology purposes. • Reading's waterways are also a major asset which need to be built into the strategy, and their distinct characters should be respected. The Kennet generally runs through more urban higher-density areas, whilst the Thames retains its sense of tranquillity. These distinct characters have informed the development of the RCAAP. It is essential that public access along waterways is retained and expanded in the central area. • The existing retail around Kenavon Drive is low-density in character, and the focus here should be on higher-density mixed use, with uses including housing provided alongside the retail. • RC3d, Kenavon Drive & Forbury Business Park: This site would be largely residential in nature, although opportunities to create an area of riverside open space on or near the Kennet should be sought. • One of the key principles [for the Public Realm] is to protect designated areas of open space, seek new opportunities for open space and make the most of the centre's waterside areas as a destination for leisure and recreation and a wildlife habitat. • Imaginative uses of open space and the public realm, which contribute to the offer of the centre, will be encouraged, and new open spaces should be of a size and shape to be flexible enough to accommodate such uses. • The provision of water features, trees (including street trees) and other planting, as well as hard landscape, to create high-quality spaces, will be encouraged; • Development proposals adjacent to or in close proximity to waterways will retain and not impede existing continuous public access to and along the waterways, and will provide legible continuous public access to and along the waterways where this does not currently exist; • The design of developments adjacent to a waterway, including the refurbishment of existing buildings, will be required to enhance the appearance of the waterways. • Pedestrianisation, traffic management and/or environmental enhancements will continue to be implemented on appropriate streets.
Sites and Detailed Policies Document (2012)	**DM1: ADAPTATION TO CLIMATE CHANGE** • All developments will demonstrate how they have been designed to incorporate measures to adapt to climate change. • Use of trees and other planting, where appropriate as part of a landscape scheme, to provide shading of amenity areas, buildings and streets,

Planning Document	Key Statements and Policies
	designed with plants that are carefully selected, managed and adaptable to meet the predicted changed climatic conditions. • All development shall minimise the impact of surface water runoff from the development in the design of the drainage system. **OPEN SPACE** • Access to high quality open spaces, sport and recreation can make an important contribution to the health and well-being of communities. They contribute to the delivery of many objectives in terms of supporting an urban renaissance, defining the character of a town and place, promotion of social inclusion and community cohesion, health and wellbeing, climate change adaptation, and the promotion of sustainable development. • New open space should... provide some informal landscape for aesthetic, wildlife and recreational purposes. • People in and around the town centre are still further away from public open space than guidelines recommend, and parts of North Reading are very deficient in play areas. In many cases historical development patterns make it difficult to introduce new areas of Public Open Space (POS) without large-scale redevelopment. • Areas immediately to the West, North West, South and East of the town centre are amongst the most poorly supplied in the Borough; • Wildlife corridors are incomplete .... The extension and enhancement of the green network, through links and stepping stones (small patches of wildlife habitat within an otherwise hostile environment), can be achieved in a number of ways, including: o The enhancement of existing links; o The enhancement of existing habitats; o The provision of new links, such as native hedges and lines of trees; and o The provision of new habitats, such as green roofs, wildlife ponds, nesting sites for birds, and wildlife-friendly landscape design. **DM17: GREEN NETWORK** • The identified Green Network comprises Local Wildlife Sites, Local Nature Reserves, Areas of Biodiversity Action Plan (BAP) habitats and designated open space plus both existing and potential Green Links, all of which are shown on the Proposals Map. It also includes Biodiversity Opportunity Areas. These Green Links shall be maintained, protected, consolidated, extended and enhanced. • New development shall demonstrate how the location and type of open space, design landscape areas and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map. • Reason for the policy: Connecting natural green spaces through the urban and surrounding area creates a landscape capable of sustaining greater biological diversity and a wider range of ecological functions than isolated fragments. It also promotes a holistic view of 'the Green Network', recognising the collective role of such spaces to 'ecological services' such as storm water control and air pollution amelioration. **DM18: TREE PLANTING** • New development shall make provision for tree planting within the application site, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change.

Planning Document	Key Statements and Policies
Proposals Map	• The River Kennet which bounds the Site to the south is identified as a Green Link on the Proposals Map in keeping with policy DM17: GREEN NETWORK.
Reading Borough Council Open Spaces Strategy (2007)	**VISION** *…. Our rivers and canals will be the focus for an interconnected series of accessible and desirable public spaces, providing a range of natural and urban experiences …. These open areas will incorporate a range of habitats that will help maintain and enhance the diversity of local wildlife, and provide for a better overall quality of life.* **KEY TARGET** • Enhance the quality and accessibility of existing and potential public open spaces in Reading, including those associated with the waterspace of the River Thames and Kennet. • The Cultural Strategy affirms the importance of Reading's parks, open space and waterways, and sets the objective of protecting and maximising the potential of the Thames and Kennet rivers. **OBJECTIVES FOR OPEN SPACES** • To deliver safe, pleasant and popular urban civic spaces. • To develop a network of attractive, safe green links across the town. • To preserve the views of wooded ridges and enhance the streetscape through planting. **CIVIC SPACES** • In the town centre, the creation of a coherent series of public-space experiences would supplement recent improvements in the town centre, establishing appealing 'gateways', improving first impressions of Reading for thousands of visitors, promoting the regeneration of these commercial zones, and generating income. The Kennet River, in particular, lends itself to the creation of linked riverside civic spaces - with trees, benches, lighting and other features. **STREETSCAPE** • The development of a green city would be greatly enhanced by the planting of urban trees. Site perimeter tree planting should be a requirement of new development to increase the effective number of street trees and help create green links and corridors. • Special attention should also be given to the approaches to major parks and important public buildings. Avenues of trees radiating out from the park extend the 'influence' of the park on its locality. **GREEN LINKS** • The creation of a network of safe green links for pedestrian/cycles that improves access to a choice of open spaces, is a key objective and an integral part of the OSS. • The Strategy will also examine the links that would most usefully double as wildlife corridors. **SUPPORTING WILDLIFE** • The Biodiversity Action Plan recommends that, as Reading develops, a structured mosaic of habitats be created through the planned incorporation of appropriately located corridors and buffer zones …. The BAP proposals are adopted. **DEVELOPER GUIDELINES FOR NEW OPEN SPACE: GENERAL PRINCIPLES** • In general, open spaces planning gain will require …. In town centre developments, a requirement that street boundaries be planted with

Planning Document	Key Statements and Policies
	urban-scale trees, as well as a contribution to off-site open space improvements to cater for both access and additional use. • New public open space must be: ○ Linked to adjacent local communities (not buried within the new development); ○ At least in part, informal landscape for both aesthetic and recreational purposes.
Reading Borough Council Level 1 Strategic Flood Risk Assessment (SFRA) (2009) & Reading Borough Council Level 2 Strategic Flood Risk Assessment RC3c – Forbury Retail Park (2008)	• The principal flood risk in the Borough of Reading comes from the Rivers Thames and Kennet. The historic town centre is located on higher ground between the two rivers, clear of the floodplain. However, development since the mid-19th century has encroached on the floodplain areas of both rivers and it is predominantly these areas which are at risk. [N.B. the southern edge of the Site is highlighted in the flood outline from 2003 floods; see figure below]  **Flood outline from 2003 floods**  • The Sustainability Appraisal produced in relation to the forthcoming new Local Plan states with respect to Kenavon Drive that *'there is also a potential negative impact on flooding (2) of development in the flood plain'*; a small proportion of the site falls within Zone 2 Medium Probability, affected by flooding from the River Kennet. • Approximately one third of the Kenavon Drive Site is situated within Zone 2 Medium Probability, with a 0.1% (1 in 1000) annual chance of flooding. The remainder of the site is situated in Zone 1 Low Probability. The site specific Strategic Flood Risk Assessment states that the site can be developed safely provided certain mitigation measures are put in place. Recommendations from the study include the following: ○ If at all possible, residential uses should be restricted to those areas of the site that fall within Zone 1 Low Probability, situated away from the River Kennet; ○ **Sustainable drainage systems (SuDS) must be incorporated into the site design to ensure that runoff from the site does not exceed greenfield runoff rates.** It is important to ensure that SuDS are designed with due consideration to soil and groundwater conditions. Infiltration techniques should be sought wherever possible, however are likely to be unsuitable in areas of shallow groundwater and/or impermeable soils (and in such cases lateral flow SuDS can be used). Buildings and the ground level landscape should be oriented within the site to avoid blocking overland flow routes;

Planning Document	Key Statements and Policies
Kenavon Drive Urban Design Concept Statement (2004)	• The River Kennet/Avon Canal forms the southern boundary of the study area and offers a rare town centre opportunity for the enhancement of the Kennet water front; • A comprehensive approach is required to provide strategic and accessible solutions to improve both pedestrian and cycle links to and within the area. • Create a high quality public realm with appropriate open space and landscape design. • Proposals should make provision for comprehensive new movement links which should aim to include as a minimum: upgrading of the footpath along the north side of the River Kennet, which should be continued to the west, strengthening pedestrian routes to the town centre, Reading Station and Forbury Gardens and also further to the east, along the west bank of the river, to create a continuous link with the River Thames. • It is acknowledged that the existing landscape quality of the Kenavon Drive area is harsh and uninviting. Applications for new development within the study area will need to demonstrate, through the production of a landscape strategy, how they contribute to the transformation of the area, turning it into a sequence of unambiguous, connected green spaces which promote bio-diversity and provide high levels of public amenity. • Design for open space should consider: o Use of indigenous plant material or species of local provenance; o Use of sensitive lighting achieving 'secured by design' standards but not contributing to wider light pollution in the urban area. • The quality of the waterfront along the River Kennet should be improved and it should be integrated physically and visually into the study area. Open space in this location should be enhanced through a comprehensive and congruous landscape scheme to include sensitive lightning and appropriate planting. • Residential areas should address the river front and integrate the existing Kennet Walk development. • Private amenity space should be provided by the use of balconies, patios and upper level roof gardens/courtyards. • Objectives for achieving sustainable development .... seeks the adoption of sustainable design measures in new development. This covers a wide range of initiatives: o .... maximised green, soft, permeable surfaces; o ..incorporating sustainable drainage systems.

a le Reading iodiversit Action Plan Reading orough Council – an Overvie

Planning Document	Key Statements and Policies
General	• Buffer zones' of land around, and suitable corridors linking areas rich in species, are critical in conserving the potential for populations to expand and increase. As such, Reading Borough is important in holding a rich mosaic of land, rivers, water habitats and associated corridors for wildlife to use. • As Reading develops and changes in the future, incorporation of appropriately located buffer zones and corridors should create a more structured, linked and enhanced mosaic of habitats. • Reading Borough Council recognises that it has an important role to play in terms of fostering biodiversity and is supportive of the actions needed to increase the presence of wildlife in the borough. • As the Local Planning Authority, the Council will continue to address biodiversity issues through the development control process. Policies to protect and enhance biodiversity will continue to be applied and will be included in the emerging local development framework, in line with national Planning Policy. • Biodiversity is one of several Quality of Life Indicators used to measure the delivery of the Community Strategy.
Habitat and Species Action Plans	• Full Habitat Action Plans have been drawn up for [*inter alia*] Urban Habitats, Ponds (Standing Open Water) and Reedbeds, and Rivers and other waterways. • Full Species Action Plan Priority Lists have been drawn up for [*inter alia*] Water Vole *Arvicola amphibius*, Black Redstart, House Sparrow, Sand Martin, Stag Beetle *Lucanus cervus*, and Bats (all species found in Reading), Black Poplar *Populus nigra.* • Other species of conservation concern in a separate Long List include [*inter alia*] Otter *Lutra lutra*, Kingfisher *Alcedo atthis*, House Martin *Delichon urbica*, Linnet *Carduelis cannabina*, Reed Bunting *Emberiza schoeniclus*, Song Thrush *Turdus philomelos* and Swift *Apus apus*, Bluebell *Hyacinthoides non-scripta.* • Other species listed for consideration in a subsequent review include [*inter alia*] Spotted Flycatcher *Muscicapa striata*, Minnow *Phoxinus phoxinus*, Stickleback *Gasterosteus aculeatus*, Brook Lamprey *Lampetra planeri*, Primrose *Primula vulgaris*, Tower Mustard *Arabis glabra*, Marsh Marigold *Caltha palustris*.
Urban I: Man-Made Sites and Structures	• Require nesting provision for birds and bats as part of development. • Maintain a mosaic of suitable sites, including ground, green and brown roof and wall sites. • Seek to secure additional provision of habitats. e.g. green and brown roofs. • Brown roof required for Black Redstarts in town centre.
Semi-Natural Grassland (including Water Meadows)	• If possible create new species rich grassland areas.
Ponds (Standing Open Water) and Reedbeds	• Expand existing patches of reedbed; long term - increase diversity and extent of habitats. • When opportunities arise seek to increase area of standing water. • Encourage creation of temporary pools, ('swales' and similar) as part of Sustainable Drainage Systems where appropriate. These areas to be planted appropriately for wildlife.
Rivers	• The overall aim is to enhance the waterways of Reading, by ensuring that water quality is maintained and improved where possible. Road and related run off can deleteriously affect the water quality of the Kennet and other waterways, so efforts should be made to reduce this impact. Riverside redevelopment presents opportunities for bankside and corridor enhancements. To attenuate flooding it is important that every opportunity is taken to enhance the floodplains of the Thames and Kennet. • Short term - Protect rivers and existing appropriate bankside vegetation;

Planning Document	Key Statements and Policies
	• Medium term - Enhance, maintain and protect habitats of surrounding drainage area; • Long term ○ Maintain water quality in Kennet. ○ Raise awareness and promote the protection and enhancement of the environment of watercourses. ○ Seek to ensure that all new or reconstructed road run off goes through an oil interceptor prior to discharge waterways. Ensure that new and existing interceptors are maintained.
Otter	• Provide network of suitable habitat along Reading's waterways and resting sites in all other stretches.
Bats	• Increase foraging habitat – Common Pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus*), Noctule *Nyctalus noctula*, Daubenton's *Myotis daubentonii*, Serotine *Eptesicus serotinus*, Brown Long Eared *Plecotus auritus* and Natterer's *Myotis nattereri.*
Water Vole *Arvicola amphibius*	• Maintain/enhance network of suitable habitat along Reading's waterways.
Birds	• Increase breeding population numbers across town - Black Redstart, House Sparrow, Sand Martin, Kingfisher, Reed Bunting, Song Thrush, Swift
Black Poplar	• Introduce to suitable open space waterway sites.
Bluebell and Cowslip	• Increase distribution, including introduction to new woodland.
Generic actions	• Erect bird and bat boxes in areas of existing potential nesting/roosting sites and where population is low (Developers). • Seek habitat protection and/or enhancements and/or re-provision through development process. • Use local or lowland England provenance native stock where practical in new wildlife habitat planting schemes in public sites and as part of new developments. • In order to promote interest and good practice, produce interpretation material about selected sites and habitats/species (Developers).

a le Other Relevant Polic Documents

Planning document	Key statements and policies
Water for Life and Livelihoods, Part 1: Thames River basin District River basin management plan (Environment Agency, 2015)	• Small scale restoration projects in the middle and lower Kennet with volunteer input are joining the gaps between significant scale habitat restoration works. • Public outreach projects (for example, Yellow Fish and 'You poo too') to reduce pollution from sewers and roads are underway for the entire catchment. • Urban habitat restoration and fish easements to address low fish populations are planned for the Lower Kennet. • Implement a Lower Kennet Habitat Restoration plan to bring the poorest water bodies to good status by resolving failures in fish, invertebrate and plant populations and improving amenity and recreational value.
Kennet & Pang Fisheries Action Plan (Kennet and Pang Fishery Action Plan Stakeholder Group)	• There are also conflicts of interests between recreational and conservation interests that use the canal and river systems. The objective is to maintain a high quality mixed coarse fishery whilst seeking to minimise conflicts between users. • Stillwater fisheries are numerous in the Kennet and Pang catchment and are centred around Newbury and Reading. They offer the greatest opportunities for fishery development and exist in various forms from working gravel pits through to established fisheries and conservation areas. The objective is to

Planning document	Key statements and policies
	allow stillwaters to develop in such a way as to broaden the diversity and range of fishing available to anglers so as to enhance recreational opportunities. The development must be managed as part of a broader strategy for the sustainable development of the gravel pit complexes, thus reconciling conflicts in use between fisheries, conservation and recreation interests. • The large numbers of weirs on the lower Kennet create impassable barriers to the movement of coarse and game fish species, preventing upstream colonisation of spawning, nursery and feeding habitat. The Thames Salmon Trust, in partnership with the Environment Agency and Millennium Commission, has raised £2million to construct 16 fish passes on the lower river between Reading and Hamstead Marshall. These will assist the upstream migration of many fish species.
Lower Kennet Valley Management Plan (2003)	• Not obtained at the time of reporting.
Kennet and Avon Canal Trust	• 'Protect, enhance and promote the Kennet and Avon Canal' (personal communication with David Copley).

EXISTING CONDITIONS

CONTEXT

Overview

Within Reading Borough existing habitats of note have become fragmented as the town has expanded. Despite this the Borough is important in holding a rich mosaic of terrestrial, riparian and aquatic habitats, characteristic of the wider countryside, although many habitats and populations are very small and isolated. Many of the more diverse sites have already been designated as Wildlife Heritage Sites, while two are Local Nature Reserves. As discussed below only two of these designated Sites is of conceivable relevance to the present proposals.

With the exception of the River Kennet river corridor, which is directly to the south of the Site (described separately in the next sub-section), greenspace is relatively limited in the vicinity of the Site. Local landuses include:

- North of Site. Large department stores and associated car parking.
- South and east of Site. Residential flats.
- West of Site. The Grade II-listed Reading Prison (now closed).

At its closest point the Reading to London railway corridor, which includes a range of typical rail-side habitats including scrub, linear woodland, grassland and ruderal communities, is only 60m to the north of the Site. As described below The Coal, Kennetmouth and Kings Meadow East Local Wildlife Site is at its closest point ca. 0.5km to the north-east.

Designations

There are no European or nationally designated sites within close proximity to the Site.

Within 2km of the Site there are 10 non-statutory locally designated sites, referred to in Reading Borough as Local Wildlife Sites. These are shown in Figure 4.1 and are listed as follows:

- Cow Lane Depot
- Fobney & Kennet Valley Meadows
- Henley Road Gravel Pit
- Holy Brook
- Reading Cemetery
- River Kennet/Kennet And Avon Canal
- The Coal, Kennetmouth And Kings Meadow East
- The Warren Woodlands Complex
- Whiteknights Park
- Whitely Park Farm/St Patrick's Hall

Of these sites, only two are considered of possible relevance to the development proposals; these being The Coal, Kennetmouth and Kings Meadow East and the River Kennet / Kennet And Avon Canal. The Coal, Kennetmouth and Kings Meadow East Local Wildlife Site consists of a mosaic of habitats, including mixed broadleaved woodland, scrub and tall herb and rough grassland. Circuitous ecological connectivity is provided to this Local Wildlife Site via the Rivers Kennet and Thames. The River Kennet / Kennet and Avon Canal Local Wildlife Site is ca. 1.2km

to the south-west of Kenavon Drive, although connectivity is provided through the intervening undesignated section of the River Kennet.

The section of the River Kennet adjoining the Site is also categorised on Reading Borough's Proposals Map as a *Green Link* under policy DM17: Green Network.

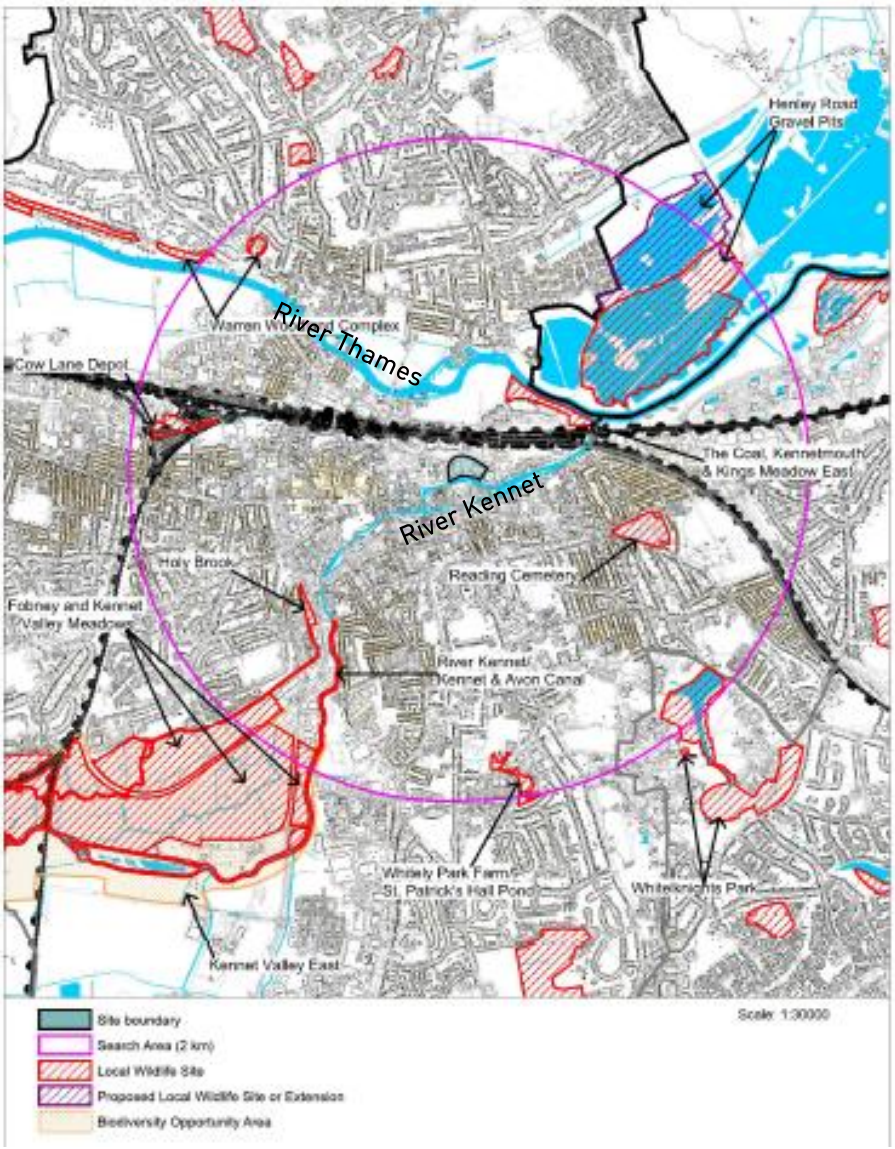


Figure 4.1: Designated wildlife sites within 2km of the Kenavon Drive Site

a le he Coal, Kennetmouth and Kings eado East the Kennet Kennet And Avon Canal ocal ildlife Site descriptions

Local Wildlife Sites	Verbatim description as provided in citation document
The Coal, Kennetmouth And Kings Meadow East Grid Reference: SU727740 Area (ha): 3.62	This site is a combination of two sites that were previously notified separately (The Coal and Kennetmouth West) and an area of land in the east of Kings Meadow. The Coal is also an old colliery spoil site and there is still evidence of this industrial past, with coal found on the surface throughout. The site comprises a central and riverside woodland area and an open wayleave at the foot of a steep railway embankment. The former is dominated by canopy trees including two large poplars and a small stand of semi-mature Hornbeams *Carpinus betulus*. Large Horse Chestnuts *Aesculus hippocastanum* also dominate in places. The understorey of Elder *Sambucus nigra*, Buddleia *Buddleia davidii* and Hawthorn *Crataegus monogyna* forms a dense thicket in places effectively shading out the ground flora throughout. Kennetmouth is a short length of towpath at the confluence of the River Kennet and the River Thames at Reading. It includes the western bank of the Kennet and the southern bank of the Thames. It has Alder *Alnus glutinosa*, willow *Salix* sp. and Ash *Fraxinus excelsior* trees and patches with wetland species such as Reed Sweet-grass *Glyceria maxima*, Lesser Reedmace *Typha angustifolia*, Yellow Flag *Iris pseudacorus*, Hemlock Water-dropwort *Oenanthe crocata*, Meadowsweet *Filipendula ulmaria* and Water Figwort *Scrophularia auriculata*. This site is important for the presence of the nationally scarce vascular plant, Loddon lily *Leucojum aestivum*. Several slender groundhoppers *Tetrix subulata* were present, colonies of which are often isolated along the Thames Valley. Kings Meadow East is at the eastern end of a large Tesco supermarket development. The site is currently utilised as a recreational area and as a short cut through to the supermarket from the boating jetty on the Thames. Much of this site has been created through the landscape design works associated with the supermarket development, including reprofiling the topography and substantial amounts of tree and shrub planting (circa 10 – 15 years ago). This work has supplemented the natural development of habitats on the site. The result is a mosaic of habitats including mixed broadleaved woodland, scrub and tall herb and rough grassland. The elevated central grassland areas tend to be the most interesting, being moderately rich in plant species at some locations. The grassland generally has a good variety of structure also. The surrounding low lying land is occupied by the woodland and scrub elements and tends to be densely shaded and botanically impoverished. There are some large canopy trees, including Small-leaved Lime *Tilia cordata*, poplar species, sycamore, oak *Quercus* sp. and buckthorn *Rhamnus* sp., as well as a mature avenue of Horse Chestnuts along the river side. A ditch forming part of the western boundary to Kings Meadow is mostly shaded now but holds Purple Loosestrife *Lythrum salicaria*, reedmace *Typha* sp., Water Plantain *Alisma plantago-aquatica* and Yellow Flag, and has a small area of Common Reed *Phragmites australis.* SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Some areas might be classed as open mosaic habitat on previously developed land. PROTECTED SPECIES: Bluebell *Hyacinthoides non-scripta* Schedule 8 WACA 1981 BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED: Amber List Species: Cormorant *Phalacrocorax carbo*
River Kennet/Kennet And Avon Canal Grid Reference: SU685709 – SU713719	A section of the River Kennet and the Kennet and Avon Canal from near Burghfield Bridge, south-east of Reading, to Waterloo Meadows adjacent to Edgar Road near the centre of Reading. The River Kennet is one of the best examples of a chalk river nationally, and is an UK BAP Priority Habitat. The Kennet & Avon Canal section is also fed by water from the River Kennet and is also calcareous in nature. SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Chalk river. PROTECTED SPECIES: Water Vole *Arvicola amphibius* (2000), Freshwater Crayfish *Austropotamobius pallipes* (1979), Bluebell (2004) SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: Water Vole (2000), Freshwater Crayfish (1979) RED DATA BOOK (RDB) SPECIES RECORDED: Freshwater Crayfish (1979),

Local Wildlife Sites	Verbatim description as provided in citation document
	NATIONALLY SCARCE (NSC) SPECIES RECORDED: Whorled Water-milfoil *Myriophyllum verticillatum* (1985), River water-dropwort *Oenanthe fluviatilis* (1985), Chives *Allium schoenoprasum* (1985), Beautiful Demoiselle *Calopteryx virgo* (local - 2004). BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED: Amber List Species: Green Woodpecker *Picus viridis*, Mute Swan *Cygnus olor*, Cuckoo *Cuculus canorus*. TYPICAL SPECIES OF WETLAND HABITAT: Common Alder, Fool's Water-cress *Apium nodiflorum*, Winter-cress *Barbarea vulgaris*, Cuckooflower *Cardamine pratensis*, Lesser Pond-sedge *Carex acutiformis*, Marsh Thistle *Cirsium palustre*, Hemp Agrimony *Eupatorium cannabinum*, Meadowsweet, Floating Sweet-grass *Glyceria fluitans*, Reed Sweet-grass, Yellow Flag Iris, Soft Rush *Juncus effusus*, Hard Rush *Juncus inflexus*, Purple Loosestrife, Water Mint *Mentha aquatica*, Water Forget-me-not *Myosotis scorpioides*, Water Chickweed *Myosoton aquaticum*, Amphibious Bistort *Persicaria amphibia*, Butterbur *Petasites hybridus*, Reed Canary-grass *Phalaris arundinacea*, Common Reed, Lesser Spearwort, Celery-leaved Buttercup *Ranunculus sceleratus*, Clustered Dock *Rumex conglomeratus*, Water Dock *Rumex hydrolapathum*, Goat Willow *Salix caprea*, Grey Willow *Salix cinerea*, Crack Willow *Salix fragilis*, Common Osier *Salix viminalis*, Water Figwort, Branched Burreed *Sparganium erectum*, Marsh Woundwort *Stachys palustris*, Bulrush *Typha latifolia*, Common Valerian *Valeriana officinalis*, Brooklime *Veronica beccabunga*, and Hemlock Water-dropwort.

River Kennet

Previous Records

As discussed, the most ecologically interesting aspect of the Site and its context is its position directly north of the River Kennet. The River Kennet is one of England's most important chalk streams. Some 45 miles long, it is the largest tributary of the Thames and in summer months contributes up to half its flow. The Kennet joins with the River Thames approximately 900m to the east of the Kenavon Drive Site. Upstream of Reading the River Kennet is noted for its high quality diverse habitats, which support a range of aquatic vegetation, aquatic invertebrates, birds and fish species. Consequently the River Kennet is designated as a Site of Special Scientific Interest from near its sources west of Marlborough Down, to Woolhampton; note that Woolhampton is ca. 16km south-west of the Kenavon Drive Site. The River Kennet increasingly interlinks with the Kennet and Avon Canal from its first point of contact at Kintbury downstream to Reading.

While the upper Kennet is an ecologically rich chalk river, by the time it arrives in Reading it is tending to a more neutral and relatively ecologically impoverished condition. According to the Reading Biodiversity Action Plan the lower Kennet is suffering from a variety of environmental pressures which have been reproduced verbatim in Table 4.2.

The southern margins of the Kenavon Drive site abuts the Forbury Loop section of the River Kennet, which is sometimes also referred to as the Reading Jail Loop. David Copley of the Kennet and Avon Canal Trust provided the following comments on the Forbury Loop section:

'Minimal maintenance of the Forbury Loop has taken place …. I am unaware of any dredging and the area is slowly silting up. The whalings (wooden side linings to assist boats to moor without damage) are mostly rotten alongside the proposed development site and/or replaced by old motor tyres.'

Field Survey in 2016

The width of the River Kennet opposite the Kenavon Drive Site varies between 17 and 33m. The river flows slowly west to east between canalized banks formed of brick, concrete or steel pilings. A footpath extends between the river and the Site, below which barges sometimes moor-up. Water lilies *Nymphaea* sp. and clumps of willow *Salix* sp. are present within the watercourse.

Opposite the central section of the Site the river channel divides, encircling Chocolate Island. The island was inaccessible at the time of survey although was inspected using binoculars. The island includes seven mature trees which appear to be Chinese Wingnut *Pterocarya stenoptera*. Four immature sweetgum *Liquidamber* sp. trees, Narrow-leaved Willow *Salix exigua* seedlings and ivy are also present. At the eastern end the surface appears clad with wooden decking.

a le River Kennet environmental pressures according to the Reading iodiversit Action Plan

River Kennet in Reading: Environmental Pressures
Excessive abstraction mainly for public water supply from the chalk aquifer has contributed to low flows on a number of chalk rivers, although recent actions have reduced this impact on many rivers.
Accumulation of silt due to low flows or dry summers combined with heavy rainfall leading to flash flooding washing soils into the rivers. In the Kennet there is an issue with this silt being re-suspended in the water column by boats where the canal and the river meet. This is thought to be reducing the macrophytic plants and thus the availability of food and cover for fish which may be one of the causes of a reduced fishery in the river.
Pollution from sewage discharges leading to nutrient enrichment by nitrates and phosphates can be a problem, as can diffuse pollution from agricultural fertilisers. Direct pollution from accidents can be a problem as well as indirect pollution from road run off of oil, heavy metals etc.
Loss of natural banks to hard banks when adjacent sites are developed. Flood defence structures can also have an impact.
Intensive fisheries management can be a problem when over stocking and excessive weed cutting takes place.
Invasive plants and animals such as Signal Crayfish, Mink, Himalayan Balsam and Japanese Knotweed can damage the ecology of rivers.

ON-SITE HABITATS AND FLORA

On-Site Habitats

The Kenavon Drive Site is near the centre of Reading (grid reference SU722735) and is bounded by Kenavon Drive to the north, Forbury Road to west, the River Kennet to the south, and apartment buildings to the east. The Site's habitats are described in detail in Table 4.2 and shown graphically in Figure 4.2. A full species list is provided in Appendix B. The majority of the Site consists of department stores (Homebase and Toy R Us) and associated car parking, which are of negligible ecological value. Ornamental tree and shrub planting is of some limited wildlife interest within the context of the Site, although no large mature trees are present. There are two areas of Small-Leaved Cotoneaster *Cotoneaster microphyllus* agg., which is listed as an invasive alien species under Schedule 9 of the Wildlife and Countryside Act. This is present in planting on the north/north-western side of the Site.

FAUNA

Bats

Existing Records

Multiple records of bats (Sch.2 & Sch.5 listed – see above) have been provided by the TVERC within 2km of the Site, most of which are for Common Pipistrelle and Soprano Pipistrelle, with smaller numbers of Brown Long-eared bats (Appendix C, Figure C.1). Some of the records relate to bats detected while foraging/.commuting while some are roost records. The number of and make-up of the records are typical of many urban areas in south-eastern England. The two nearest records to the Site are of Soprano Pipistrelle and an unidentified pipistrelle; both ca.0.5km to the north-west adjacent to the River Thames.

The UK has four bat species that require designation of Special Areas of Conservation to ensure their conservation. These include the Greater Horseshoe Bat, Lesser Horseshoe Bat, Barbastelle Bat and Bechstein's Bat. None of these were recorded within 2km of the Site, although there are nine records covering all four bat species within 10km of the Site. No information is provided on the status of the records.

Survey in 2016

The results of the day-time inspection of trees and buildings is presented in Table 4.2. Four trees were considered worthy of detailed inspection, although these were subsequently categorised as only having roost features of Low and Negligible value. No features were identified on the Homebase or Toys R Us stores which were of greater than Negligible importance for roosting bats. The car parking area and associated planting were assessed as only likely to be of very limited interest for foraging bats. The River Kennet and riverside planting, however, is much more likely to attract foraging bats and also to be utilised as a commuting route, potentially by bats heading towards the River Thames corridor which is less than 1km to the north-west. Bat activity surveys have been scheduled to investigate this potential more fully.



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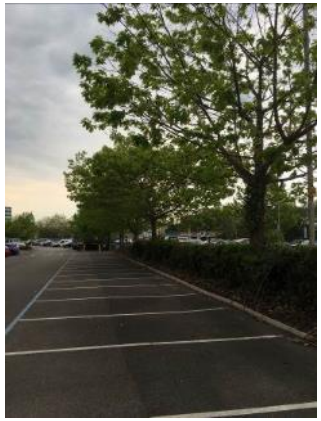
a le a itats Recorded on or Directl Ad acent to the Site

Phase 1 Habitat types	Description	Photographs
Scattered trees (ST1)	Scattered broad-leaved trees occur predominantly within the western and northwestern sections of the mature introduced shrub borders. Species present include Silver Birch *Betula pendula*, Hawthorn *Crataegus monogyna*, Sycamore *Acer pseudoplatanus*, Narrow-leaved Ash *Fraxinus angustifolia* and Rowan *Sorbus aucuparia*.	 
Scattered trees (ST2)	Scattered trees are also present within the car park areas. Norway Maple *Acer platanoides* is the dominant species with London Plane *Platanus x acerifolia* occurring rarely.	

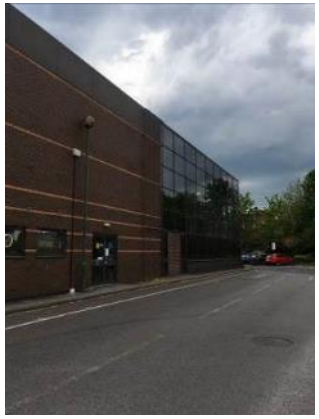
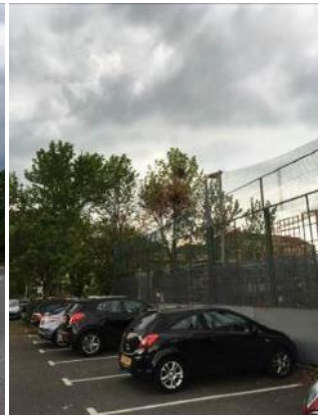
Phase 1 Habitat types	Description	Photographs
Scattered trees (ST3)	ST3 is located on the southern site boundary amongst mature introduced shrub planting or in gravel mulch. Tree species include London Plane and Ornamental Crab Apple *Malus* sp.	 
Scattered trees (ST4)	Scattered trees are located in the southeast corner of the Site and comprise young London Plane (one of which is dying). Many had ivy *Hedera* sp. cladding, which has been removed.	
Introduced shrub (IS)	Introduced shrub borders occur along the borders of the Site with smaller pockets of planting within the Site, often at the base of scattered trees. Evergreen shrubs form the basis of the majority of the planting. Species present include various Cotoneaster species, including a Small-leaved Cotoneaster *Cotoneaster simonsii*. Ornamental spindle *Oleaster, ornamental* St. John's-wort *Hypericum* sp., Butterfly-bush *Buddleja davidii* and firethorn *Pyracantha* sp. Are also present. The dead remains of Russian Vine *Fallopia baldschuanica* were noted on the Homebase building in the southwest, southeast and northeast corner.	

Phase 1 Habitat types	Description	Photographs
		 
Ephemeral/short perennial (ESP)	Small pockets of ephemeral/short perennial vegetation occur in areas of gravel mulch to the north and south of Homebase and in cracks in paving, and in gaps in shrub planting.	 

Phase 1 Habitat types	Description	Photographs
Species-poor hedge (PH)	A length of formerly overgrown Beech hedge is located along the south central section of the site boundary. This appears to have been unmanaged until relatively recently and has now been reduced to ca. 1m height.	
Species-poor hedge with trees (PHT1)	This hedgerow is continuous with the beech hedge along the southern boundary and extends to the southeast corner of the site. London Plane dominates with rare beech and Silver Birch. Ivy is abundant beneath.	

Phase 1 Habitat types	Description	Photographs
Species-poor hedge with trees (PHT2)	The eastern half of this hedge is composed of mature introduced shrub, predominantly firethorn with frequent young American oak trees *Quercus* sp., planted at intervals along the northeastern Site boundary. Towards the western end the hedge contains more mixed shrubs and is more intermittent and immature.	 
Running water	The River Kennet flows along the southern boundary of the Site between canalized banks formed of brick, concrete or steel pilings. There is an island (known as Chocolate Island) south of the central section of the site. Water lilies *Nymphaea* sp. and clumps of willow *Salix* sp. were recorded within the watercourse.	   

Phase 1 Habitat types	Description	Photographs
		
Chocolate Island	Chocolate Island in the Kennet was inaccessible at the time of survey and so was observed with binoculars from both river banks. Seven mature trees suggestive of Chinese Wingnut *Pterocarya stenoptera* are present towards western end and four immature sweetgum *Liquidamber* sp. trees are at the eastern end. Narrow-leaved Willow *Salix exigua*, tree seedlings and ivy also noted. At the eastern end the surface appeared to be clad with wooden decking. Tree seedlings and ivy are abundant as ground cover. A Canada Goose *Branta canadensis* was nesting on the northern side of the island.	   

Phase 1 Habitat types	Description	Photographs
Bare ground	Small patches of bare ground occur on site generally as a result of trampling.	
Building (B1)	The Homebase building is located at the western end of the Site and has a metal frame, metal sheet clad pitched roof, block infill internally, and brick and glass cladding to the exterior. It has a large partially covered and partially netted exterior space on the east side. There is a metal-clad canopy over the loading bay door and plastic awning over part of the external retail space.	 

Phase 1 Habitat types	Description	Photographs
Building (B2)	The Toys R Us building is located at the eastern end of the site. It has a metal frame with metal sheet pitched roof. The external walls are brick with metal sheet cladding.	 
Building B3 and B4	Five shipping containers were noted on site, three in the car park north of Homebase and two adjacent to the loading bay also at Homebase.	
Hard standing (HS)	The majority of the Site's hard standing is car park and access routes. Asphalt is the main component of the car parks and access roads, with areas of concrete, brick and slab paving.	

Birds

Existing Records

Although there are noteworthy bird records in the wider area, e.g. in the vicinity of Henley Road Gravel Pits, which is ca. 0.5km to the north-west of the Site, there are none for the Site itself or for the adjoining section of the River Kennet (Appendix C, Figure C.2).

Survey in 2016

Various common bird species were noted during field survey within and adjacent to the Site. Confirmed breeding waterfowl included:

- Canada Goose *Branta canadensis* nesting on Chocolate Island.
- Mute Swan *Cygnus olor* nesting on willow in the River Kennet.
- Moorhen *Gallinula chloropus* nesting on willow in River Kennet.

Other waterfowl observed included Coot *Fulica atra* and Mallard *Anas platyrhynchos*. None of these waterfowl species are listed under Sch.1 of the WCA or S.41 of NERC. Mute Swan and Mallard are now both Amber-listed on the 2015 UK the Birds of Conservation Concern listing.

Kingfisher (Sch.1 & Amber BoCC) and Grey Wagtail could potentially nest along the riverside and certainly the Kennet supports good populations of both species upstream of Reading. None was observed during survey, however, and no suitable nesting features are present, e.g. blocked outlet pipes, cracks in riverside brickwork.

Fish – Existing Records Only

The wider Kennet has a varied and mixed fishery including healthy, self-sustaining populations of Wild Brown Trout *Salmo trutta*, Grayling *Thymallus thymallus*, Perch *Perca fluviatilis*, Chub *Squalius cephalus*, Dace *Leuciscus leuciscus*, Roach *Rutilus rutilus*, Pike *Esox lucius*, Gudgeon *Gobio gobio* and Bullhead *Cottus gobio*.

According to the *Kennet & Pang Fisheries Action Plan* (undated) Chub, Barbel *Barbus barbus* and Roach are particularly characteristic of the lower reaches of the Kennet. An historic report by the National Rivers Authority (1993) stated that between Newbury and Reading the river sustains good coarse fish populations, although effective breeding appears to be reduced in places. The report further stated that the lower reaches of the catchment offer a very high standard of Barbel fishing and attract specimen anglers from throughout the UK. The Kennet and Avon Canal Trust also report that some large Pike have been landed by anglers in the vicinity of the Forbury Loop.

Other Fauna

No signs of Badger (PBA), Otter (Sch.2, Sch.5 and S.41) or Water Vole (Sch.5 and S.41) were seen in surveys undertaken for the present report and there were no desk-based records within the Site or close by (see Appendix C, Figure C.3). The adjacent section of the River Kennet may form part of the home range of local Otters, although their home ranges often include watercourses totalling 20-32km in length. The treeline between the riverside path and the Homebase/Toys R Us site was very narrow and provided no suitable lying-up opportunities for Otter. Note that the nearest record of Otter supplied by TVERC was from the River Thames ca.0.5km to the north-west.

The closest record for a mammal of conservation concern relates to Hedgehog (S.41 listed), ca. 150m west of the Site. The intensely developed nature of the Site, however, would appear to offer few opportunities for foraging and shelter for this species.

There are multiple Stag Beetle (S.41) records within 2km of the Site, including one record ca. 200m to the east (Appendix C, Figure C.4). Given the mobility of the species it is not inconceivable that Stag Beetles may occasionally occur within the Site itself, although the ecologically impoverished habitats present (including the adjacent riverside semi-mature trees and shrubs) is considered highly sub-optimal.

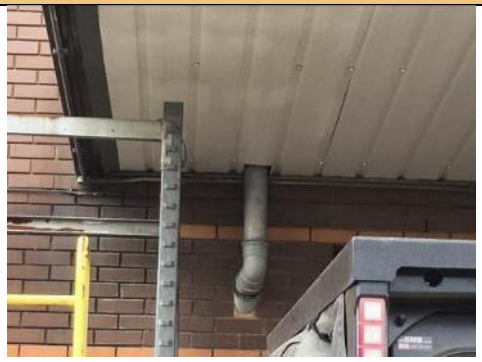
a le Assessment of at roosting features on trees ithin and directl ad acent to the Site

Tree ref. no.	Bat roost potential	Suitable bat roost features	Photographs
BPT 1 (Semi-mature London Plane	Negligible	Splits in bark ca. 1.5m and 2m on southern and eastern aspects.	
BPT2 (Semi-mature London plane)	Low	Mature dead ivy with accessible stems on the tree trunk.	

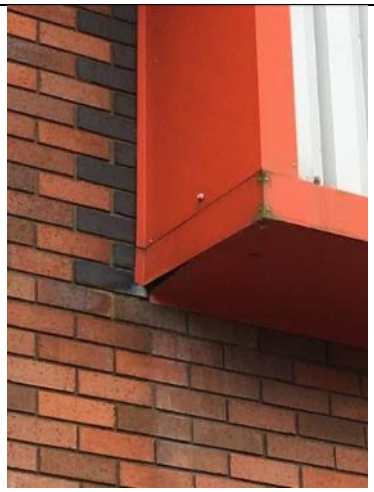
Tree ref. no.	Bat roost potential	Suitable bat roost features	Photographs
BPT3 Semi-mature London Plane	Low	Semi-mature dense ivy cladding.	
BPT4 Semi-mature London Plane	Low	Mature ivy cladding partially cleared from trunk on southern side.	

a le Assessment of at Roosting eatures on the ome ase and o s R s Stores

Building ref. no.	Bat roost potential	Suitable bat roost features	Photographs
B1	Negligible	East facing loading bay wall and outdoor retail area. Broken brick above loading bay canopy adjacent to the support attachment possibly allowing access to a roosting bat.	

Building ref. no.	Bat roost potential	Suitable bat roost features	Photographs
B1	Negligible	Gap around drainpipe beneath loading bay canopy.	
B1		Weep hole adjacent to exterior light above a standard sized door into the loading bay.	
B1		Gap adjacent to fan grill ca. 3 m above the ground.	
B1		Hole drilled through wall for cabling to loading bay area. c. 4 m up the wall.	

Building ref. no.	Bat roost potential	Suitable bat roost features	Photographs
B1		Weep hole beneath canopy in external retail space. There appeared to be abundant spider webs, including funnel-type webs along this wall.	
B1		One of at least two sites where an external lighting unit had been removed leaving a central hole and four screw holes in the brickwork.	
B1		Homebase sign with a gap at the upper edge, with potential to allow access to a bat between sign and brickwork wall. Also Homebase sign on northern end of the building.	 

Building ref. no.	Bat roost potential	Suitable bat roost features	Photographs
B1		Possible gap above a door towards the southern end of the eastern wall.	
B2	Negligible	Gap in metal cladding on northern aspect of B2.	
B2		Eastern end of B2 where the metal cladding is coming away from the wall	

Building ref. no.	Bat roost potential	Suitable bat roost features	Photographs
B2		Gaps between the bricks and the metal soffit that might allow access for bat at top end of columns towards the eastern end of the southern aspect.	
B1 and B2 - Interiors	Negligible to None	The interiors of both stores were considered to offer negligible to no bat roosting potential.	No photographs were permitted to be taken inside either store.

ASSESSMENT OF ECOLOGICAL IMPORTANCE

While the Site, which consists primarily of hardstanding with some limited ornamental planting, is in itself of very little ecological importance (only the vegetative fringes having any ecological importance and then only at a sub-Parish level), its potential value is notable in terms of biodiversity and opportunities for passive recreation, due to its position adjacent to the River Kennet. Note that the River Kennet is identified by Reading Borough Council as an important *'Wildlife Link'*, which includes to the River Thames less than 1km to the north-east of the Site.

The potential value of the Site could be greatly increased if the riverside were to be ecologically enhanced and its influence extended into the new development through an ecologically-informed landscape design.

OVERVIEW OF POTENTIAL ADVERSE ECOLOGICAL EFFECTS AND MITIGATION

Potential adverse impacts and recommendations for avoiding and mitigating impacts are summarised in Table 5.1.

The majority of on-Site ornamental trees / shrubs are likely to be cleared to facilitate the development. While this impact is not of major concern, semi-mature trees around the Site margins have developed some limited ecological and landscape value and so consideration should be given to their retention where this would not markedly detract from the legibility of the wider landscape design.

Best practice pollution prevention techniques should be implemented to prevent any accidental spillages which might impact on the River Kennet.

Bats are unlikely to be occupying any of the trees, although as a precautionary felling techniques should employed to reduce the risk of harm to bats to a negligible level.

Clearance of trees and shrubs in winter should result in minimum risk of impact on nesting birds.

a le Potential adverse impacts and recommendations for avoiding and mitigating impacts

Habitat	Potential adverse impact	Avoidance / Mitigation
On-Site trees / shrubs and ornamental planting	It is anticipated that the majority trees/shrubs and ornamental planting will be removed to facilitate new development. While this planting has some ecological / landscape value it is considered readily replaceable.	Integrate semi-mature trees into the design wherever possible and where retention would not markedly detract from the legibility of the landscape design. Retention of trees is likely to prove more feasible for those around the margins. No mitigation required other than with respect to bats and breeding birds – see below.
River Kennet	No direct impact although there would be a risk of accidental pollution incidents if best practice pollution prevention procedures are implemented. The most likely maximum scale for such an impact would be on the scale of a hand-operated container.	Although Environment Agency Pollution Prevention Guidelines have been withdrawn from use by the UK Government, they are still considered relevant. Note though that they should be treated with caution as some of the information is out-of-date.

Bats	Three trees - BPT2, BPT3 and BPT4 – were considered to have some potential value for roosting bats, albeit assessed as being 'Low', for roosting bats. There is therefore a small probability that rooting bats are present. If this is the case these could be impacted by unmitigated removed of the trees.	No timing constraints relating to bats. Section-fell tree and avoid cutting through any knot holes, dead limbs or junction of branches. Sections containing knot holes (or any other cavities) need to be gently lowered to the ground using ropes. Felled sections and ivy-covered stems should be left on the ground for 24 hrs prior to removal / chipping allowing any bats present to disperse. No requirement for supervision by a licensed bat worker provided tree works are undertaken by suitably experienced staff, familiar with general issues relating to bats. In the unlikely event that any roosting bats are discovered the Project Ecologist must be contacted immediately.
Breeding birds	Clearance of trees and shrubs between March and August could impact on breeding birds.	Clearance of trees and shrubs outside of the March – August window should avoid significant risk of adversely affecting breeding birds

ACHIEVING A NET GAIN FOR BIODIVERSITY AND MAXIMISING ECOSYSTEM SERVICE PROVISION

GENERAL

Detailed ecological design approaches are to be integrated in subsequent design phases. At this conceptual stage in the design process, the present document provides only preliminary concepts for achieving net enhancements for biodiversity.

A selection of images at the end of this section indicate viable habitat enhancement options that are applicable within the scale and nature of the Site.

It is proposed that the new landscape be optimised for target species of native flora and fauna, not only in compliance with planning policy but also because the proposed development is to be located adjacent to the River Kennet, a notable biodiversity feature and Wildlife Link.

Key suggestions for ecologically informed design are shown in Figure 6.1.

TARGET HABITAT AND SPECIES

Through its Biodiversity Action Plan Reading Borough Council has identified a variety of habitats and species which would should be targeted for protection and enhancement through the development control process. Particularly relevant is the requirement protect and enhance of riverine biodiversity as part of riverside redevelopment. This requirement is also a strong theme running through various other planning documents. The importance of improving the riverside environment to promote amenity is also strongly emphasised.

According to the BAP, Key Target species to retain within and/or attract into new development include:

- Mammals. Bat species (Common Pipistrelle, Soprano Pipistrelle, Noctule, Daubenton's Bat, Serotine, Brown Long Eared and Natterer's Bat); (Note also that Otter is a Long List species).
- Birds - Black Redstart, House Sparrow, Sand Martin (Long List species - Kingfisher, House Martin, Linnet, Reed Bunting, Song Thrush and Swift).
- Stag Beetle
- Black Poplar

Other non-BAP species which the proposals should aim to attract include Grey Wagtail, Kingfisher, various waterfowl, dragonfly and damselfly species, and coarse fish species (e.g. Chub, Roach and Barbel).

In addition to promoting improvements to riverside habitat policy also promotes provision of g green and brown roofs and walls.

KENAVON RIVERSIDE IMPROVEMENTS

As discussed Reading Borough Council has highlighted that the redevelopment of the area *'offers a rare town centre opportunity to enhance the Kennet waterfront'*, improving greenspace connectivity, promoting biodiversity and providing high levels of public amenity. While the central plaza/square is to be hardstanding, the wider riverside zone could be made much greener, and also more biodiverse, in keeping with Borough policy.

Newly created habitats along the riverside should be include Priority species listed in the Reading Biodiversity Action Plan, although formal planting consisting of cultivars can also be designed to be wildlife friendly.

Proposals for riverside and other ecological enhancements (discussed below) are shown in Figure 6.1.

ECOLOGICALLY ENHANCED RIVER EDGE

Borough policy highlights that *'riverside redevelopment presents opportunities for bankside and corridor enhancements'*. While it may not be possible to dismantle the existing hard engineered banksides, the river edge could be softened and ecologically enhanced through the installation of terraces or planted rafts as has been done e.g. at Bristol Harbourside (see Plate 6.3). Such riparian habitat map provide roosting opportunities for species identified as being of conservation concern in the Reading BAP such as Reed Bunting.

GREEN ROOFS AND FACADES

Borough Policy promotes the creation on green (living) roofs and facades. Inclusion of living roofs would not only provide wildlife habitat but would also provide (or contribute to) multiple ecosystem services e.g. rainwater attenuation, building insulation, attenuation of the urban heat island, landscape aesthetic interest and amenity benefits.

It is proposed that any living roof consist of two components:

- Species-rich extensive sward, with ample open and bare substrate of varying depth to attract key invertebrate groups.
- Accessible roof garden planted with a range of attractive colourful nectar-rich herbs and low shrubs. Inclusion of native species is not essential within on rooftop gardens, which could perhaps have a Mediterranean climatic theme, including various drought tolerant species e.g. lavender, rosemary, Mexican Fleabane.

Plates 6.3 and 6.4 show green roofs created across the London Olympic Village site in Stratford and a green wall installation at Centenary Quay in Southampton that includes many species of value to native fauna such as bumble bees and solitary bees. Black Redstart boxes should be installed on several of the rooftops in keeping with Borough policy.

TREE & SHRUB PLANTING

Tree and shrub planting should be native where possible, in particular close to the riverside, although attractive non-native species can also be considered in more formal greenspace

areas. t Borough policy promotes planting of street trees and in particular native Black Poplar trees in *'suitable open space waterway sites'.*

BIODIVERSE SUDS

A variety of Borough policies promote the inclusion of SuDS as part of new development. Any SuDS features should be truly multifunctional, maximising their value with respect to biodiversity, amenity and landscape, in keeping with the new SuDS Manual (CIRIA, 2015) (Plate 6.5). Note that all of the development's greenspace, including the green roofs, would be intended have a SuDS function, absorbing and thereby attenuating runoff.

BIODIVERSE COURTYARDS

Given the need for relatively high density residential development, all of the development's greenspaces will need to *'work hard'* to achieve a variety of functions. Through careful selection of ornamental planting courtyards can be made biodiverse, colourful and attractive for much of the year. Plate 6.6 shows relatively formal, non-native but nectar-rich, herbaceous courtyard planting within the Centenary Quay development in Southampton.

URBAN WILDFLOWER MEADOWS

Even within seemingly formal green space settings, it may be possible to incorporate native S.41 Habitats of Principal Importance. Plate 6.7 shows the Award-winning linear wildflower meadow created in the heart of Bristol in the Harbourside development.

WILDLIFE REFUGES

The development provides multiple opportunities for the installation of wildlife refuges. These could include:

- Bird and bat refuges Integrated into the buildings (see Plate 6.8). Note that all bat species are Borough target species as are House Sparrows. As discussed Black Redstart (also a Borough target species) boxes should also be installed on rooftops.
- Free-standing Sand Martin boxes (see Plate 6.9); note that Sand Martins are a Borough target species. However, this should not be done unless the refuge can be strongly protected from risk of vandalism.
- Kingfisher nesting tubes and perching rods installed in River Kennet bankside; while Kingfishers are not a priority target species, they are listed on the Borough Long List.
- Floating bird rafts benefiting Swans and other waterfowl.
- Deadwood installations benefitting various invertebrate species, potentially including Stag Beetles, could be located along the riverside. An example of this from the London Olympic Athletes' Village, Stratford is shown in Plate 6.10. These installations should also be interesting landscape features in themselves.

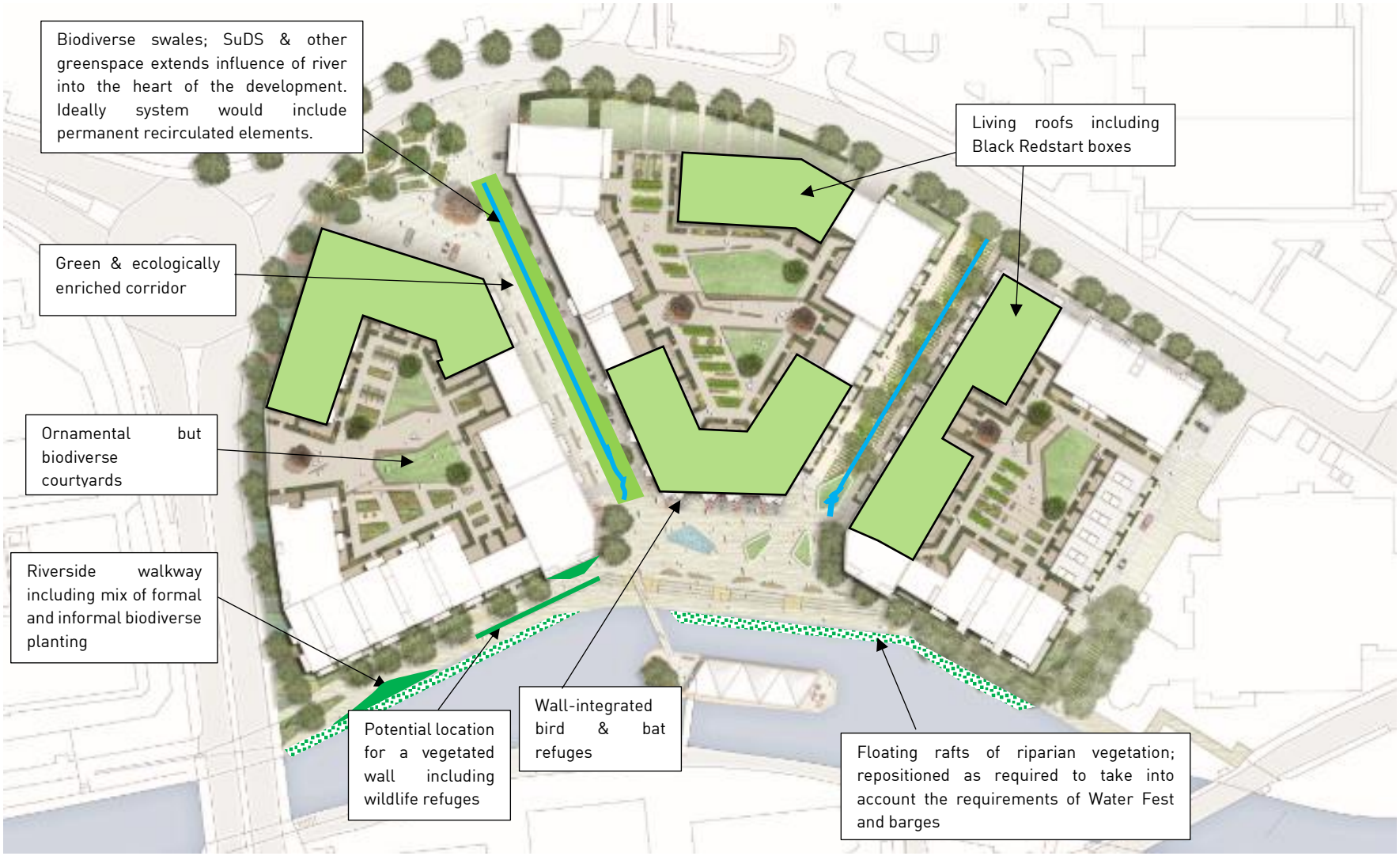


Plate Kenavon Drive – ecologicall informed design



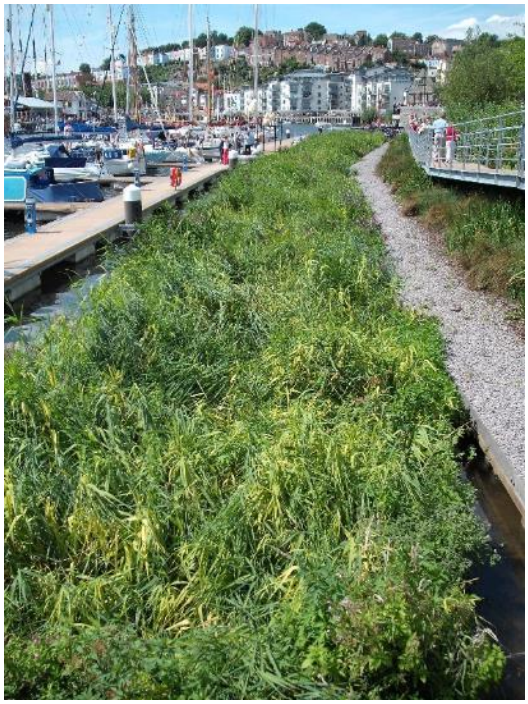


Plate Rafts ith species rich emergent and an side higher plant species – ristol ar ourside



Plate iodiverse living roofs created across the ondon Ol mpic illage site in Stratford ecological design iodiversit Design



Plate reen all installation at Centenar ua Southampton ecological design iodiversit Design



Plate ultifunctional, iodiverse, sustaina le drainage at the a ard inning London Olympic Athletes' Village, Stratford; ecological design iodiversit Design



Plate **Relativel formal, non native ut nectar rich, her aceous court ard planting ithin the Crest icholson Centenar ua development in Southampton ecological design iodiversit Design**



Plate **A ard inning linear ildflo er meado created in the heart of Bristol's ar ourside development ecological design iodiversit Design**



Plate Integrated at and S ift refuges indicated red arro s in apartment alls at the Southampton Centenar ua development ecological design of green infrastructure iodiversit Design



Plate **ree standing Sand artin nesting installation at the a ard inning London Olympic Athletes' Village, Stratford; ecological design of village iodiversit Design**



Plate **Dead ood installation at the a ard winning London Olympic Athletes' illage, Stratford ecological design iodiversit Design**

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APPENDIX A: PHASE 1 HABITAT SURVEY TARGET NOTES

Target Note	Remarks
1	Magpie nest and neighbouring pigeon nest in Hawthorn and Silver birch respectively
2	Brown rat seen in area of Introduced shrub border where the shrubs have died/been killed . Rat poison bait boxes were observed across the site..
3 & 4	Two areas of small-leaved cotoneaster (*Cotoneaster microphyllus* agg) which is an invasive species controlled under the WCA
5	Magpie nest observed in Norway Maple adjacent to southern end of Homebase yard.
6	Ground-elder and large leaved cotoneaster noted towards eastern end of PHT1 on river side of hedge.
7	Island in the Kennet inaccessible during survey; observed with binoculars from both river banks. Seven mature trees suggestive of Chinese Wingnut species towasrds western end and four immature Liquidamber at the eastern end. Narrow leaved willow, tree seedlings and ivy also noted. At the eastern end the surface appeared to be clad with wooden decking. Tree seedlings and ivy are abundant as ground cover. A Canada Goose was nesting on the northern side of the island.
8	Rotting tree stump in planting area to north-east of B2. May be suitable for Stag Beetles.

APPENDIX B HIGHER PLANT SPECIES FROM 2016 PHASE 1 HABITAT SURVEY

Common name	Latin name	ST1	ST2	ST3	ST4	IS	ESP	PH	PHT1	PHT2
Alder	*Alnus glutinosa*	R								
American Oak species	*Quercus* sp.									D
Annual meadow-grass	*Poa annua*						O			
Annual Mercury	*Mercurialis annua*					R				
Apple sp.	*Malus* sp.	R								
Barberry sp.	*Berberis* sp.					O				
Barren Brome	*Anisantha sterilis*						F/LA			
Beech	*Fagus sylatica*							D	A	
Bindweed sp.	*Calystegia* sp.					O				
Bramble	*Rubus fruticosus* agg.					O				
Bristly Oxtongue	*Picris echioides*					O	O			
Butterfly bush	*Buddleja davidii*					F				
Cleavers	*Galium aperine*					O				
Common Ash	*Fraxinus excelsior*	R								
Common Chickweed	*Stellaria media*						LF			
Common Dog-violet	*Viola riviniana*					R				
Common Gorse	*Ulex europaeus*					R				
Common Mouse Ear	*Cerastium fontanum*						O			
Common Nettle	*Urtica dioica*					O				
Common Ragwort	*Senecio jacobaea*						O			
Common Vetch	*Vicia sativa*					R				
Cow Parsley	*Anthriscus sylvestris*					R				
Creeping Thistle	*Cirsium arvense*						R			
Daffodil	*Narcissus* sp.					O				
Dandelion	*Taraxacum* agg.					O				
Dove's-foot Crane's-bill	*Geranium molle*					O	O			
Elder	*Sambucus nigra*					R				
Field Maple	*Acer campestre*	R				R				
Firethorn sp.	*Pyracantha* sp.					O				A
Forget-me-not seedlings	*Myosotis* sp.						R			

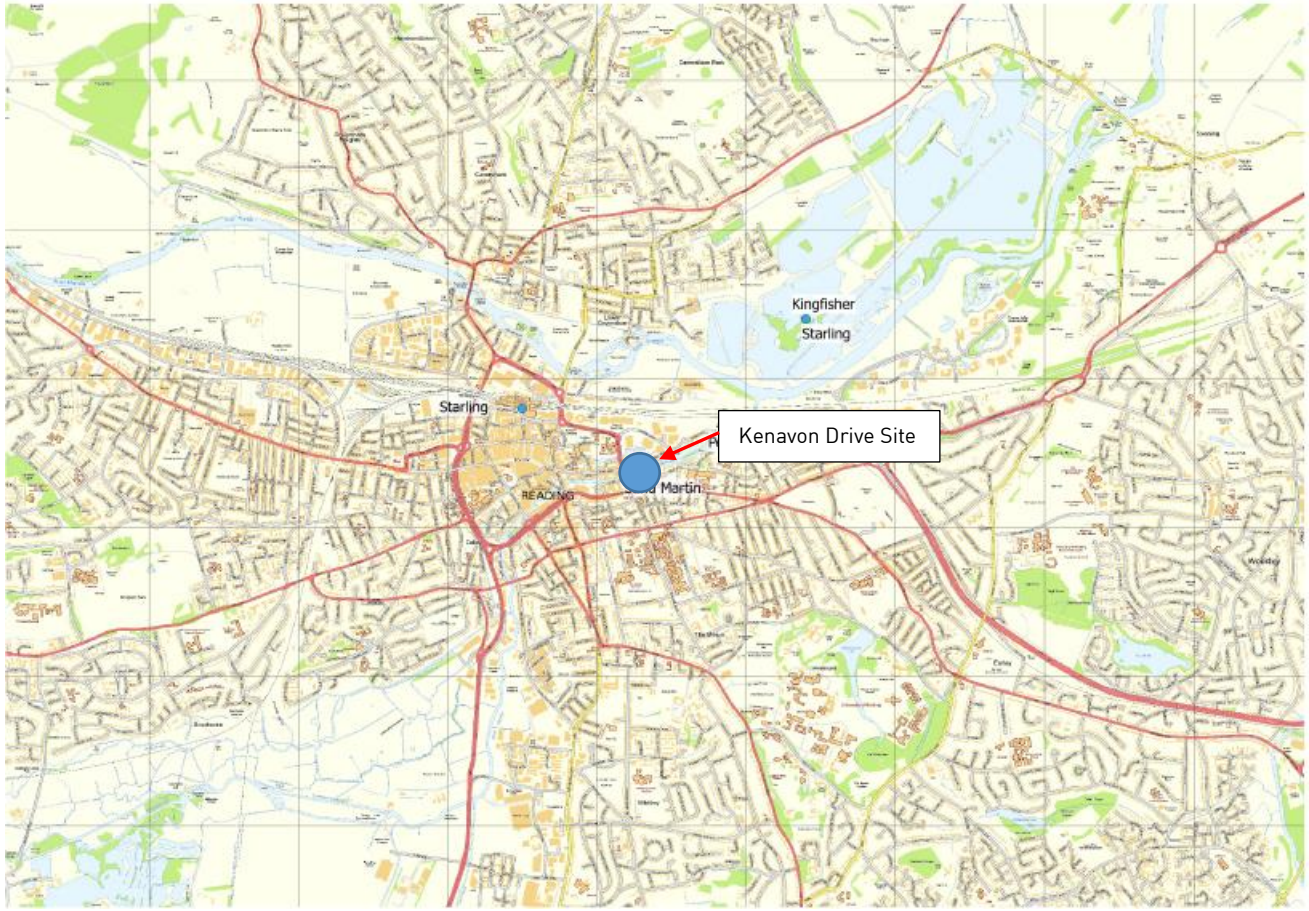
Common name	Latin name	ST1	ST2	ST3	ST4	IS	ESP	PH	PHT1	PHT2
Garden Privet	*Ligustrum vulgare*					O				
Golden Mock Orange	*Philadelphus coronarius Aureus*					R				
Green Alkanet	*Pentaglottis sempervirens*					O				
Ground Elder	*Aegopodium podagraria*					O				
Groundsel	*Senecio vulgaris*						O			
Guernsey Fleabane	*Conyza sumatrensis*						O			
Hawthorn	*Crataegus monogyna*	O								
Hedge Woundwort	*Stachys sylvatica*					R				
Herb Robert	*Geranium robertianum*					O/F	O			
Honeysuckle	*Lonicera* sp.									
Hornbeam	*Carpinus betulus*	O								O
Ivy	*Hedera helix*	A				A				F
Ivy-leaved Speedwell	*Veronica hederifolia*						O			
Large leaved cotoneaster species						A				O
London Plane	*Platanus x hispanica*	F		F	D				D	
Mock Orange	*Philadelphus* sp.					O				
Mugwort	*Artemisia vulgaris*					R				
Narrow-leaved Ash	*Fraxinus angustifolia*	O								
Norway Maple	*Acer platanoides*	O	D							
Oleaster	*Elaeagnus* sp.					O			R	
Ornamental Dogwood	*Cornus* sp.					O				O
Ornamental Flowering Crab	*Malus* sp.	O		F						
Ornamental St. John's Wort	*Hypericum* sp.					O				
Ornamental Spindle	*Euonymus* sp.					F				
Oregon Grape	*Mahonia aquifolium*					O				
Pearl Bush	*Exochorda* sp.					R				
Pedunculate Oak	*Quercus robur*	R								
Pellitory-of-the-wall	*Parietaria judaica*					R				

Common name	Latin name	ST1	ST2	ST3	ST4	IS	ESP	PH	PHT1	PHT2
Perennial Rye-grass	*Lolium perenne*					R				
Petty Spurge	*Euphorbia peplus*					O	R			
Prickly Lettuce	*Lactuca serriola*					R				
Portugal Laurel	*Prunus lusitanica*					O				
Red Dead-nettle	*Lamium purpureum*					R	R			
Red Valerian	*Centranthus ruber*					R				
Rose sp.	*Rosa* sp.					O				
Rowan	*Sorbus aucuparia*	O								
Russian Vine	*Fallopia baldschuanica*					O				
Scarlet Pimpernel	*Anagallis arvensis*						O			
Shrubby Cinquefoil	*Potentilla* sp.					O				
Shrubby Ragwort	*Senecio* sp.					O				
Silver Birch	*Betula pendula*	O							R	
Small-leaved cotoneaster	*Cotoneaster microphyllus* agg.					A				
Smoooth Sow-thistle	*Sonchus oleraceus*					O	O			
Spiraea	*Spiraea* sp.					R				
Swedish Cotoneaster	*Cotoneaster x suecicus*					O				
Sycamore	*Acer pseudoplatanus*	O								
Variegated Dogwood	*Cornus* sp.					O				
Viburnum	*Viburnum davidii*					R				
Wild Clematis	*Clematis vitalba*					O				
Wilson's Honeysuckle	*Lonicera nitida*					O				
Wood Avens	*Geum urbanum*					O				
Yarrow	*Achillea millefolium*					O				

APPENDIX C PROTECTED AND NOTABLE FAUNA: EXISTING RECORDS



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igure C Other protected species ithin m of the Site



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BIODIVERSITY BY DESIGN

DOCUMENT CONTROL

JOB NAME:	KENAVON DRIVE
CLIENT:	LONDON & QUADRANT HOUSING TRUST
REPORT TITLE:	KENAVON DRIVE: PRELIMINARY ECOLOGICAL APPRAISAL
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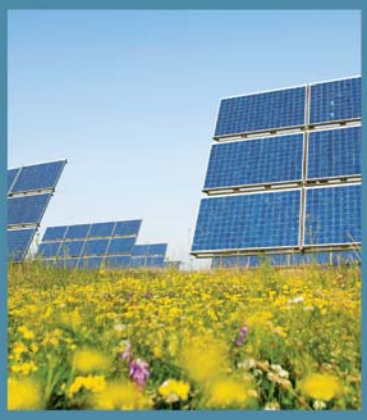
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APPENDIX 4: THE ENVIRONMENTAL ASSESSMENT, FORBURY RETAIL PARK, KENAVON DRIVE REPORT (DELTA-SIMONS, 2013)

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S AR A E

Current Site Status	The Site is located off Kenavon Drive, Reading and is currently occupied by two retail stores. Historically the Site was occupied by a biscuit factory.
Purpose	The purpose of the Environmental Assessment is to provide information relating to the status of the soil and groundwater contamination and ground gas regime beneath the Site. For the purposes of this Assessment it has been assumed that the end-use is likely to comprise either residential apartments with communal landscaping areas or a commercial end-use as these are in keeping with the surrounding established land uses. The Report will also be suitable to support a planning application for the Site.
Site Investigation	The site investigation comprised the drilling of 17 dynamic sampler boreholes and five cable percussion boreholes. Representative soil samples were collected from the borehole arisings for a range of environmental analyses. A total of five groundwater samples were collected from the newly installed monitoring wells and groundwater level and ground gas monitoring was undertaken on four occasions.
Summar of indings	The findings of the Environmental Assessment are summarised as follows: Δ Historically, the Site was occupied by a biscuit factory prior to the current use; Δ Ground conditions generally comprised asphalt over Made Ground of gravelly sandy clay to a maximum depth of 4.0 m bgl. Made Ground was generally underlain by Alluvium Deposits, comprising gravelly sand and clay, to a maximum depth of 5.5 m bgl, over chalk. However, Alluvium was absent in some locations and Made Ground directly overlaid the chalk; Δ Groundwater was typically encountered at depths of between 2.5 and 3.0 m bgl; Δ Slightly elevated concentrations of TPH and PAH were identified in the Made Ground at DS106, associated with an observed high ash and cinder content; Δ Slightly elevated concentrations of lead were identified in the Made Ground at DS109 and DS113; Δ A hydrocarbon odour was noted in the natural ground in DS108 between 2.7 and 3.0 m bgl, however, significantly elevated concentrations of TPH were not identified in the soil sample collected from this location; Δ Concentrations of chromium and copper were identified in the groundwater in CP101 in excess of the EQS limits, but below the UK drinking water quality standards; and Δ The calculated ground gas regime at the Site is a Characteristic Situation 1, however, this may be increased to a Characteristic Situation 2 - low risk due to slightly elevated concentrations of carbon dioxide.
Conclusions	Based upon the findings of the Environmental Assessment, Delta-Simons does not consider that significant soil or groundwater contamination is present beneath the Site. However, locally elevated concentrations of lead, TPH and sPAH compounds have been identified in the Made Ground. Given the developed nature of the Site and lack of suitable soils, it is considered that a layer of imported, certified suitable for use, sub-soil and topsoil will be required in all areas of landscaping. This clean cover layer will also provide suitable mitigation to protect end-users from the identified low level soil contamination. Based on the likely residential apartment and/or commercial end-uses, specific remediation is not considered to be required at the Site based on the available data. The ground gas regime beneath the Site has been identified as a CS1, increased to CS2 – low risk. As such, basic ground gas protection measures are likely to be required comprising as a minimum a damp proof membrane and sub-floor void/ventilation. The ground gas protection measures are dependent on the proposed end-use.

Recommendations and Development A normals	The following recommendations and development abnormals are considered appropriate based on the proposed redevelopment of the Site: ∆ Additional site investigation works are considered to be required in the currently inaccessible areas of the Site following the demolition of the existing Site buildings; ∆ A suitable clean cover system in all proposed areas of landscaping is considered suitable mitigation to protect end-users from the identified soil contamination; ∆ A 'hotspot' protocol should be in place for groundworkers to act upon during redevelopment works in the event that any previously unidentified contamination is encountered; ∆ A destructive asbestos survey should be carried out prior to the demolition of Site buildings and any identified asbestos containing material (ACMs) should be removed by a specialist contractor and in accordance with appropriate risk assessments and method statements; ∆ Suitable dust suppression techniques to be utilised during redevelopment works; ∆ The Local Water Authority should be consulted as to their requirements for water supply pipes; ∆ Elevated costs are likely to be incurred in relation to the disposal of soils from the Site. Landfill tax will also be incurred, currently at a rate of £72 per tonne; and ∆ Where possible re-use of Made Ground should be considered in the remodelling of the Site.
his Environmental Assessment E ecutive Summar is intended as a summar of the Assessment of the Site ased on information received Delta Simons at the time of production and should e read in con unction ith the full Report	

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igures

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Authorisation

Delta-Simons Environmental Consultants Limited (Delta-Simons) was instructed by Tuffin Ferraby Taylor LLP on behalf of Old Mutual Property Fund c/o CBRE Global Investors ('the Client') to carry out an Environmental Assessment of a plot of land off Kenavon Drive, Reading (hereafter referred to as the 'Site'). A Site Location Map is included as Figure 1.

Conte t Purpose

It is understood that the Site is being considered for redevelopment, however, at the present time a final development plan has not been confirmed. For the purposes of this Assessment it has been assumed that the end-use is likely to comprise either residential apartments with communal landscaping areas or a commercial end-use as these are in keeping with the surrounding established land uses.

This Report has been produced to support the discharge of any future planning conditions relating to land contamination. The Report also identifies any significant additional development costs to be expected during the development of the Site.

This Report is based on the findings of a desk study and intrusive site investigation undertaken by Delta-Simons and also includes a summary review of available third party reports.

This Report has been produced in accordance with the current relevant guidance and best practice as set out within British Standard BS10175, Contaminated Land Report 11 and the National Planning Policy Framework (NPPF).

This Report satisfies 'BREEAM New Construction 2011: LE01 – Site Selection: Criterion 2' by detailing the results of site investigation works; identifying the degree and sources of contamination; assessing risks to human and environmental health; and providing recommendations for remediation.

Scope of or s

The full scope of works performed by Delta-Simons comprised the following:

- Completion of Desk Study review of the Site, including a review of a previous third party report for the Site (discussed further within Sections 2 and 3);
- Site reconnaissance at the time of intrusive investigation, but prior to commencement of intrusive works, to ensure that all current potential sources of contamination were targeted;
- Drilling of 17 dynamic sampler boreholes (DS101, DS101a, DS102, DS102a and DS104 – DS116) to maximum a depth of 4.0 m bgl;
- Drilling of five cable percussion boreholes (CP101 to CP105) to a maximum depth of 30.0 m bgl;
- Installation of three dynamic sampler boreholes (DS105, DS108 and DS111) and all five of the cable percussion boreholes as 50 mm internal diameter groundwater and ground gas monitoring wells;
- Collection of 24 representative soil samples from the borehole arisings for submission to an appropriately accredited environmental laboratory for analysis of a range of organic and inorganic parameters;
- Four return visits to the Site to undertake ground gas monitoring and groundwater level monitoring;
- Collection of five groundwater samples from the newly installed boreholes on one occasion for submission to an appropriately accredited laboratory for analysis of a range of organic and inorganic parameters;
- Provision of an Environmental Assessment Report, providing factual and interpretive summary of the condition of the Site in the context of the potential end-use scenarios.

imitations

This Assessment has been produced in accordance with the principles of BS10175, and in accordance with CLR 11. Although reference may be made to archaeological and ecological issues, or the potential presence of asbestos containing materials (ACMs) and invasive weeds, this Assessment does not constitute an archaeological or ecological assessment, nor does it constitute an asbestos inspection or invasive weeds survey.

This document provides an assessment of the potential and actual contamination of the ground below the Site based upon the available information and in the context of the scope of works undertaken during this investigation. It does not provide a flood risk assessment or

geotechnical appraisal and as such, any comments relating to such matters are for information only.

During the preparation of this Assessment, Delta-Simons reviewed and evaluated information provided by the Client, Landmark Information Group, Chemtech Ltd and others. Delta-Simons' conclusions, opinions and recommendations are based upon this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

SI E S A S A D E IRO E A SE I

Environmental and istorical Setting

A description of the current Site setting and historical information is provided in Table 1.

a le Environmental and istorical Setting

ational rid Reference	472270, 173570
eneral Site ocation	The Site comprises an irregular shaped plot of approximately 2.74 ha, situated to the south of Kenavon Drive, Reading (Figure 1).
Site Description	The Site is occupied by two large commercial retail stores, a Toy's R Us in the east of the Site and a Homebase in the west with associated asphalt car parks forming the remainder of the Site. (Figure 2). The Site is bound to the north by Kenavon Drive with further retail units beyond. To the west by Forbury Road and HMP Reading and to the south by a line of mature trees and the River Kennet. Residential apartments are located to the east of the Site. The layout of the Site is shown on the aerial photograph below.
Aerial Photograph of Site	 Google Imagery ©2013 Bluesky, DigitalGlobe, GeoEye, Getmappling plc, Infoterra Ltd & Bluesky
eolog	The British Geological Survey on-line mapping data indicates that the Site is underlain by superficial deposits of the Taplow Gravel Formation deposits comprising sand and gravels. The Taplow Gravel overlies bedrock of the Seaford Chalk Formation And Newhaven Chalk Formation (Undifferentiated) at depth beneath the Site.
drogeolog	The Environment Agency aquifer designation maps indicate that the superficial deposits (Taplow Gravel Deposits) are classified as a *Secondary A Aquifer*. The Seaford Chalk Formation And Newhaven Chalk Formation (Undifferentiated) underlying the Site at depth is understood to be classified as a *Principal Aquifer*.

	The Site is located within a Total Catchment Source Protection Zone (SPZ3) of a water abstraction well located approximately 1 km to the south of the Site. The abstraction is from the chalk aquifer at depth. From an Envirocheck Report (Included as Appendix I) it is understood that the nearest licensed groundwater abstraction is located approximately 700 m south of the Site for drinking, cooking and sanitary use.
drolog	The nearest surface watercourse to the Site is The River Kennet which flows within a sheet piled channel along the southern boundary of the Site. The flow is towards the east. The Environment Agency on-line flood map indicates that the southern part of the Site is located within an area at risk of extreme flooding associated with the River Kennet. There are no surface water abstractions located within 500 m of the Site.
Radon as	The Site lies within an area where less than 1% of homes are above the National Radiological Protection Board (NRPB) recommended "action level" for radon. BRE211 (2007) indicates that no radon protective measures are necessary in the construction of new dwellings or extensions at the Site.
Coal ining	The Site is not located within an area that is likely to be affected by coal mining activity.
Sensitive Areas	There are no relevant environmentally sensitive areas in the vicinity of the Site.
istorical and se	The historical development of the Site has been assessed through a review of available historical Ordnance Survey maps dating from 1879. A summary of the key historical developments on the Site itself and within the surrounding area is presented below. Copies of the historical maps are included as Appendix II. **Site** The Site was occupied by a biscuit factory with associated railway sidings. No maps available to cover this period. However, by 1990 the Site had been partially redeveloped with a single rectangular retail building in the east of the Site. By 1990 the Site had been partially redeveloped with a single large rectangular building in the east of the Site and by 1995 a second large rectangular building had been developed in the west of the Site. No further significant changes were mapped at the Site to the most recent edition. **Surrounding Area** Potentially contaminative land uses in the surrounding area include: ∆ A railway located approximately 120 m north of the Site from 1883 to the present day; ∆ A Gas Works and gas holder located approximately 80 m south of the Site (on the opposite side of the River Kennet) from 1900 to 1948; and ∆ A Sewage Pumping Station located approximately 75 m south-east of the Site from 1883 to 1939.
hird Part Reports	Delta-Simons has been provided with a Phase I Environmental Audit report, by WSP Environmental Ltd, dated April 2005 and an Environmental Review Report by Environ, dated July 2005, which essentially comprises a review of the WSP report. Delta-Simons has completed an updated Phase I environmental assessment of the Site as part this Report. The previous third party reports do not provide any additional significant information. The WSP report concluded that the Site represented a low risk and that no

	further assessment work was required with regard to a continued commercial use. However, further investigation was recommended in the event that the Site was to be redeveloped, particularly to a more sensitive end-use.

DE A SI O S SI E I ES I A IO E

Site Investigation imitations

The Site Investigation undertaken by Delta-Simons was limited by the following factors:

- Δ Impenetrable shallow ground at the Site, largely in the south-west corner. This was due to boulders of concrete assumed to be remnants of the demolition of biscuit factory and reinforced concrete slab. This affected exploratory locations DS101, DS101A, DS102, DS102A, DS103, DS110, DS114, DS115 and DS116.

However, these limitations are not considered to have significantly affected the aims and proposed scope of works of the environmental assessment.

Intrusive Investigation

D namic Sampler oreholes

A total of 17 boreholes (DS101, DS101a, DS102, DS102a, DS103 and DS105 to DS116) were advanced at the Site over the 5th and 7th June 2013 to a maximum depth of 4.00 m bgl using percussive drilling techniques. Boreholes DS105, DS108 and DS111 were installed as 50 mm internal diameter groundwater and ground gas monitoring wells. The remaining locations were backfilled with arisings.

The ground conditions and monitoring well installation details are detailed on the individual borehole logs, which are included as Appendix III. The locations of the boreholes are shown on Figure 3.

Ca le Percussion oreholes

A total of five boreholes (CP101 to CP105) were advanced at the Site between the 3rd and 14th June 2013 using cable percussion techniques to a maximum depth of 30.00 m bgl. All five boreholes were installed as 50 mm internal diameter groundwater and ground gas monitoring wells. The boreholes were advanced using casing through the Made Ground and superficial deposits to prevent the creation of preferential pathways.

The ground conditions and monitoring well installation details are detailed on the individual logs, which are included as Appendix IV. The locations of the boreholes are shown on Figure 3.

Soil Sampling

Soil samples were collected from the borehole arisings for the purpose of environmental analysis, and were selected on the basis of field observations, including any discolouration or odour of the soil and to provide representative samples of the soils underlying the Site.

The samples were collected by Delta-Simons' on-Site scientist and immediately packed into pre-cleaned glassware supplied by the laboratory. A new pair of disposable nitrile gloves was worn for each sample collection to prevent cross contamination between samples. The jars were packed into a cool box and transported, by courier, to a UKAS and MCERTS accredited laboratory for chemical analysis.

round ater onitoring and Sampling

Groundwater level monitoring was carried out on the newly installed monitoring wells on four occasions: 19th, 21st, 27th June and 4th July 2013. Measurement of the depth to groundwater within the monitoring wells was taken using an electronic dip meter.

Groundwater samples were collected during the first monitoring round from CP101-CP105 (a total of five groundwater samples).

Prior to sampling, the wells were purged of water to the equivalent of three well volumes to ensure that representative samples could be taken. The water samples were collected using a disposable bailer and poured into pre-cleaned glassware supplied by the laboratory and immediately placed into a cool box containing ice packs. The cool boxes were sent by courier to the laboratory at the completion of the sampling.

a orator Anal ses

Soil Sample Anal ses

Chemical analyses were conducted, by an appropriately accredited laboratory, on a total of 24 soil samples collected from the borehole arisings. The location, depth and suite of analyses selected for each soil sample is presented in Table 2.

a le Soil Sample Anal sis

Sample ocation	Sample Depth m gl	Strata	s P	P	OC	sPA	S OC	etals	Chromium I	PC	p	As estos screen ID	OC and OI
CP103	0.5	MG						✓	✓		✓	✓	✓
DS102	0.2-0.3	MG	✓		✓	✓		✓	✓		✓		✓
DS103	0.2-0.3	MG		✓		✓		✓	✓		✓	✓	
DS105	0.5-0.8	MG		✓		✓		✓	✓		✓		
DS105	1.5-1.7	MG								✓	✓	✓	
DS105	3.7-4.0	MG		✓							✓		
DS106	0.2-0.5	MG		✓		✓		✓	✓		✓	✓	
DS106	1.8-2.0	MG		✓							✓		
DS107	0.2-0.5	MG	✓		✓		✓	✓	✓		✓		
DS107	1.5-1.8	SAND		✓	✓						✓		
DS108	0.7-0.9	MG	✓			✓		✓	✓		✓		✓
DS108	1.7-1.9	MG	✓		✓		✓				✓		
DS108	2.7-3.0	ALLUVIUM		✓							✓		
DS109	0.3-0.5	MG		✓		✓		✓	✓		✓	✓	
DS109	2.6-2.8	ALLUVIUM		✓							✓		
DS111	0.2-0.5	MG	✓			✓		✓	✓	✓	✓		✓
DS111	1.5	MG		✓							✓		
DS111	2.8-3.0	ALLUVIUM		✓							✓		✓
DS112	1.6	MG		✓		✓		✓	✓		✓	✓	
DS112	3.2-3.5	ALLUVIUM		✓							✓		
DS113	0.8-1.0	MG	✓		✓		✓	✓	✓		✓	✓	
DS113	2.3-2.5	CHALK		✓							✓		
DS115	0.5-0.8	MG		✓							✓		
DS116	0.1-0.3	MG		✓	✓	✓		✓	✓		✓	✓	✓
otal			6	16	6	9	3	12	12	2	24	8	6

Notes:
MG = Made Ground
Metals = Arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc
TPH / sTPH = Total and Speciated Total Petroleum Hydrocarbons
SVOC / VOC = Semi Volatile and Volatile Organic Compounds
sPAH = Speciated Polycyclic Aromatic Hydrocarbons
PCB = Polychlorinated biphynyls
TOC = Total Organic Content
LOI = Loss On Ignition

The soil analysis results are presented in Section 6.3.

round ater and Surface ater Sample Anal ses

Chemical analyses were conducted, by an appropriately accredited laboratory, on a total of five groundwater samples collected from the monitoring wells.

All the groundwater samples were submitted for the following analyses: metals, sTPH, VOC, SVOC, sulphate and pH.

The groundwater analysis results are presented in Sections 6.4.

round as onitoring

Measurements of methane, carbon dioxide and oxygen concentrations, atmospheric pressure and borehole flow rates were made in each of the monitoring wells on four occasions: 19th, 21st, 27th June and 4th July 2013. The ground gas concentrations and gas flows were recorded using an infrared gas analyser.

The ground gas monitoring results are presented in Section 6.6.

SI E I ES I A IO I DI S

round Conditions

Ground conditions encountered at the Site during Delta-Simons intrusive investigation are summarised in Table 3.

a le Summar of O served round Conditions

Strata	Description	Depths hic ness Encountered
Made Ground	Typically 0.1 m of tarmacadam surfacing over Made Ground generally comprising gravelly sandy clay with variable amounts of sand, gravels and cobbles. The granular fraction includes brick, flint, concrete, glass, ash, cinders and rare metal. The cobble and boulder fraction along with reinforced concrete caused borehole advancement to be discontinued at several locations in the south-west of the Site.	To between 1.80 m and 4.50 m bgl.
Superficial Deposits	Laterally and vertically variable deposits, generally comprising gravelly fine to coarse sands with flint and chalk and gravelly sandy silty clay (Alluvial Deposits). Inclusions of shell fragments no greater than 5 mm and relict organic matter. Locations CP104 and CP105 in the east of the Site also encountered sandy to very sandy fine to coarse chalk and flint gravel from depths between 4.50 and 5.60 m bgl, and up to 2.70 m thick. Interpreted as River Terrace Deposits.	From between 1.80 m to 7.20m bgl. The alluvial deposits are not present across the whole site, and appear to be absent across the central portion where Made Ground lies directly above the Chalk Bedrock.
The Seaford Chalk Formation And Newhaven Chalk Formation (Undifferentiated)	Firm to stiff rubbly to blocky chalk with occasional bands of flint.	From between 2.40 and 7.20 m bgl to >30.00 m bgl.

The ground conditions are described in detail in the logs included as Appendices II and III.

isual and Olfactor Evidence of Contamination

Visual or olfactory evidence of widespread significant soil or groundwater contamination was not noted during the investigation.

Identified localised contamination comprised:

- A high ash and cinder content identified within the sub-base in DS106 at between 0.2 and 0.5 m bgl; and
- A hydrocarbon odour identified in the Natural Ground in DS108 between 2.7 and 3.0 m bgl.

round ater Conditions

The depths to standing groundwater and the depth to the base of the monitoring wells are detailed in Table 4.

a le Depths to round ater in onitoring ells

Intrusive ocation	Depth to round ater	Depth to ase
CP101	*2.97 - 3.08	6.07
CP102	3.18 - 3.27	11.43
CP103	2.93 - 2.96	5.53
CP104	2.33 - 2.38	11.40
CP105	2.47 - 2.50	10.83
DS105	DRY	3.05
DS108	2.40 - 2.41	2.55
DS111	DRY	1.55

The Site is relatively flat and level and the groundwater depths were consistent across the Site and between monitoring rounds. It is considered that a continuous groundwater body is present at the Site.

*During the first groundwater level monitoring event an anomalous depth to water of 0.64 m was recorded at CP101, which was considered to relate to a blocked/flooded monitoring well. The table above shows the consistent depths recorded during the subsequent three monitoring visits.

SI E I ES I A IO RES S

uidance for Anal tical Results Assessment Criteria

A risk assessment approach has been used for the assessment of the results. This process is defined as a tiered assessment considering the 'pollutant linkages' on the basis of a 'source-pathway-receptor' relationship. Analytical results have been assessed against screening criteria considered protective of Human Health and/or controlled waters in the context of the proposed redevelopment of the Site and the environmental setting of the Site.

Information on the relevant guidance values that have been used for this Environmental Assessment is presented in the following section. The screening values are presented in Appendix V.

uman ealth Soil Screening alues

In the absence of a complete regulatory set of screening values derived using the new CLEA Framework, Delta-Simons will refer to the following;

- The current Soil Guidance Values (SGVs) published by the EA;
- Former SGVs for which no updated SGV has been published;
- The 2009 Chartered Institute of Environmental Health (CIEH)/Land Quality Management (LQM) Generic Assessment Criteria (GAC);
- The guidance values produced by the Environmental Industries Commission (EIC), the Association of Geotechnical and Geoenvironmental Specialists (AGS) and Contaminated Land: Application in Real Environments (CL:AIRE) in December 2009; and
- In house Generic Screening Values (HH-GSVs) derived by Delta-Simons and other non UK values where considered relevant.

round ater Assessment

The Coastal and Estuarine Environmental Quality Standards (CEQS), the UK Drinking Water Quality Standards (DWQS) or Surface Waters Regulations 1996 have been used as initial conservative screening values to assess whether groundwater contamination requires further assessment or discussion in terms of both the risks to controlled waters and Human Health. The chosen guidance values relate to the sensitivity of the Site setting.

In terms of risk to Human Health, where groundwater contaminant concentrations (for volatile organic compounds and lighter fraction hydrocarbon bandings) exceed the above

stringent water quality standards, the concentrations can be compared to HH-GSVs that have been derived by Delta-Simons for groundwater using the Risk Based Corrective Action (RBCA) Toolkit for Chemical Releases (adapted where necessary to be in line with the CLEA methodology). The HH-GSVs are based upon the indoor inhalation pathway as it is considered unlikely that there will be direct contact with or direct consumption of groundwater at the Site. This is considered to be conservative for this Site given the proposed development.

In terms of the risks to controlled waters, groundwater contaminant concentrations that exceed the above stringent water quality standards need to be considered in the context of the Site's environmental setting as to whether further qualitative or quantitative assessment is required.

Soil Anal sis Results

The soil analysis results have been assessed with reference to generic assessment criteria considered protective of Human Health in the context of the proposed residential end-use without plant uptake – based on an assumed end use of residential apartments with communal landscaping areas.

A summary of the soil analysis results from Delta-Simons site investigation is presented in Table 5. A copy of the laboratory analysis results is included as Appendix VI.

a le Collated Soil Sample Anal sis Summar mg g unless stated other ise

Parameter	um er of Samples	a imum Concentration	Screening alue Source	E ceedences Elevated Results ocation Depth m gl Concentration
etals				
Arsenic	12	26	32 SGV	0
Boron	12	1.8	290 LQM	0
Cadmium	12	0.6	10 SGV	0
Chromium (Total)	12	22	3,000 LQM	0
Chromium (Hexavalent)	12	<1	4.3 LQM	0
Copper	12	170	2,330 LQM	0
Lead	12	1,760	450 xSGV	DS109 (0.30-0.50) = 476 DS113 (0.80-1.00) = 1,760
Mercury	12	5.1	170 SGV	0
Nickel	12	60	130 SGV	0
Selenium	12	<0.3	350 SGV	0
Zinc	12	386	3,750 LQM	0
Petroleum drocar ons				
TPH (excluding sTPH total)	16	1,111	N/a	DS106 (0.20-0.50) = 1,111
TPH aliphatic C10-C12	6	9	48 LQM	0
TPH aliphatic C12-C16	6	22	740 LQM	0
TPH aliphatic C16-C21	6	705	45,000 LQM	0
TPH aliphatic C21-C35	6	705	45,000 LQM	0
TPH aromatic C16-C21	6	5	250 LQM	0
TPH aromatic C21-C35	6	5	890 LQM	0
Pol c clic Aromatic drocar ons				
Acenaphthene	12	0.2	210 LQM	0
Acenaphthylene	12	0.2	170 LQM	0
Anthracene	12	1	2300 LQM	0
Benzo[a]anthracene	12	7.3	3.1 LQM	DS106 (0.2-0.5) = 7.3
Benzo[a]pyrene	12	8.7	0.83 LQM	DS106 (0.2-0.5) = 8.7
Benzo[b]fluoranthene	12	12.9	5.6 LQM	DS106 (0.2-0.5) = 12.9
Benzo[ghi]perylene	12	6.0	44 LQM	0
Benzo[k]fluoranthene	12	4.6	8.5 LQM	0
Chrysene	12	7.4	6.0 LQM	DS106 (0.2-0.5) = 7.4
Dibenzo[ah]anthracene	12	1.6	0.76 LQM	DS106 (0.2-0.5) = 1.6
Fluoranthene	12	11.3	260 LQM	0
Fluorene	12	0.3	160 LQM	0
Indeno[1,2,3-cd]pyrene	12	7.3	3.2 LQM	DS106 (0.2-0.5) = 7.3
Naphthalene	12	<0.1	1.5 LQM	0
Phenanthrene	12	3.5	92 LQM	0
Pyrene	12	8.9	560 LQM	0
olatile Organic Compounds				
VOC	6	All results below the laboratory limits of detection.		
SVOC (excluding PAH's)	3			
Other Contaminants				
PCB	2	<0.01	8 SGV	0
Asbestos	8	Not Present	N/a	0
Other Parameters				
pH	24	7.2 – 11.8	N/a	Average slightly Alkaline
Loss on Ignition (%)	6	3.94-15.02	N/a	-
Organic Matter (%)	6	0.76-5.53	N/a	-

Note:
N/a = Generic screening value not available
Shaded = Concentrations exceed screening criteria or are considered significantly elevated
SGV/ xSGV = DEFRA/EA Soil Guideline Value/ Withdrawn SGV
LQM = LQM/CIEH Generic Assessment Criteria
* = Only sTPH concentrations identified above laboratory limits of detection included in this table

As shown in Table 5, widespread or significantly elevated concentrations of contaminants, have not been identified in the soils at the Site. However, localised slightly elevated concentrations of PAH, TPH and lead have been identified within the shallow Made Ground.

The identified exceedences are considered further within Section 7 of this Report.

round ater Anal tical Results

A summary of the groundwater analytical results is presented in Table 6. Copies of the laboratory results are included in Appendix VII. These results have been assessed against EQS freshwater guidance values and drinking water quality standards where available.

a le round ater Sample Anal sis Summar g l unless stated other ise

Parameter	Screening alue Source	Round				
		CP	CP	CP	CP	CP
etals						
Arsenic	10 DW / 50 EQS	2.43	2.39	0.54	0.91	1.02
Boron	1,000 DW / 2,000 EQS	143	177	315	139	67
Cadmium	5 DW/EQS	All results <0.07				
Chromium (Total)	50 DW / 20 EQS	34.6	1.5	0.4	0.2	<0.2
Copper	2,000 DW / 10 EQS	48.3	4.9	1.5	2.0	0.8
Lead	10 DW/EQS	All results <0.2				
Mercury	1 DW / EQS	0.01	<0.008	<0.008	<0.008	<0.008
Nickel	20 DW / 150 EQS	5.2	17.9	9.2	5.1	2.6
Selenium	10 DW	2.41	2.49	2.28	0.11	0.21
Zinc	75 EQS	10.7	9.7	7.2	7.1	7.2
Petroleum drocar ons						
sTPH fractions	10 EA	All results <1.0				
Other Organic Contaminants						
VOC	N/a	All results <1.0				
SVOC & PAHs	N/a	All results <0.1				
Others						
Sulphate		191	208	145	<10	<10
pH	6 – 9 EQS	10.7	9.7	7.2	7.1	7.2

Note:
- N/a = Generic screening value not applicable
- Shaded = Concentrations exceed screening criteria or are considered significantly elevated
- EQS = Freshwater Environmental Quality Standard
- DW = UK Drinking Water Quality Standards
- WSR = Water Supply (Water Quality) Regulations 1989 value for dissolved/emulsified hydrocarbons.
- EA = Advisory screening value for individual sTPH bands from communication with the Environment Agency.
- * = Only sTPH/sPAH/ SVOC/VOC concentrations identified above laboratory limits of detection included in this table

As shown in Table 6, significant groundwater contamination has not been identified at the Site. Though concentrations of chromium and copper have been identified above the EQS screening levels, the results are below the UK drinking water standards.

The identified exceedences are considered further within Section 7 of this Report.

round as onitoring

Ground gas monitoring has been carried out on four occasions, a summary of the results from the ground gas monitoring exercises is presented in Table 7. A complete set of ground gas monitoring results is presented in Appendix VIII.

a le round as onitoring Results Summar

onitoring ocation	ethane v v	Car on Dio ide v v	lo Rate l hr	Calculated S CS
	a	a	a	
CP101	<0.1	<0.1	>LoD/<0.01	See text below
CP102	<0.1	<0.1	5.2	<0.07 / CS1 However, CO_2 >5 %, therefore, considered increase to CS2.
CP103	<0.1	0.2	1.8	
CP104	<0.1	0.2	3.1	
CP105	0.2	0.1	2.2	
DS105	<0.1	12.3	<0.1	
DS108	<0.1	1.7	<0.1	
DS111	<0.1	5.2	<0.1	

Date	Conditions During onitoring Round	
	Atmospheric Pressure m	eather Conditions
19-06-13	1011	Overcast, 23°C
21-06-13	1004/1005	Cloudy Sunny Spells, 17°C
27-06-13	1019/1020	Overcast, 20°C
04-07-13	1008	Overcast, 20°C

Note: GSV = Gas Screening Value
CS = Characteristic Situation (Range: 1 = Very low risk to 6 = Very high risk)

From the available results presented in Table 7, the calculated ground gas regime for the Site falls under Characteristic Situation 1 (CS1 - very low risk) indicating that specific ground gas protection measures would not be required in the development. However, as concentrations of carbon dioxide have been identified above 5 % consideration should be given to increasing the classification to CS2 – low risk.

During the first monitoring visit an initial peak flow of >20 l/h was recorded at CP101, though the flow rate rapidly dropped to <0.1 l/h. It is noted that an unusually shallow depth to groundwater was recorded at this location during this monitoring visit. It is considered that the initial apparent high flow rate was due to a pressure build up within the upper section of the monitoring well resulting from a rising water level as the borehole became flooded. During the three subsequent monitoring visits flow rates at this location were all <0.1 l/h.

ASSESSMENT OF RISK AND CONCEPTUAL MODEL

Risk Assessment

The risk assessment procedure, which identifies sources, pathways, receptors and pollutant linkages is recognised as an appropriate approach to determining the extent and significance of contamination either within the context of Part 2A of the Environmental Protection Act 1990 (Part 2A) (when assessing current Site status or when considering the acquisition of an existing development), or as part of the planning process (for the redevelopment of an existing Site, or when considering the acquisition of a Site for redevelopment purposes). In either context the 'suitable for use' approach is adopted in assessing the risks. As such, the source-pathway-receptor assessment defines a conceptual model for the Site under consideration.

For the purposes of this Assessment, the risk assessment has been undertaken based upon the suitable for use approach in the context of a proposed residential end-use without plant uptake. The following revised Conceptual Site Model (CSM) has been formulated, taking into account all of the available data for the Site.

Identified Sources of Contamination

As presented in Sections 3 to 5, a significant potential source of contamination or significantly elevated concentrations of contaminants have not been identified at the Site. However, localised, marginally elevated concentrations of contaminants were identified, as summarised below:

- Slightly elevated concentrations of TPH and PAH were identified in the Made Ground at DS106, associated with an observed high ash and cinder content;
- Slightly elevated concentrations of lead were identified in the Made Ground at DS109 and DS113;
- A hydrocarbon odour was noted in the natural ground in DS108 between 2.7 and 3.0 m bgl, however, significantly elevated concentrations of TPH were not identified in the soil sample collected from this location;
- Concentrations of chromium and copper were identified in the groundwater in CP101 in excess of the EQS limits, but below the UK drinking water quality standards; and
- Slightly elevated concentrations of carbon dioxide indicating a potential ground gas Characteristic Situation 2 – low risk.

pdated ualitative Ris Assessment and Conceptual Site odel

A Conceptual Site Model, presented as Table 8, has been formulated taking into account all of the available data from the Delta-Simons investigation.

a le pdated Conceptual Site odel

Source	Path a	Receptor	Ris rating	Comment urther Requirements
Locally elevated concentrations of PAH, TPH and lead in the shallow soils at the Site.	Direct contact, ingestion and inhalation of dust and fibres.	Future Site users and occupiers.	**o Ris**	In order to remove the potential exposure pathways a suitable cover system will be required in all soft landscaped areas. It is anticipated that that would comprise a marker geotextile and capillary break layer and a layer of imported certified suitable for use topsoil and subsoil. Dependent on the proposed Site levels this may require the removal of some soils from the Site. Specific mitigation measures are not considered to be required beneath buildings, roads or pavements as the hard surfacing will break the potential pathways. The thickness of clean cover required is dependent on the end-use, however, it is likely to be in the region of 300 mm (landscaping areas) and 600 mm (residential gardens). Additional topsoil validation chemical analysis may be required by the Local Authority to demonstrate that imported soils are suitable for use with regard to risks to Site occupiers.
	Inhalation of vapours.	Future Site users and occupiers.	**o Ris**	Elevated concentrations of volatile contaminants have not been identified within the soils at the Site.
Locally elevated concentrations of PAH, TPH and lead in the shallow soils at the Site. Marginally elevated concentrations of chromium and copper in the groundwater at the Site.	Vertical and lateral migration.	Groundwater beneath the Site and the River Kennet adjacent to the Site.	**o Ris**	A significant potential source of soil or groundwater contamination has not been identified at the Site. The marginally elevated concentrations of chromium and copper in the groundwater at a single location are not considered to be indicative of wider groundwater contamination or present a risk to controlled waters though migration or the creation of preferential pathways through piling. However, given the underlying Principal Aquifer it is considered likely that a Piling Risk Assessment will be required.
	Piling creating vertical migration pathways	Deep ground water in the underlying Principal Aquifer.	**o Ris**	

Source	Path a	Receptor	Ris rating	Comment urther Requirements
Ground Gases	Inhalation of gases volatile vapours and the accumulation of gases and vapours within confined spaces.	Future Site users, occupiers and any future sub-surface maintenance workers.	**o Ris**	On the basis of the results of the initial ground gas assessment based on four monitoring visits, the Site has been identified as a Characteristic Situation 1 – very low risk (CIRIA C665). However, as concentrations of carbon dioxide have been identified above 5 % consideration should be given to increasing the classification to CS2 – low risk in which case basic ground gas protection measures will be required. The Local Authority may request further ground gas monitoring to fully characterise the ground gas regime at the Site. Alternatively, CS2 ground gas protection measures could be installed comprising as a minimum a damp proof membrane and sub-floor void/ventilation. The ground gas protection measures are dependent on the proposed end-use. Potential volatile contaminants have not been identified within the soils or groundwater at the Site, therefore, vapour inhalation or ingress is not considered to be a significant potential source-pathway.
Potential phytotoxic contaminants within the soils.	Root zone uptake.	Plants in landscaped areas.	**o Ris**	Given the current development across much of the Site it is considered that a suitable layer of certified suitable for use topsoil and subsoil will be required in landscaped areas. It is considered that this would mitigate against risks to plants, however, additional advice should be sought from a landscape/horticultural specialist to confirm that the imported soils also meet the requirements to provide a suitable growing medium.
Hydrocarbon and PAH contamination in the soils.	Drinking water supply pipes.	Vertical and lateral migration of contaminants and degradation of pipework.	**o Ris**	Given the former development at the Site and the identified shallow soil contamination it is possible that upgraded water supply pipework may be required. Assessment of the risk to water pipes for any new supply will have to be undertaken as a requirement of the statutory undertakers who should be provided with a copy of this and previous Site investigation reports.
Potential contaminants in the soil and groundwater at the Site.	Groundworkers & Site construction workers during redevelopment.	Direct contact, ingestion and inhalation of dust and vapours.	**o to edium Ris**	Groundworkers and sub-surface maintenance workers should be made aware of the possibility of encountering contaminated soils through toolbox talks. Safe working procedures should be implemented, good standards of personal hygiene should be observed and appropriate levels of PPE provided and utilised. This recommendation should be captured in Site health and safety documentation and in maintenance plans.
Potentially unidentified 'hotspots' of contamination, which may be present	All receptors.	All pathways.	**o Ris**	A 'hotspot' protocol should be in place for groundworkers to act upon during the future redevelopment of the Site.

Source	Path a	Receptor	Ris rating	Comment urther Requirements
in areas of the Site that have not been directly investigated.				

E IRO E A ASSESS E CO C SIO S

Conclusions and Recommendations

A review of desktop information has highlighted that the Site was historically occupied by a biscuit factory prior to its current use as a retail park. It is understood that the Site is under consideration for redevelopment and for the purposes of this risk assessment it has been assumed that the development is likely to comprise either residential apartments and/or a commercial end-use.

Based upon the findings of the Environmental Assessment, Delta-Simons does not consider that significant soil or groundwater contamination is present beneath the Site. However, locally elevated concentrations of lead, TPH and sPAH compounds have been identified in the Made Ground.

Given the developed nature of the Site and lack of suitable soils, it is considered that a layer of imported, certified suitable for use, sub-soil and topsoil will be required in all areas of landscaping. This clean cover layer will also provide suitable mitigation to protect end-users from the identified low level soil contamination. Based on the likely residential apartment and/or commercial end-uses, specific remediation is not considered to be required at the Site based on the available data.

The ground gas regime beneath the Site has been identified as a CS1, increased to CS2 – low risk. As such, basic ground gas protection measures are likely to be required in the construction of new buildings at the Site comprising as a minimum a damp proof membrane and sub-floor void/ventilation. The ground gas protection measures are dependent on the proposed end-use.

A ‘hotspot’ protocol should be in place for groundworkers to act upon during redevelopment works in the event that any additional previously unidentified contamination is encountered.

Development A normals

The following development abnormals are considered applicable:

- A destructive asbestos survey should be undertaken prior to the demolition of the Site buildings, and any identified ACMs should be removed by a specialist contractor and in accordance with appropriate risk assessments and method statements;

- Suitable dust suppression techniques will need to be implemented during any demolition/redevelopment works undertaken at the Site;
- Given that low concentrations of hydrocarbons have been identified at the Site, the Local Water Authority should be consulted to confirm their requirements for drinking water supply pipes; and
- Any groundworkers who are required to perform sub-surface works at the Site should be made aware of the possibility of encountering lead contamination, or previously unidentified areas of contamination. Therefore, a 'hotspot' protocol should be implemented; good standards of personal hygiene should be observed, with appropriate levels of personal protective equipment (PPE) provided and utilised; and toolbox talks should be given to contractors prior to the commencement of works.

The following should also be considered during the redevelopment of the Site:

- Additional site investigation works are considered to be required in the currently inaccessible areas of the Site following the demolition of the existing Site buildings
- Elevated costs are likely to be incurred during redevelopment of the Site relating to the disposal of soils from the Site for 'hotspot' remediation and/or engineering purposes. Landfill tax will also be incurred, currently at a rate of £72 per tonne; and
- Where possible, re-use of Made Ground should be considered in the remodelling of Site levels to reduce the cost of material being disposed of to landfill. Additional costs may be incurred in respect of further chemical analysis of soils to confirm that Made Ground is suitable for re-use.

I I A IO S O E IRO E A ASSESS E S

During the preparation of this Assessment, Delta-Simons reviewed and evaluated information provided by the Client, Chemtech Environmental Ltd and others. Delta-Simons' conclusions, opinions and recommendations are based on this information and observations made during the Site reconnaissance.

The recommendations contained in this Assessment represent our professional opinions. These opinions were arrived in accordance with currently accepted industry practices and hydrological and engineering practices at this time and location and, as such, are not a guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

This Assessment was prepared by Delta-Simons for our Client. Any third party using this Assessment does so entirely at their own risk. Delta-Simons makes no warranty or representation whatsoever, express or implied, with respect to the use by a third party of any information contained in this Assessment or its suitability for any purpose. Delta-Simons assumes no responsibility for any costs, claims, damages or expenses (including any consequential damages) resulting from the use of this Assessment or any information contained in this Assessment by a third party, with the exception of those named on the cover.

This Assessment was prepared by:

Will Capps — 12/07/13

Environmental Scientist — Date

This Assessment was reviewed by:

Christopher Rudd — 12/07/2013

Geo-Environmental Project Manager — Date

This Assessment was authorised by:

Alex Ferguson — 12th July 2013

Projects Director — Date

Figures

LEGEND

Site Boundary

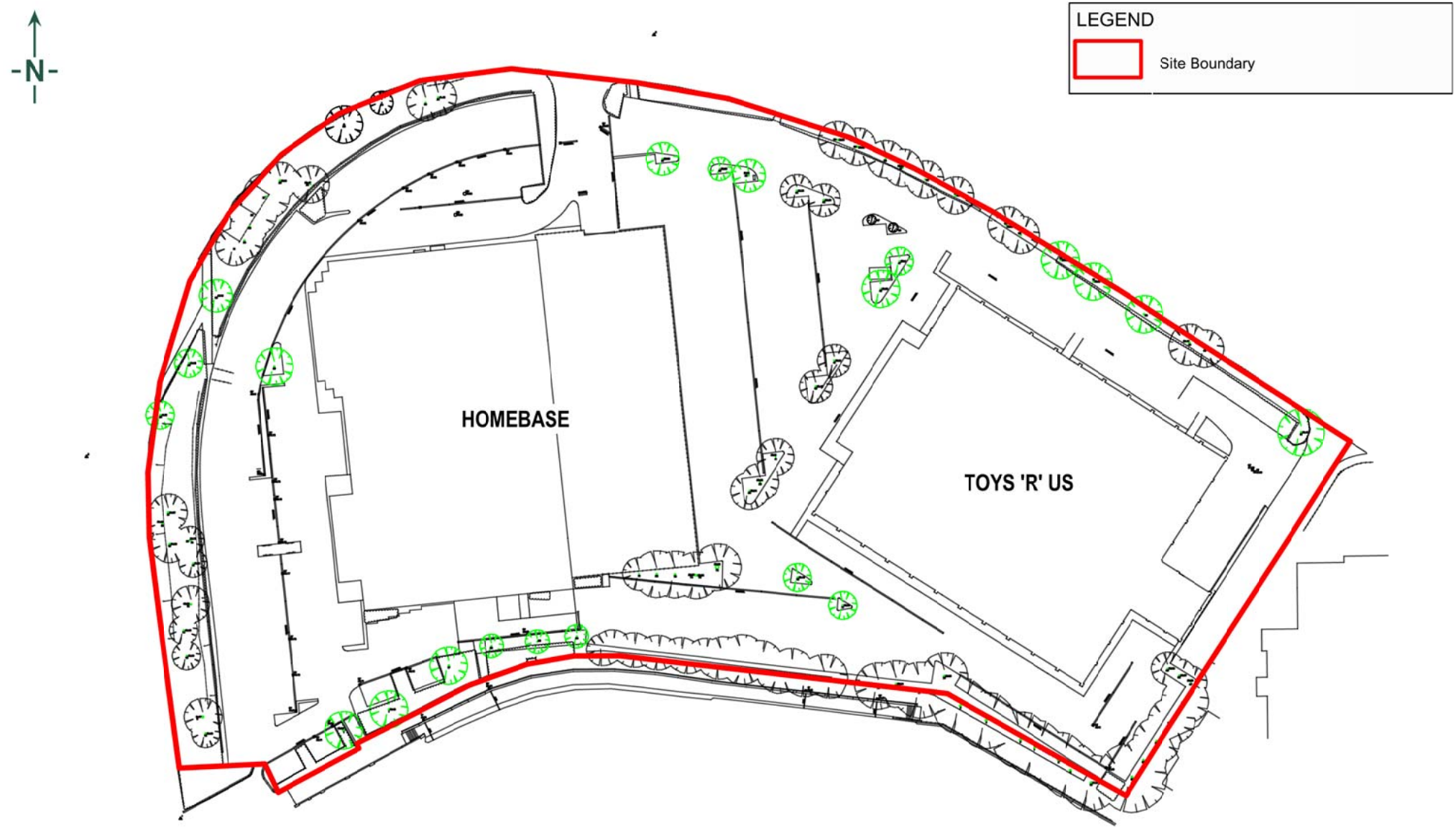


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delta-simons environmental consultants

TITLE:
Site Location Map
Forbury Retail Park, Kenavon Drive
Reading

DWN: DE	SCA: To Scale@A4	PROJECT NO.: 13-0258.01	
CHK: WC	REV: 1	FIGURE NO.: 1	
DATE: 20 June 2013			



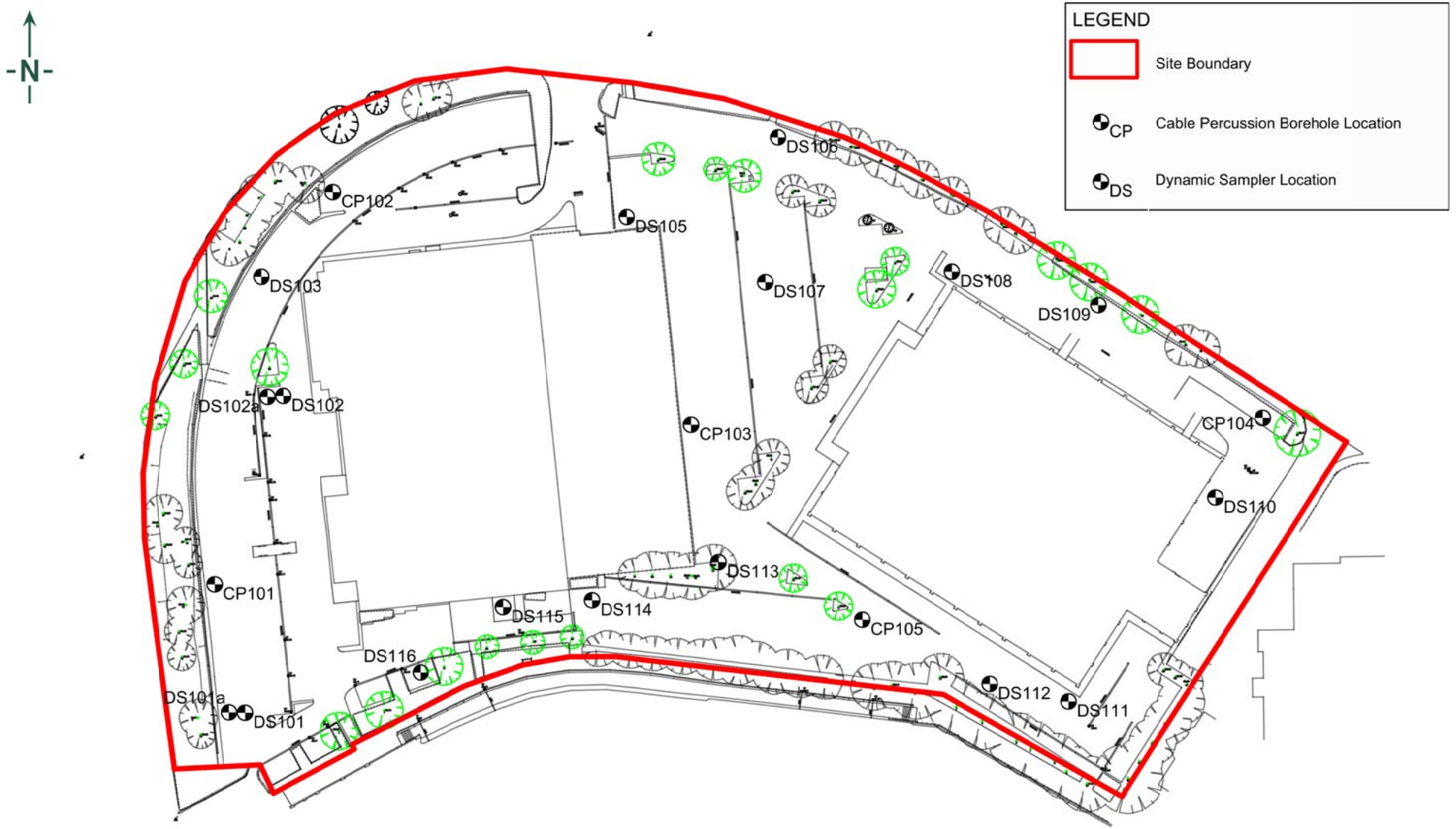
Not to Scale

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delta-simons
environmental consultants

TITLE:
Site Layout Plan
Forbury Retail Park, Kenavon Drive
Reading

DWN:	DESIGN:	PROJECT NO.:
DE	-	13-0258.01
CHK:	APP:	FIGURE:
WC	-	2
DATE:	REV:	
20 June 2013	1	



Not to Scale

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delta-simons environmental consultants

TITLE:
Approximate Intrusive Location Plan
Forbury Retail Park, Kenavon Drive
Reading

DWN: DE	DESIGN: -	PROJECT NO.: 13-0258.01	
CHK: WC	APP: -	FIGURE: 3	
DATE: 20 June 2013	REV: 1		

Appendix I

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
47025573_1_1

Customer Reference:
DS18848

National Grid Reference:
472270, 173570

Slice:
A

Site Area (Ha):
2.74

Search Buffer (m):
1000

Site Details:

Forbury Retail Park
Kenavon Drive
Reading
RG1 3DH

Client Details:

Ms J Pearson
Delta Simons
The Lawn
Union Road
Lincoln
LN1 3BL

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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 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 the attached 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 v47.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		7	14	19
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 10			4	6
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 12		Yes		
Pollution Incidents to Controlled Waters	pg 12		32	52	99
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters	pg 42				2
Registered Radioactive Substances	pg 43				14
River Quality	pg 45		1	1	1
River Quality Biology Sampling Points	pg 46				1
River Quality Chemistry Sampling Points	pg 47			1	1
Substantiated Pollution Incident Register	pg 48			2	1
Water Abstractions	pg 49			1	5 (*45)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 61	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 61	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 61	Yes	n/a	n/a	n/a
Source Protection Zones	pg 61	1			2
Extreme Flooding from Rivers or Sea without Defences	pg 62	Yes	Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 62		Yes	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
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 64			1	1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 64				1
Licensed Waste Management Facilities (Locations)	pg 64				1
Local Authority Recorded Landfill Sites	pg 65				1
Registered Landfill Sites	pg 65				1
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)	pg 66			3	1
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)	pg 66			1	
Planning Hazardous Substance Consents	pg 66			3	1
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 68	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 68	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 75				3
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
Brine Compensation Area			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 76			1	6
Natural Cavities	pg 77				7
Non Coal Mining Areas of Great Britain	pg 78	Yes		n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 78	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 78	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 78	Yes	Yes	n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 79	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 79	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 79	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
Industrial Land Use					
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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
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National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 99		1		
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Nabisco Group Ltd. 121 Kings Road, Reading. Berksh Property Type: Undefined Or Other Location: Nabisco Brands Ltd. Kings Road Reading Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0435 Permit Version: 1 Effective Date: 18th October 1985 Issued Date: 18th October 1985 Revocation Date: 8th May 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A13SW (S)	64	1	472230 173460
2	**Discharge Consents** Operator: Mepc Projects Ltd Property Type: Domestic Property (Single) Location: Blakes Cottages, Reading Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0514 Permit Version: 1 Effective Date: 19th November 1985 Issued Date: 19th November 1985 Revocation Date: 25th April 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	122	1	472050 173450
2	**Discharge Consents** Operator: Mepc Plc Property Type: Undefined Or Other Location: Abbey Garden Development, Phaseiii, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.2738 Permit Version: 1 Effective Date: 15th August 1988 Issued Date: 15th August 1988 Revocation Date: 25th February 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	154	1	472020 173440
3	**Discharge Consents** Operator: British Gas Plc Southern Property Type: Public Gas Supply Location: Reading Gasworks Site, Off Kenavon Drive, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Ctwc.1649 Permit Version: 1 Effective Date: 9th June 1987 Issued Date: 9th June 1987 Revocation Date: 1st October 1996 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A13SE (E)	161	1	472560 173520

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: Pfa Invest International Property Type: Undefined Or Other Location: The Abbey Gardens Development, Phase Ii, Reading Berks Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Ctwc.0563 Permit Version: 1 Effective Date: 20th January 1986 Issued Date: 20th January 1986 Revocation Date: 5th September 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Holy Brook **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A13SW (W)	218	1	471950 173450
4	**Discharge Consents** Operator: Pfa Invest International Property Type: Undefined Or Other Location: The Abbey Gardens Development, Phase Ii, Reading Berks Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Ctwc.0564 Permit Version: 1 Effective Date: 20th January 1986 Issued Date: 20th January 1986 Revocation Date: 11th July 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Holy Brook **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A13SW (W)	218	1	471950 173450
5	**Discharge Consents** Operator: Mepc Plc Property Type: Undefined Or Other Location: Abbey Gardens, Phase 1, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0662 Permit Version: 1 Effective Date: 11th February 1986 Issued Date: 11th February 1986 Revocation Date: 19th March 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: The Holy Brook **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A12SE (W)	228	1	471940 173450
6	**Discharge Consents** Operator: Environment Agency - Thames Region Property Type: Domestic Property (Single) Location: Blakes Lock House, Blakes Lock,Near Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Cssm.0035 Permit Version: 2 Effective Date: 26th May 2006 Issued Date: 26th May 2006 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	300	1	472700 173500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Environment Agency - Thames Region Property Type: Domestic Property (Single) Location: Blakes Lock House, Blakes Lock,Near Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CSSM.0035 Permit Version: 1 Effective Date: 26th August 1997 Issued Date: 26th August 1997 Revocation Date: 25th May 2007 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	300	1	472700 173500
7	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: Sewerage Network - Pumping Station - Water Company Location: Reading, Blakes Lockreadingblakes Lock Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.1768 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Holly Brook **Status: Temporary Consents (Water Act 1989, Section 113)** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	341	1	472700 173400
7	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: Sewerage Network - Pumping Station - Water Company Location: Reading, Blakes Lockreadingblakes Lock Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.1768 Permit Version: 1 Effective Date: 2nd November 1989 Issued Date: 2nd November 1989 Revocation Date: 2nd September 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Holly Brook **Status: Temporary Consents (Water Act 1989, Section 113)** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	341	1	472700 173400
8	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Premises, Kings Rd, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0296 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Premises, Kings Rd, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0295 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300
8	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Premises, Kings Rd, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0297 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300
8	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Premises, Kings Rd, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0298 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300
8	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Premises, Kings Rd, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0299 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Huntley & Palmers Ltd, King'S Road, Reading, Berks Property Type: Undefined Or Other Location: Factory At Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.0508 Permit Version: 1 Effective Date: 22nd March 1962 Issued Date: 22nd March 1962 Revocation Date: 3rd April 1987 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	413	1	471800 173300
9	**Discharge Consents** Operator: Rosehaugh Estates Plc Property Type: Undefined Or Other Location: Riverside Development, Riverside, Kenavon Drive, Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Cntw.0948 Permit Version: 1 Effective Date: 18th February 1991 Issued Date: 18th February 1991 Revocation Date: 4th December 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A14NW (E)	443	1	472850 173630
10	**Discharge Consents** Operator: Environment Agency - Thames Region Property Type: Domestic Property (Single) Location: Caversham Lock House, Caversham, Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Cssm.0015 Permit Version: 2 Effective Date: 26th May 2006 Issued Date: 26th May 2006 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Varied by Application - (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	446	1	472000 174050
10	**Discharge Consents** Operator: Environment Agency - Thames Region Property Type: Domestic Property (Single) Location: Caversham Lock House, Caversham, Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CSSM.0015 Permit Version: 1 Effective Date: 3rd October 1995 Issued Date: 3rd October 1995 Revocation Date: 25th May 2006 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	446	1	472000 174050

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Discharge Consents** Operator: Huntley & Palmers Ltd Property Type: Undefined Or Other Location: Factory Premises, Kings Road, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0294 Permit Version: 1 Effective Date: 12th February 1964 Issued Date: 12th February 1964 Revocation Date: 4th February 1986 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: R Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A12SE (W)	458	1	471700 173500
12	**Discharge Consents** Operator: Reading Borough Council Property Type: Car Storage/Stocking Site Location: Hills Meadow Car Park, Reading,Berks. Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CTWC.0994 Permit Version: 1 Effective Date: 15th July 1986 Issued Date: 15th July 1986 Revocation Date: 1st October 2007 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	539	1	471870 174080
13	**Discharge Consents** Operator: Heron Homes Ltd Property Type: Domestic Property (Multiple) Location: Caversham Mill, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.1438 Permit Version: 1 Effective Date: 23rd January 1987 Issued Date: 23rd January 1987 Revocation Date: 14th May 1991 Discharge Type: Unknown Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A18SW (N)	542	1	472200 174200
14	**Discharge Consents** Operator: Thames Water Utilities Limited. Property Type: Water Supply Adminstration Location: Metropolitan Water Board (Now Thames Water - Central) Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0445 Permit Version: 1 Effective Date: 16th November 1964 Issued Date: 16th November 1964 Revocation Date: 15th December 1998 Discharge Type: Trade Discharges - Process Effluent - Water Company (Wtw) Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A12NE (NW)	544	1	471700 173900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**Discharge Consents** Operator: Thames Water Utilities Limited. Property Type: Water Supply Adminstration Location: Metropolitan Water Board (Now Thames Water - Central) Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcp.0446 Permit Version: 1 Effective Date: 16th November 1964 Issued Date: 16th November 1964 Revocation Date: 15th December 1998 Discharge Type: Trade Discharges - Process Effluent - Water Company (Wtw) Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A12NE (NW)	544	1	471700 173900
15	**Discharge Consents** Operator: Tesco Stores Limited Property Type: Retail Distribution Location: Tesco Superstore, Kings Meadow,Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CNTW.0610 Permit Version: 1 Effective Date: 19th July 1990 Issued Date: 19th July 1990 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Transferred from Water Act 1989** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	556	1	472750 174020
16	**Discharge Consents** Operator: British Gas Plc Southern Property Type: Public Gas Supply Location: Reading Gasworks Site, Off Kenavon Drive, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: Ctwc.1648 Permit Version: 1 Effective Date: 9th June 1987 Issued Date: 9th June 1987 Revocation Date: 1st October 1996 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Kennet **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	572	1	472970 173700
17	**Discharge Consents** Operator: Sir Robert Mcalpine Ltd. Property Type: General Construction Work Location: Nugent House Vastern Road Reading Berkshire Rg1 8db Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CAWM.0103 Permit Version: 2 Effective Date: 15th December 1999 Issued Date: 6th December 1999 Revocation Date: 29th February 2000 Discharge Type: Trade Effluent Discharge Environment: Into Land Receiving Water: To The Vastern Ditch **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	580	1	471710 173980

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Discharge Consents** Operator: Sir Robert Mcalpine Ltd. Property Type: General Construction Work Location: Nugent House Vastern Road Reading Berkshire Rg1 8db Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Cawm.0103 Permit Version: 1 Effective Date: 15th October 1999 Issued Date: 6th December 1999 Revocation Date: 24th January 2000 Discharge Type: Trade Effluent Discharge Environment: Ditch Receiving Water: To The Vastern Ditch **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	580	1	471710 173980
18	**Discharge Consents** Operator: Geoffrey Osbourne Building Ltd Property Type: Undefined Or Other Location: 17/23 King Street, Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.3315 Permit Version: 1 Effective Date: 12th June 1989 Issued Date: 12th June 1989 Revocation Date: 27th June 1991 Discharge Type: Unknown Discharge Environment: Freshwater Stream/River Receiving Water: Holy Brook **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	596	1	471600 173300
19	**Discharge Consents** Operator: H&G Simmonds Ltd, The Brewery, Reading, Berks Property Type: Brewing & Malting Location: The Brewery, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.0211 Permit Version: 1 Effective Date: 19th December 1955 Issued Date: 19th December 1955 Revocation Date: 12th June 1990 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A7NW (SW)	636	1	471600 173200
20	**Discharge Consents** Operator: Cork Manufacturing Co Ltd, South Chingford, London Property Type: Cork & Plait Brushes & Brooms Location: Britcork Works, Caversham, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.1601 Permit Version: 1 Effective Date: 19th June 1979 Issued Date: 19th June 1979 Revocation Date: 23rd January 1987 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Caversham Mill Stream **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A18NW (N)	642	1	472200 174300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: Cork Manufacturing Co Ltd Property Type: Cork & Plait Brushes & Brooms Location: Britcork Works, Caversham, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.1245 Permit Version: 1 Effective Date: 11th October 1971 Issued Date: 11th October 1971 Revocation Date: 23rd January 1987 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	644	1	472300 174300
22	**Discharge Consents** Operator: Lafarge Redland Aggregates Limited Property Type: Extraction Of Stone, Gravel Etc. Location: Redland Aggregates, Henley Road, Dunsden, Reading, Berkshire Authority: Environment Agency, Thames Region Catchment Area: Not Given Reference: CTWC.3339 Permit Version: 1 Effective Date: 22nd May 1989 Issued Date: 22nd May 1989 Revocation Date: 19th October 2001 Discharge Type: Trade Discharge - Mineral Workings Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	646	1	472900 174000
23	**Discharge Consents** Operator: Southern Gas Board, 164 Above Bar, Southampton Property Type: Public Gas Supply Location: Gasholder Station, Earley, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.0985 Permit Version: 1 Effective Date: 9th December 1968 Issued Date: 15th February 1968 Revocation Date: 6th June 1991 Discharge Type: Unknown Discharge Environment: Freshwater Stream/River Receiving Water: Kennet **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	820	1	473200 173800
24	**Discharge Consents** Operator: British Technical Cork Products Ltd Property Type: Cork & Plait Brushes & Brooms Location: Cork Factory, Caversham Mill, Mill Rd, Caversham, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.0797 Permit Version: 1 Effective Date: 8th October 1965 Issued Date: 8th October 1965 Revocation Date: 23rd January 1987 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A18NW (N)	842	1	472200 174500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
24	**Discharge Consents** Operator: British Technical Cork Products Ltd Property Type: Cork & Plait Brushes & Brooms Location: Cork Factory, Caversham Mill, Mill Rd, Caversham, Reading, Berks Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctcr.0798 Permit Version: 1 Effective Date: 8th October 1965 Issued Date: 8th October 1965 Revocation Date: 23rd October 1987 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Manually corrected supplier location	A18NW (N)	842	1	472200 174500
25	**Discharge Consents** Operator: M.E.P.C. Kings Road Ltd. Property Type: Undefined Or Other Location: Lynmouth Road / De Montfort Road, Reading, Berks. Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Ctwc.0264 Permit Version: 1 Effective Date: 5th August 1985 Issued Date: 5th August 1985 Revocation Date: 19th March 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Thames **Status: Authorisation revokedRevoked** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	900	1	471520 174250
26	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: Sewerage Network - Pumping Station - Water Company Location: Reading, Cavershamreadingcaversham Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.1769 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Temporary Consents (Water Act 1989, Section 113)** Positional Accuracy: Located by supplier to within 100m	A19NW (NE)	988	1	472800 174500
26	**Discharge Consents** Operator: Thames Water Utilities Ltd Property Type: Sewerage Network - Pumping Station - Water Company Location: Reading, Cavershamreadingcaversham Authority: Environment Agency, Thames Region Catchment Area: Not Supplied Reference: Temp.1769 Permit Version: 1 Effective Date: 2nd November 1989 Issued Date: 2nd November 1989 Revocation Date: 2nd September 2010 Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Thames **Status: Temporary Consents (Water Act 1989, Section 113)** Positional Accuracy: Located by supplier to within 100m	A19NW (NE)	988	1	472800 174500
27	**Local Authority Pollution Prevention and Controls** Name: Kings Road Garage Location: 191 Kings Road, Reading, Berkshire, RG1 4EX Authority: Reading Borough Council, Environmental Health Department Permit Reference: Epa/Par.B/45/98 Dated: 24th August 1999 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revokedRevoked** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	292	2	472594 173330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Local Authority Pollution Prevention and Controls** Name: RBC Location: 21 South Street, READING, Berkshire, RG1 4QU Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/01/91/1 Dated: 14th October 1992 Process Type: Local Authority Air Pollution Control Description: PG5/2 Crematoria **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	455	2	471930 173105
29	**Local Authority Pollution Prevention and Controls** Name: Tesco Stores Ltd Location: Napier Road, Reading, Berkshire, RG1 8DF Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/29/98/P2 Dated: 18th June 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status:** **Permitted** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	456	2	472632 173979
30	**Local Authority Pollution Prevention and Controls** Name: Murco Petroleum Ltd Location: 69 London Road, READING, Berkshire, RG1 5BW Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/26/98/P1 Dated: 18th May 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status:** **Permitted** Positional Accuracy: Automatically positioned to the address	A8NE (S)	483	2	472319 173024
31	**Local Authority Pollution Prevention and Controls** Name: Sketchley Dry Cleaners Location: 41 Market Place, Reading, Rg1 2de Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/DC16/P1 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/46 Dry cleaning **Status:** **Application Not Yet Authorised** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	502	2	471662 173451
32	**Local Authority Pollution Prevention and Controls** Name: Thames Valley Service StationTotal Uk Ltd Location: George Street, Caversham, READING, Berkshire, RG4 8DH Authority: Reading Borough Council, Environmental Health Department Permit Reference: PPC/PARB/44/98/P3 Dated: 24th August 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station **Status:** **Permitted** Positional Accuracy: Automatically positioned to the address	A18NW (N)	783	2	471950 174395
33	**Local Authority Pollution Prevention and Controls** Name: Caversham Coachworks Ltd Location: 3 Send Road, Caversham, READING, Berkshire, RG4 8EH Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/20/95/P1 Dated: 20th February 1993 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status:** **Permitted** Positional Accuracy: Automatically positioned to the address	A18NE (N)	823	2	472334 174476
33	**Local Authority Pollution Prevention and Controls** Name: Cavesham Coachworks Ltd Location: 3 Send Road, Caversham, Reading, RG4 8EH Authority: Reading Borough Council, Environmental Health Department Permit Reference: PPC/R/VR2/2012 Dated: 1st April 2012 Process Type: Local Authority Pollution Prevention and Control Description: PG6/34 Respraying of road vehicles **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	827	2	472329 174481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	**Local Authority Pollution Prevention and Controls** Name: Butts Dry Cleaners Location: 225a London Road, Reading, Rg1 3ny Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/DC4/P1 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/46 Dry cleaning **Status: Application Refused Or Cancelled** Positional Accuracy: Manually positioned to the address or location	A9NE (E)	861	2	473199 173234
35	**Local Authority Pollution Prevention and Controls** Name: A To Z Cleaners Location: 32 Erleigh Road, Reading, Rg1 5na Authority: Reading Borough Council, Environmental Health Department Permit Reference: EPA/PAR.B/DC8/P2 Dated: 1st January 2009 Process Type: Local Authority Air Pollution Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A9SE (SE)	950	2	472996 172799
	Nearest Surface Water Feature	A13SW (SW)	4	-	472210 173516
36	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 3rd March 1992 Incident Reference: WE920135 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	19	1	472350 173490
37	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 14th January 1995 Incident Reference: WE950014 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	29	1	472300 173500
38	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 27th April 1994 Incident Reference: WE940136 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	35	1	472400 173500
39	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 12th October 1996 Incident Reference: WE960354 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	47	1	472150 173450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 13th January 1998 Incident Reference: 37310 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (W)	62	1	472100 173500
41	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Kennet Side, READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 15th July 1996 Incident Reference: WE960305 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	102	1	472200 173400
41	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 6th October 1996 Incident Reference: WE960350 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	107	1	472200 173395
41	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th August 1994 Incident Reference: WE940294 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	150	1	472200 173350
42	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Not Supplied Incident Date: 6th August 1991 Incident Reference: WE910446 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	114	1	472100 173400
42	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 9th November 1993 Incident Reference: WE930352 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	116	1	472105 173395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 18th August 1992 Incident Reference: WE920495 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	119	1	472100 173395
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 28th July 1992 Incident Reference: WE920445 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	119	1	472500 173500
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 21st October 1993 Incident Reference: WE930358 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	121	1	472500 173495
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 16th December 1993 Incident Reference: WE930414 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	126	1	472505 173495
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Blakes Lane, READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 6th March 1992 Incident Reference: WE920140 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	161	1	472550 173500
43	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 9th April 1993 Incident Reference: WE930119 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (E)	163	1	472550 173495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
44	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th September 1994 Incident Reference: WE940321 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (S)	122	1	472300 173400
44	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 16th February 1995 Incident Reference: WE950058 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (S)	126	1	472300 173395
45	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Not Supplied Incident Date: 27th June 1997 Incident Reference: THWE1997029446 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A13SE (E)	178	1	472570 173500
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 21st August 1996 Incident Reference: WE960309 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	182	1	472005 173405
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 16th August 1996 Incident Reference: WE960300 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	185	1	472005 173400
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 29th October 1993 Incident Reference: WE930368 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	187	1	472005 173395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: Not Supplied Incident Reference: WE960163 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	187	1	472000 173405
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th September 1991 Incident Reference: WE910504 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	189	1	472000 173400
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 28th November 1991 Incident Reference: WE910657 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	192	1	472000 173395
47	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 19th March 1996 Incident Reference: WE960076 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	196	1	472150 173300
47	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Kennetside Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 16th April 1998 Incident Reference: 38419 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	205	1	472100 173300
48	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 23rd January 1989 Incident Reference: WE890031 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	199	1	472200 173300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 18th August 1998 Incident Reference: THWE1998040101 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	200	1	472205 173300
48	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 11th November 1994 Incident Reference: WE940387 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	204	1	472200 173295
48	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 2nd February 1995 Incident Reference: WE950040 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (S)	205	1	472205 173295
49	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 29th December 1996 Incident Reference: THWE1996026442 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A13SW (S)	223	1	472270 173300
50	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th April 1995 Incident Reference: WE950146 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	255	1	472000 173300
50	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th July 1995 Incident Reference: WE950271 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	258	1	472000 173295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 4th August 1995 Incident Reference: WE950314 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	260	1	471900 173500
52	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 9th September 1991 Incident Reference: WE910493 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	280	1	471900 173400
52	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 9th April 1998 Incident Reference: 38265 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	282	1	471900 173395
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 18th April 1993 Incident Reference: WE930123 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	290	1	472700 173595
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 22nd May 1991 Incident Reference: WE910281 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	290	1	472700 173600
54	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 1st March 1990 Incident Reference: WE900148 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	300	1	472700 173500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Note: Not Supplied Incident Date: 24th June 1996 Incident Reference: WE960204 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	302	1	472700 173495
55	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 4th September 1990 Incident Reference: WE900553 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	359	1	471800 173500
55	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 11th April 1995 Incident Reference: WE950138 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	360	1	471800 173495
56	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 2nd April 1991 Incident Reference: WE910175 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	376	1	471800 173400
56	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 19th May 1994 Incident Reference: WE940164 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	377	1	471800 173395
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 14th September 1994 Incident Reference: WE940329 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	388	1	472010 173990

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 27th April 1994 Incident Reference: WE940107 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	391	1	472005 173990
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 16th June 1995 Incident Reference: WE950232 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	393	1	472010 173995
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th March 1994 Incident Reference: WE940071 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	393	1	472000 173990
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 15th July 1993 Incident Reference: WE930241 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	395	1	472005 173995
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 4th February 1994 Incident Reference: WE940039 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	396	1	471995 173990
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th June 1995 Incident Reference: WE950239 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	397	1	472010 174000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 26th March 1991 Incident Reference: WE910166 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	398	1	472000 173995
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th August 1993 Incident Reference: WE930284 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	399	1	472005 174000
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th January 1994 Incident Reference: WE940026 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	400	1	471995 173995
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 24th August 1995 Incident Reference: WE950348 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	401	1	472010 174005
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 15th March 1989 Incident Reference: WE890150 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	402	1	472000 174000
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 27th September 1993 Incident Reference: WE930322 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	404	1	472005 174005

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 22nd November 1993 Incident Reference: WE930388 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	405	1	471995 174000
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 4th October 1995 Incident Reference: WE950395 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	406	1	472010 174010
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th October 1993 Incident Reference: WE930336 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	406	1	472000 174005
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 5th March 1996 Incident Reference: WE960051 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	408	1	472005 174010
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 15th October 1993 Incident Reference: WE930353 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	409	1	471995 174005
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed incident Incident Date: 2nd June 1999 Incident Reference: THWE1999043198 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	411	1	471990 174005

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 25th September 1996 Incident Reference: WE960333 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	411	1	472000 174010
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 8th July 1996 Incident Reference: WE960230 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	413	1	471995 174010
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed incident Incident Date: 1st February 1999 Incident Reference: THWE1999041833 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	416	1	471990 174010
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Storm Sewage Note: Not Supplied Incident Date: 8th July 1998 Incident Reference: THWEI998039865 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	390	1	472800 173595
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 23rd September 1992 Incident Reference: WE920542 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	390	1	472800 173600
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 12th July 1994 Incident Reference: WE940244 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	391	1	472800 173550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 6th January 1990 Incident Reference: WE900011 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	398	1	472800 173500
59	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 27th August 1991 Incident Reference: WE910475 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	408	1	472800 173700
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 2nd October 1992 Incident Reference: WE920562 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	413	1	471800 173300
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Storm Sewage Note: Not Supplied Incident Date: 17th January 1997 Incident Reference: THWE1997031344 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	415	1	471800 173295
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th December 1994 Incident Reference: WE940420 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	457	1	471750 173300
61	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 21st January 1998 Incident Reference: 37294 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	469	1	471705 173395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Duke Street, READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Urban Runoff Note: Confirmed As A Pollution Incident Incident Date: 15th February 1989 Incident Reference: WE890092 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	473	1	471700 173400
61	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 3rd May 1994 Incident Reference: WE940144 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (W)	474	1	471700 173395
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Caversham Lock, READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 22nd September 1995 Incident Reference: WE950378 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	484	1	472005 174095
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 1st July 1995 Incident Reference: WE950288 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	486	1	472000 174095
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 18th June 1997 Incident Reference: THWE1997029437 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	489	1	472005 174100
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 23rd April 1990 Incident Reference: WE900252 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	491	1	472000 174100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 31st August 1994 Incident Reference: WE940313 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	490	1	472900 173595
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 17th July 1993 Incident Reference: WE930243 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	490	1	472900 173600
64	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th February 1989 Incident Reference: WE890083 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	503	1	471700 173300
65	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Not Given Note: Not Supplied Incident Date: 15th July 1997 Incident Reference: THWE1997028630 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	504	1	472900 173700
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 23rd December 1998 Incident Reference: THWE1999041493 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	521	1	471800 173995
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 10th March 1997 Incident Reference: THWE1997031447 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	525	1	471800 174000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Agricultural: Unknown Note: Not Supplied Incident Date: 16th March 1996 Incident Reference: WE960070 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	537	1	472000 174150
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th October 1992 Incident Reference: WE920575 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	537	1	471705 173895
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th November 1992 Incident Reference: WE920624 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	540	1	471705 173900
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th January 1993 Incident Reference: WE930028 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	542	1	471705 173905
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th December 1991 Incident Reference: WE910674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	542	1	471700 173895
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th January 1991 Incident Reference: WE910016 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	544	1	471700 173900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 11th February 1993 Incident Reference: WE930048 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	547	1	471700 173905
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 18th May 1993 Incident Reference: WE930157 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	551	1	471695 173905
69	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 17th September 1991 Incident Reference: WE910516 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	539	1	471900 174100
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Avaliable Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 11th July 1996 Incident Reference: WE960242 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	582	1	472980 173700
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Note: Not Supplied Incident Date: 16th August 1996 Incident Reference: WE960298 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	594	1	473000 173650
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 28th March 1995 Incident Reference: WE950112 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	595	1	472995 173690

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 14th February 1995 Incident Reference: WE950050 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	596	1	472995 173695
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 8th February 1995 Incident Reference: WE950076 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	597	1	472995 173700
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 15th November 1994 Incident Reference: WE940394 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	598	1	472995 173705
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: WE910090 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	600	1	473000 173690
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 29th June 1993 Incident Reference: WE930215 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	601	1	473000 173695
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 9th March 1993 Incident Reference: WE930074 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	602	1	473000 173700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 14th October 1994 Incident Reference: WE940362 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	603	1	473000 173705
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 12th September 1997 Incident Reference: THWE1997029802 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	605	1	473005 173690
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 23rd September 1993 Incident Reference: WE930319 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	606	1	473005 173695
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 28th September 1993 Incident Reference: WE930324 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	607	1	473005 173700
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 18th October 1993 Incident Reference: WE930355 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	608	1	473005 173705
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 14th June 1994 Incident Reference: WE940207 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	627	1	473030 173675

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 6th May 1994 Incident Reference: WE940129 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	628	1	473030 173680
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 9th June 1992 Incident Reference: WE920345 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	647	1	473050 173680
71	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 28th March 1995 Incident Reference: WE950102 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	590	1	473000 173600
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th November 1994 Incident Reference: WE940393 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	591	1	471805 174095
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 24th June 1993 Incident Reference: WE930207 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	594	1	471800 174095
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: De Bohun Road, READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: Not Supplied Incident Reference: WE960168 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	595	1	471805 174100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 21st March 1996 Incident Reference: WE960098 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	598	1	471805 174105
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 30th January 1990 Incident Reference: WE900077 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	598	1	471800 174100
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 3rd October 1998 Incident Reference: THWE1998040884 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	602	1	471800 174105
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th June 1995 Incident Reference: WE950216 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	593	1	471705 173995
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 30th May 1996 Incident Reference: WE960182 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	597	1	471705 174000
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Reading Bridge Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th March 1991 Incident Reference: WE910133 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	597	1	471700 173995

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 14th August 1996 Incident Reference: WE960288 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	600	1	471705 174005
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Reading Bridge Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 22nd August 1990 Incident Reference: WE900521 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	600	1	471700 174000
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 17th June 1997 Incident Reference: THWE1997029393 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	604	1	471700 174005
74	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th January 1992 Incident Reference: WE920044 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	595	1	472700 174100
75	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Nra Depot Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 10th April 1990 Incident Reference: WE900281 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	595	1	471750 174050
76	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 16th December 1993 Incident Reference: WE930413 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	596	1	471600 173300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 10th May 1995 Incident Reference: WE950180 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	614	1	473000 173750
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 21st January 1991 Incident Reference: WE910040 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	628	1	473000 173795
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 24th July 1990 Incident Reference: WE900455 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	630	1	473000 173800
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 14th April 1995 Incident Reference: WE950140 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	633	1	473005 173795
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 9th January 1997 Incident Reference: THWE1997031280 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	634	1	473005 173800
78	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 20th January 1997 Incident Reference: THWE1997031389 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	623	1	473010 173750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Lynmouth Road, Reaing Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 26th March 1993 Incident Reference: WE930098 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	637	1	472200 174295
79	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 13th October 1992 Incident Reference: WE920587 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	642	1	472200 174300
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Heron Island Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 19th May 1992 Incident Reference: WE920294 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	639	1	472300 174295
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 14th October 1994 Incident Reference: WE940367 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	640	1	472305 174295
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Caversham Heron Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th August 1990 Incident Reference: WE900490 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	644	1	472300 174300
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Cavfrsham Authority: Environment Agency, Thames Region Pollutant: Unknown Note: Not Supplied Incident Date: 4th May 1998 Incident Reference: 38780 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	645	1	472305 174300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: General Note: Confirmed incident Incident Date: 9th March 1999 Incident Reference: THWE1999042161 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A18NE (N)	650	1	472305 174305
81	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Natural Note: Confirmed incident Incident Date: 24th May 1999 Incident Reference: THWE1999043104 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A18NW (N)	648	1	472100 174295
81	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Not Supplied Incident Date: 23rd October 1998 Incident Reference: THWE1998041173 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	653	1	472100 174300
82	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Caversham Petrol Station Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th April 1990 Incident Reference: WE900235 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	648	1	471950 174250
83	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Natural Note: Confirmed As A Pollution Incident Incident Date: 28th June 1994 Incident Reference: WE940215 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	659	1	471705 174095
83	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Reading Bridge Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Unknown Note: Confirmed As A Pollution Incident Incident Date: 3rd November 1993 Incident Reference: WE930370 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	662	1	471700 174095

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
83	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th June 1992 Incident Reference: WE920344 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	666	1	471700 174100
84	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 28th October 1991 Incident Reference: WE910585 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (NE)	671	1	473000 173900
85	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 4th November 1994 Incident Reference: WE940380 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	681	1	471550 173200
85	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: General Note: Not Supplied Incident Date: 16th July 1998 Incident Reference: THWE1998039887 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	707	1	471500 173250
85	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 22nd July 1997 Incident Reference: THWE1997029089 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	726	1	471500 173200
86	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 23rd November 1994 Incident Reference: WE940411 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	683	1	471550 173195

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 3rd July 1992 Incident Reference: WE920401 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	684	1	472500 174300
88	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th November 1993 Incident Reference: WE930375 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	688	1	471600 173100
89	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 8th March 1993 Incident Reference: WE930071 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	701	1	473000 173200
90	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: General Note: Confirmed incident Incident Date: 6th April 1999 Incident Reference: THWE1999042480 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	714	1	471900 174300
91	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Natural Note: Not Supplied Incident Date: 14th October 1998 Incident Reference: THWE1998040882 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	720	1	472850 174150
92	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 5th November 1994 Incident Reference: WE940385 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	723	1	473100 173795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 29th May 1991 Incident Reference: WE910296 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	724	1	473100 173800
92	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Note: Not Supplied Incident Date: 9th July 1997 Incident Reference: THWE1997028768 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	727	1	473105 173795
93	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: WE890131 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	739	1	471700 174200
94	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Note: Not Supplied Incident Date: 6th September 1997 Incident Reference: THWE1997029516 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NW (N)	742	1	472200 174400
95	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 15th December 1993 Incident Reference: WE930410 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	744	1	472300 174400
96	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 16th October 1992 Incident Reference: WE920594 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	755	1	471520 173100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 30th November 1993 Incident Reference: WE930397 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	772	1	471500 173100
96	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Duke Street, READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 17th December 1991 Incident Reference: WE910690 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	775	1	471480 173130
97	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 29th April 1993 Incident Reference: WE930142 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NW (W)	784	1	471400 173800
98	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Miscellaneous - Other Note: Confirmed incident Incident Date: 23rd April 1999 Incident Reference: THWE1999042924 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	787	1	473100 173200
99	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 4th January 1996 Incident Reference: WE960003 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	799	1	471905 174395
99	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: Not Supplied Incident Reference: WE900047 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	801	1	471900 174395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Unknown Sewage Note: Confirmed As A Pollution Incident Incident Date: 18th December 1991 Incident Reference: WE910709 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	815	1	473000 173000
101	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 22nd November 1991 Incident Reference: WE910648 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	819	1	471400 173200
102	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 2nd December 1994 Incident Reference: WE940424 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	860	1	471400 173100
103	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 29th November 1990 Incident Reference: WE900656 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	880	1	471600 174300
104	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: General Note: Confirmed incident Incident Date: 16th June 1999 Incident Reference: THWE1999043471 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	900	1	471700 174400
105	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Storm Sewage Note: Confirmed incident Incident Date: 16th April 1999 Incident Reference: THWE1999042637 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	910	1	471400 173000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: George Street, CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Chemicals - Unknown Note: Confirmed As A Pollution Incident Incident Date: 20th July 1990 Incident Reference: WE900440 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	938	1	471800 174500
107	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 6th January 1992 Incident Reference: WE920014 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	945	1	471500 174295
107	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 16th June 1990 Incident Reference: WE900392 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	949	1	471500 174300
108	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: READING Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 2nd April 1992 Incident Reference: WE920186 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	947	1	471350 174100
109	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: CAVERSHAM Authority: Environment Agency, Thames Region Pollutant: Oils - Unknown Note: Confirmed As A Pollution Incident Incident Date: 11th January 1993 Incident Reference: WE930017 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	957	1	471600 174400
110	**Prosecutions Relating to Controlled Waters** Location: Pumping Station, Nugent House, Vastern Road, READING, Berkshire, RG1 8DB Prosecution Text: Environment Action Issue 2 (June / July 1996), Polluting three miles of the River Brent with oil due to a switch failure at the pumping station. Prosecution Act: WRA91 Hearing Date: Not Supplied Verdict: Guilty Fine: 15000 Cost: 460 Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	591	1	471714 174003

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	**Prosecutions Relating to Controlled Waters** Location: Holy Brook, Broad Street, READING, RG1 Prosecution Text: Allowing diesel to enter a water drainage system Prosecution Act: Wra91 S85(1) Hearing Date: 4th May 2006 Verdict: Guilty Fine: 12000 Cost: 2032 Positional Accuracy: Manually positioned within the geographical locality	A12SW (W)	665	1	471514 173350
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: BZ9642 Dated: 6th September 2006 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: BZ9669 Dated: 6th September 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: By1654 Dated: 12th October 2004 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: By1638 Dated: 12th October 2004 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: Bw3605 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: Bm7898 Dated: 16th May 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: Medical Physics Department, Royal Berkshire Hospital, London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: Bl5687 Dated: 24th October 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: AS4885 Dated: 24th August 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: London Road, Reading, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: AN2528 Dated: 17th August 1994 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
112	**Registered Radioactive Substances** Name: Royal Berkshire Nhs Foundation Trust Location: Medical Physics Department, Royal Berkshire Hospital, London Road, READING, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: AB4362 Dated: 1st July 1992 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	1	472458 173005
113	**Registered Radioactive Substances** Name: Royal Berkshire And Battle Hospitals NHS Trust Location: Medical Physics Department, Royal Berkshire Hospital, London Road, READING, Berkshire, RG1 5AN Authority: Environment Agency, Thames Region Permit Reference: AJ2089 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variationSuperseded** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	574	1	472425 172935

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
114	**Registered Radioactive Substances** Name: University Of Reading Location: London Road, READING, Berkshire, RG1 5AQ Authority: Environment Agency, Thames Region Permit Reference: AD6897 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Unknown	A8NE (S)	603	1	472305 172905
114	**Registered Radioactive Substances** Name: Wyeth Research (uk) Ltd Location: Building L33, University Of Reading, London Road, READING, Berkshire, RG1 5AQ Authority: Environment Agency, Thames Region Permit Reference: AK1304 Dated: 1st December 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Unknown	A8SE (S)	608	1	472300 172900
115	**Registered Radioactive Substances** Name: University Of Reading Location: Reading, RG6 6AH Authority: Environment Agency, Thames Region Permit Reference: BX6693 Dated: 20th October 2004 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operatorAuthorised** Positional Accuracy: Automatically positioned to the address	A15NW (E)	952	1	473353 173709
	River Quality Name: Kennet GQA Grade: River Quality B Reach: Holy Bk - Thames Estimated Distance (km): 1.3 Flow Rate: Flow less than 20 cumecs Flow Type: River Year: 2000	A13NW (N)	99	1	472257 173759
	River Quality Name: Thames GQA Grade: River Quality B Reach: Whitchurch Stw - Kennet Estimated Distance (km): 12.6 Flow Rate: Flow less than 40 cumecs Flow Type: River Year: 2000	A18SW (N)	431	1	472204 174090
	River Quality Name: Thames GQA Grade: River Quality A Reach: Kennet - Loddon Estimated Distance (km): 7.9 Flow Rate: Flow less than 80 cumecs Flow Type: River Year: 2000	A14NE (E)	698	1	473067 173815

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**River Quality Biology Sampling Points** Name: Thames (W Area) Reach: Kennet To Loddon Estimated Distance: 7.90 Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 1995 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2000 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2002 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2003 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2004 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2005 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2006 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2007 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2008 GQA Grade: River Quality Biology GQA Grade A - Very Good Year: 2009 GQA Grade: River Quality Biology GQA Grade A - Very Good	A14NE (E)	752	1	473100 173880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
117	**River Quality Chemistry Sampling Points** Name: Thames Reach: Whitchurch Sewage Treatment Works To Kennet Estimated Distance: 12.60 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A18SW (N)	403	1	472135 174053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	**River Quality Chemistry Sampling Points** Name: Kennet Reach: Holy Brook To Thames Estimated Distance: 1.30 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A14NE (E)	617	1	473015 173702
119	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, West Area Incident Date: 28th June 2005 Incident Reference: 324802 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)	A12SE (W)	362	1	471812 173408
120	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, West Area Incident Date: 22nd April 2006 Incident Reference: 392777 Water Impact: Category 1 - Major Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Pollutant Not Identified: Not Identified	A18SW (NW)	430	1	471956 174006

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	**Substantiated Pollution Incident Register** Authority: Environment Agency - Thames Region, West Area Incident Date: 6th January 2008 Incident Reference: 553940 Water Impact: Category 3 - Minor Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants And Effects: Smoke Pollutant: Contaminated Water: Firefighting Run-Off	A18NE (N)	928	1	472582 174530
122	**Water Abstractions** Operator: M J Gleeson Group Plc Licence Number: 28/39/22/0600 Permit Version: 1 Location: Former Gasworks, Kenavon Drive, Reading (5 Boreholes) Authority: Environment Agency, Thames Region Abstraction: Environmental: Pump & Treat: Pollution Remediation Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Former Gasworks, Kenavon Drive Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st July 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	290	1	472700 173600
123	**Water Abstractions** Operator: Oracle Shopping Centre Ltd Licence Number: 28/39/22/0594 Permit Version: 1 Location: St.Giles Stream At The Oracle Centre, Reading Authority: Environment Agency, Thames Region Abstraction: Amenity: Lake And Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: The Oracle Shopping Centre, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th February 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	669	1	471590 173150
124	**Water Abstractions** Operator: Royal Berkshire Hospital Licence Number: 28/39/22/0521 Permit Version: 100 Location: Royal Berkshire Hospital Authority: Environment Agency, Thames Region Abstraction: Hospitals: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 350 Yearly Rate (m3): 127750 Details: Royal Berkshire Hospital, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th January 1992 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8SE (S)	706	1	472400 172800
125	**Water Abstractions** Operator: White Knight Laundry Services Ltd Licence Number: 28/39/23/0020 Permit Version: 101 Location: 72 George Street, Caversham, - Borehole 'A' Authority: Environment Agency, Thames Region Abstraction: Industrial; Commercial And Public Services: Laundry Use Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 72 George Street, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th December 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	806	1	471900 174400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
125	**Water Abstractions** Operator: Reading & Cav'M Laundry Co Ltd Licence Number: 28/39/23/0020 Permit Version: 100 Location: 72 George Street, Caversham, - Borehole 'A' Authority: Environment Agency, Thames Region Abstraction: Industrial; Commercial And Public Services: Laundry Use Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 300 Yearly Rate (m3): 68190 Details: 72 George Street, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 9th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	806	1	471900 174400
126	**Water Abstractions** Operator: Primark Stores Limited Licence Number: 28/39/23/0042 Permit Version: 101 Location: Cheapside, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Retail: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 41 Yearly Rate (m3): 14933 Details: Cheapside, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11SE (W)	956	1	471200 173500
	Water Abstractions Operator: Reading Borough Council Licence Number: 28/39/23/0199/Tr Permit Version: 1 Location: River Thames - Christchurch Meadows Authority: Environment Agency, Thames Region Abstraction: Environmental: Non-remedial River/Wetland Support: Transfer between sources Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Christchurch Meadows, Caversham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 10th September 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	1098	1	471440 174450
	Water Abstractions Operator: Reading Borough Council Licence Number: 28/39/23/0196 Permit Version: 1 Location: Thames At Christchurch Meadow Authority: Environment Agency, Thames Region Abstraction: Environmental: Non-remedial River/Wetland Support: Lake & Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: At Christchurch Meadows Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	1098	1	471440 174450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: University Of Reading Licence Number: 28/39/23/0016 Permit Version: 100 Location: Reading University Research Site, Reading, - Well 'A' Authority: Environment Agency, Thames Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 23 Yearly Rate (m3): 1 Details: Reading University Research, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A15NW (E)	1136	1	473500 173900
	Water Abstractions Operator: Wokingham Waterside Centre Ltd Licence Number: 28/39/23/0191 Permit Version: 3 Location: Borehole At Waterside Centre, Thames Valley Park Road Authority: Environment Agency, Thames Region Abstraction: Sports Grounds/Facilities: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Waterside Centre, Thames Valley Park Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	1205	1	473560 173940
	Water Abstractions Operator: Wokingham Waterside Centre Ltd Licence Number: 28/39/23/0191 Permit Version: 2 Location: Borehole At Waterside Centre, Thames Valley Park Road Authority: Environment Agency, Thames Region Abstraction: Sports Grounds/Facilities: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Waterside Centre, Thames Valley Park Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	1205	1	473560 173940
	Water Abstractions Operator: Wokingham District Council Licence Number: 28/39/23/0191 Permit Version: 1 Location: Borehole At Waterside Centre, Thames Valley Park Road Authority: Environment Agency, Thames Region Abstraction: Sports Grounds/Facilities: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Waterside Centre, Thames Valley Park Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st December 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SW (E)	1205	1	473560 173940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Reading Borough Council Licence Number: 28/39/23/0138 Permit Version: Not Supplied Location: The Allotments, CAVERSHAM Authority: Environment Agency, Thames Region Abstraction: Agriculture (General) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 10 Yearly Rate (m3): 1818 Details: River Gravel; Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A24SW (NE)	1296	1	472900 174795
	Water Abstractions Operator: Manrose Manufacturing Ltd Licence Number: 28/39/23/0167 Permit Version: 101 Location: Meadow Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Commercial/Industrial/Public Services: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Meadow Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th June 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (W)	1354	1	470900 174100
	Water Abstractions Operator: Manrose Manufacturing Ltd Licence Number: 28/39/23/0167 Permit Version: 101 Location: Meadow Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Meadow Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th June 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (W)	1354	1	470900 174100
	Water Abstractions Operator: Manrose Manufacturing Ltd Licence Number: 28/39/23/0167 Permit Version: 100 Location: Meadow Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Commercial/Industrial/Public Services: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 364 Yearly Rate (m3): 4546 Details: Meadow Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th February 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (W)	1354	1	470900 174100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Manrose Manufacturing Ltd Licence Number: 28/39/23/0167 Permit Version: 100 Location: Meadow Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Meadow Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th February 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (W)	1354	1	470900 174100
	Water Abstractions Operator: Cox & Wyman Ltd Licence Number: 28/39/23/0041 Permit Version: 100 Location: Cardiff Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 82 Yearly Rate (m3): 20366 Details: At Cardiff Road, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th July 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (W)	1354	1	470900 174100
	Water Abstractions Operator: Cox & Wyman Ltd Licence Number: 28/39/23/0041 Permit Version: 100 Location: Cardiff Road, Reading, Berkshire Authority: Environment Agency, Thames Region Abstraction: Commercial Private Water Undertaking: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: At Cardiff Road Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th July 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (W)	1354	1	470900 174100
	Water Abstractions Operator: Birse Construction Ltd Licence Number: 28/39/22/0552 Permit Version: Not Supplied Location: Coley, READING Authority: Environment Agency, Thames Region Abstraction: Industrial Processing (Miscellaneous) Abstraction Type: Not Supplied Source: River Daily Rate (m3): 3 Yearly Rate (m3): 318 Details: Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A2NW (SW)	1395	1	471300 172400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Hillier Group Of Companies Licence Number: 28/39/23/0128 Permit Version: 100 Location: Cardiff Road, Reading Point B Authority: Environment Agency, Thames Region Abstraction: Metal: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Cardiff Road, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (W)	1609	1	470600 174000
	Water Abstractions Operator: Thames Valley Park Manco Ltd Licence Number: 28/39/23/0175 Permit Version: 101 Location: Thames Valley Park, Reading - Borehole 'A' Authority: Environment Agency, Thames Region Abstraction: Business Parks: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 750 Yearly Rate (m3): 50000 Details: Thames Valley Park, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st October 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1657	1	474030 173930
	Water Abstractions Operator: Thames Valley Park Manco Ltd Licence Number: 28/39/23/0175 Permit Version: 101 Location: Thames Valley Park, Reading - Borehole 'A' Authority: Environment Agency, Thames Region Abstraction: Business Parks: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames Valley Park, Reading Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st October 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1657	1	474030 173930
	Water Abstractions Operator: British Road Services Ltd Licence Number: 28/39/23/0024 Permit Version: Not Supplied Location: Cardiff Road, READING Authority: Environment Agency, Thames Region Abstraction: Vehicle Washing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 14 Yearly Rate (m3): Not Supplied Details: River Gravel; Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16SW (W)	1670	1	470600 174200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Thames Valley Park Manco Ltd Licence Number: 28/39/23/0175 Permit Version: 101 Location: Thames Valley Park, Reading, - Borehole 'B' Authority: Environment Agency, Thames Region Abstraction: Business Parks: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames Valley Park, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st October 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1716	1	474090 173930
	Water Abstractions Operator: Thames Valley Park Manco Ltd Licence Number: 28/39/23/0175 Permit Version: 101 Location: Thames Valley Park, Reading, - Borehole 'B' Authority: Environment Agency, Thames Region Abstraction: Business Parks: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thames Valley Park, Reading Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st October 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1716	1	474090 173930
	Water Abstractions Operator: Thames Valley Park Ltd Licence Number: 28/39/23/0044 Permit Version: Not Supplied Location: Shepherds House Lane, READING, Berkshire Authority: Environment Agency, Thames Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1136 Yearly Rate (m3): 348450 Details: Additional Purposes - Staff Welfare (41482) Boiler Feed (24889). Chalk (Undiff); Status: Expired Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(E)	1720	1	474100 173900
	Water Abstractions Operator: Hillier Group Of Companies Licence Number: 28/39/23/0128 Permit Version: 100 Location: Cardiff Road, Reading Point A Authority: Environment Agency, Thames Region Abstraction: Metal: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 27 Yearly Rate (m3): 6682 Details: Cardiff Road, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1828	1	470400 174100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: University Of Reading Licence Number: 28/39/22/0077 Permit Version: 100 Location: Whiteknights Park, Reading Authority: Environment Agency, Thames Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 1056 Yearly Rate (m3): 240000 Details: Whiteknight Park, Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 26th April 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1915	1	473000 171700
	Water Abstractions Operator: University Of Reading Licence Number: 28/39/22/0077 Permit Version: 103 Location: Whiteknights Park - Reading - Borehole Authority: Environment Agency, Thames Region Abstraction: Schools And Colleges: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Whiteknights Park - Reading Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(S)	1929	1	473040 171700
	Water Abstractions Operator: University Of Reading Licence Number: 28/39/22/0077 Permit Version: 102 Location: Whiteknights Park - Reading - Borehole Authority: Environment Agency, Thames Region Abstraction: Schools And Colleges: Drinking; Cooking; Sanitary; Washing; (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Whiteknights Park - Reading Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th August 2004 Permit End Date: 31st March 2011 Positional Accuracy: Located by supplier to within 10m	(S)	1929	1	473040 171700
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 104 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 5th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 104 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 5th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 103 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 103 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 102 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 102 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 101 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 101 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Redland Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 100 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 2450 Yearly Rate (m3): 9000 Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st June 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Redland Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 100 Location: Deans Farm, Caversham, - Gravel Wet Pit, Point 'B' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st June 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1987	1	473830 174970
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 104 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 5th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 104 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 5th June 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 103 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 103 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 30th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 102 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 102 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 101 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lafarge Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 101 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Redland Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 100 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st June 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Water Abstractions Operator: Lafarge Redland Aggregates Limited Licence Number: 28/39/23/0011 Permit Version: 100 Location: Deans Farm, Caversham, Gravel Wet Pit, Point 'A' Authority: Environment Agency, Thames Region Abstraction: Mineral Products: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Deans Farm, Caversham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st June 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1994	1	473830 174980
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 39 West London Scale: 1:100,000	A13SW (NE)	0	1	472271 173568
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Desination: Principal Aquifer	A13SW (NE)	0	3	472271 173568
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (NE)	0	3	472271 173568
127	**Source Protection Zones** Name: Reading University Source: Environment Agency, Head Office Reference: Th200 Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13SW (NE)	0	1	472271 173568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**Source Protection Zones** Name: Reading University Source: Environment Agency, Head Office Reference: Th200 Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A9NW (SE)	518	1	472630 173061
129	**Source Protection Zones** Name: Playhatch Source: Environment Agency, Head Office Reference: Th048 Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A19NW (NE)	971	1	472858 174446
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (E)	0	1	472271 173568
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A13SW (S)	2	1	472266 173530
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A13SE (SE)	50	1	472383 173460
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	150	1	472462 173725
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models and Fluvial Events Boundary Accuracy: As Supplied	A13NE (N)	192	1	472284 173849
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Events Boundary Accuracy: As Supplied	A13SE (E)	206	1	472571 173449
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	208	1	472596 173486
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	5	1	472200 173496
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	7	1	472250 173521
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (S)	9	1	472275 173496
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	11	1	472175 173484
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	45	1	472125 173471
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	51	1	472400 173471
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (S)	149	1	472200 173346

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	150	1	472462 173725
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (W)	177	1	471987 173471
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	183	1	472342 173825
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (E)	195	1	472600 173534
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A12SE (W)	229	1	471937 173459
	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
130	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Reading, Berkshire Name: Napier Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD13277 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 0345/0169 BGS Ref: Not Supplied Other Ref: TP0266, RDG3	A14NW (NE)	403	1	472703 173857
131	**Historical Landfill Sites** Licence Holder: Deans Farm Location: Redlands Pit, Reading, Caversham, Berkshire Name: Deans Farm Operator Location: Howbery Park, Wallingford, Oxfordshire Boundary Accuracy: As Supplied Provider Reference: EAHLD35722 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste Type: Not Supplied EA Waste Ref: 86148 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: Not Supplied Other Ref: Not Supplied	A19SE (NE)	745	1	472969 174072
132	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Deans Farm Licence Number: 86148 Location: Environment Agency West Area_____, Deans Farm, Redlands Pit, Caversham, Reading, Berkshire, RG4 5JZ Licence Holder: Environment Agency Authority: Environment Agency - Southern Region, Solent and South Downs Site Category: Landfills Taking Other Wastes (Construction, Demolition, Dredgings) Max Input Rate: Not Supplied **Licence Status: Inactive** Issued 1st June 1992 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A19SE (NE)	745	1	472969 174072
133	**Licensed Waste Management Facilities (Locations)** Licence Number: 86148 Location: Deans Farm, Redlands Pit, Caversham, Reading, Berkshire, RG4 5JZ Operator Name: Environment Agency Operator Location: Not Supplied Authority: Environment Agency - South East Region, West Thames Area Site Category: Landfills Taking Other Wastes (Construction, Demolition, Dredgings) **Licence Status: Surrendered** Issued: 1st June 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 13th April 2010 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	671	1	472833 174100
	Local Authority Landfill Coverage Name: Reading Unitary Council - Has supplied landfill data		0	4	472271 173568
	Local Authority Landfill Coverage Name: Oxfordshire County Council - Has supplied landfill data		578	9	472663 174104
	Local Authority Landfill Coverage Name: South Oxfordshire District Council - Landfill data has been supplied by another authority		578	10	472663 174104
	Local Authority Landfill Coverage Name: Wokingham District Council - Has supplied landfill data		640	11	473037 173711

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	**Local Authority Recorded Landfill Sites** Location: Napier Road Landfill Reference: Not Supplied Authority: Reading Borough Council, Planning **Last Reported Status: Unknown** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A14NW (NE)	585	4	472900 173900
135	**Registered Landfill Sites** Licence Holder: Environment Agency Licence Reference: OCC/106 Site Location: Deans Farm, Readlands Gravel Pit, Caversham, Reading, Berkshire, Rg4 5jz Licence Easting: 473100 Licence Northing: 174100 Operator Location: Isis House, Howbery Park, Wallingford, Oxfordshire, Ox10 8bd Authority: Environment Agency - Thames Region, West Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Status: Operational as far as is knownOperational Dated: 1st June 1992 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Solid River Dredgings Comprising Sub/Topsoil, Clay,Sand, Gravel, Silt Prohibited Waste: Poisonous, Noxious, Polluting Wastes Waste N.O.S.	A19SE (NE)	864	1	473100 174100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: Kenavon Drive, READING, RG1 3DJ Reference: 1021523 Type: Upper Tier **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	306	5	472697 173688
137	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: Reading Holder Station, Kenavon Drive, Reading, Berkshire, RG1 3DH Reference: 1021948 Type: Lower Tier **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	482	5	472880 173686
137	**Control of Major Accident Hazards Sites (COMAH)** Name: Southern Gas Networks Plc Location: Reading Holder Station, Kenavon Drive,Reading, Berkshire, Rg1 3DH Reference: Not Supplied Type: Upper Tier **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	492	5	472892 173682
138	**Control of Major Accident Hazards Sites (COMAH)** Name: Transco Plc Location: London Road, READING, Berkshire, RG6 1AZ Reference: Not Supplied Type: Upper Tier **Status: Record Ceased To Be Supplied Under COMAH Regulations** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	876	5	473267 173762
139	**Notification of Installations Handling Hazardous Substances (NIHHS)** Name: British Gas TransCo Location: Reading Holder Station (4&5 Sites), Gas Works Road ; Kennet Mouth, London Road, READING, Berkshire, RG1 3DJ **Status: Record Ceased To Be Supplied Under NIHHS Regulations (1982)** Positional Accuracy: Automatically positioned to the address	A14NW (E)	309	5	472702 173683
140	**Planning Hazardous Substance Consents** Name: British Gas Plc Location: Kenavon Drive, Reading, Rg1 3dj Authority: Reading Borough Council, Planning Application Ref: 99/00038/HAZARD Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 15th December 1998 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	495	4	472895 173680
140	**Planning Hazardous Substance Consents** Name: British Gas Plc Location: Kenavon Drive, Reading, Rg1 3dj Authority: Reading Borough Council, Planning Application Ref: 92/00884/HAZARD Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 12th November 1992 **Decision: Deemed Consent GrantedGranted** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	495	4	472895 173680
140	**Planning Hazardous Substance Consents** Name: British Gas Plc Location: Kenavon Drive, Reading, Rg1 3dj Authority: Reading Borough Council, Planning Application Ref: 00/01175/HAZARD Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 8th September 2000 **Decision: Withdrawn** Positional Accuracy: Manually positioned to the address or location	A14NW (E)	496	4	472895 173685

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
141	**Planning Hazardous Substance Consents** Name: Royal Berkshire Nhs Foundation Trust Location: Royal Berkshire Hospital, London Road, Reading, Rg1 5an Authority: Reading Borough Council, Planning Application Ref: 11/01974/HAZARD Hazardous Substance: Liquefied extremely flammable gas (including LPG) and natural gas (whether liquefied or not) Maximum Quantity: 0 Application date: 21st December 2011 **Decision: Withdrawn** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	733	4	472494 172784

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Chalk including Red Chalk	A13SW (NE)	0	3	472271 173568
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (NE)	0	6	472271 173568
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	0	6	472271 173531
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	120	6	472335 173370
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	154	6	472000 173568
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (W)	166	6	472000 173466
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	222	6	472000 173769

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	268	6	472037 173867
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	269	6	472000 173281
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (NW)	276	6	472000 173848
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	279	6	472224 173222
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SW (E)	300	6	472699 173498
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NE (S)	318	6	472364 173187

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SE (W)	336	6	471834 173428
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (SW)	340	6	472000 173197
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (N)	341	6	472271 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (SW)	394	6	472000 173136
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (NW)	402	6	472000 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (NW)	402	6	472000 174000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	485	6	472089 173011
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (SW)	491	6	472000 173032
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	495	6	472271 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (S)	497	6	472124 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8NW (SW)	521	6	472000 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	590	6	473000 173568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	592	6	473000 173637
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	597	6	473000 173671
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SW (NE)	623	6	472678 174147
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	640	6	471757 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	642	6	473000 173326
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	691	6	472348 174342

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NW (SE)	695	6	472838 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (NE)	724	6	473000 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	739	6	471615 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (NE)	752	6	473040 173991
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (NE)	756	6	473039 174000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	757	6	472000 174384

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	769	6	472095 174417
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	794	6	472000 174423
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NE (SE)	796	6	473000 173030
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9NE (SE)	815	6	473000 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NW (SW)	820	6	471510 173000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	823	6	472018 172685

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	824	6	472000 172688
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NE (N)	854	6	472524 174471
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7SE (S)	963	6	471892 172571
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 15 - 30 mg/kg	A20SW (NE)	985	6	473301 174000
142	**BGS Recorded Mineral Sites** Site Name: Caversham Quarry Location: , Caversham, Reading, Oxfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 137479 Type: Opencast **Status: Ceased** Operator: Lafarge Aggregates Ltd Operator Location: Lafarge Aggregates Ltd, Granite House, Watermead Business Park, Syston, Leicester, Le7 1wa Periodic Type: Quaternary Geology: Kempton Park Gravel Formation Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	868	3	472859 174322
143	**BGS Recorded Mineral Sites** Site Name: New Town Gravel Pit Location: , New Town, Reading, Berkshire Source: British Geological Survey, National Geoscience Information Service Reference: 36349 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Unknown Operator Periodic Type: Quaternary Geology: Kempton Park Gravel Formation Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A15NW (E)	911	3	473320 173634

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
144	**BGS Recorded Mineral Sites** Site Name: Caversham Quarry Location: , Caversham, Reading, Oxfordshire Source: British Geological Survey, National Geoscience Information Service Reference: 137478 Type: Opencast **Status: Ceased** Operator: Lafarge Aggregates Ltd Operator Location: Lafarge Aggregates Ltd, Granite House, Watermead Business Park, Syston, Leicester, Le7 1wa Periodic Type: Quaternary Geology: Kempton Park Gravel Formation Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	926	3	473143 174146
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Man-Made Mining Cavities Easting: 472200 Northing: 173100 Distance: 397 Quadrant Reference: A8 Quadrant Reference: NW Bearing Ref: S Cavity Type: Historical Chalk/Lime Quarry-Potential Chalk Mining Commodity: Chalk Solid Geology Detail: Chalk Group Superficial Geology Detail: Taplow Gravel	A8NW (S)	397	7	472200 173100
	Man-Made Mining Cavities Easting: 471950 Northing: 172890 Distance: 642 Quadrant Reference: A8 Quadrant Reference: SW Bearing Ref: SW Cavity Type: Brick/Tile Kiln Discovered-Potential Chalk Mining Commodity: Chalk Solid Geology Detail: Chalk Group Superficial Geology Detail: Taplow Gravel	A8SW (SW)	642	7	471950 172890
	Man-Made Mining Cavities Easting: 471700 Northing: 172900 Distance: 754 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Subsidence-Over Possible Excavation/Shallow Bell Pit Commodity: Chalk Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A7SE (SW)	754	7	471700 172900
	Man-Made Mining Cavities Easting: 471790 Northing: 172750 Distance: 834 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Crown Hole Collapse Commodity: Chalk Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: No Details	A7SE (SW)	834	7	471790 172750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Man-Made Mining Cavities Easting: 471900 Northing: 172700 Distance: 838 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Historical Brick Kiln-Potential Chalk Mining Commodity: Chalk Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: No Details	A7SE (SW)	838	7	471900 172700
	Man-Made Mining Cavities Easting: 471700 Northing: 172700 Distance: 920 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Chalkwell/Possible Shaft Entry Pillar and Stall Chalk Mine Commodity: Chalk Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: No Details	A7SE (SW)	920	7	471700 172700
	Man-Made Mining Cavities Easting: 471700 Northing: 172650 Distance: 964 Quadrant Reference: A7 Quadrant Reference: SE Bearing Ref: SW Cavity Type: Historical Brick Works/Extensive Clay Excavations-Potential Chalk Mining Commodity: Chalk Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: No Details	A7SE (SW)	964	7	471700 172650
	Natural Cavities Easting: 472900 Northing: 173200 Distance: 618 Quadrant Reference: A9 Quadrant Reference: NW Bearing Ref: SE Cavity Type: Solution Pipe x 3 Solid Geology Detail: Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A9NW (SE)	618	7	472900 173200
	Natural Cavities Easting: 471550 Northing: 173400 Distance: 620 Quadrant Reference: A12 Quadrant Reference: SW Bearing Ref: W Cavity Type: Solution Pipe x 5 Solid Geology Detail: Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A12SW (W)	620	7	471550 173400
	Natural Cavities Easting: 471500 Northing: 173400 Distance: 670 Quadrant Reference: A12 Quadrant Reference: SW Bearing Ref: W Cavity Type: Solution Pipe x 3 Solid Geology Detail: Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A12SW (W)	670	7	471500 173400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Natural Cavities Easting: 471500 Northing: 173300 Distance: 692 Quadrant Reference: A12 Quadrant Reference: SW Bearing Ref: W Cavity Type: Solution Pipe Solid Geology Detail: Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A12SW (W)	692	7	471500 173300
	Natural Cavities Easting: 471400 Northing: 173200 Distance: 819 Quadrant Reference: A7 Quadrant Reference: NW Bearing Ref: SW Cavity Type: Solution Pipe x 2 Solid Geology Detail: Upper Chalk Formation Superficial Geology Detail: Taplow Gravel	A7NW (SW)	819	7	471400 173200
	Natural Cavities Easting: 471600 Northing: 172800 Distance: 895 Quadrant Reference: A7 Quadrant Reference: SW Bearing Ref: SW Cavity Type: Unknown Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: No Details	A7SW (SW)	895	7	471600 172800
	Natural Cavities Easting: 473100 Northing: 173000 Distance: 895 Quadrant Reference: A9 Quadrant Reference: NE Bearing Ref: SE Cavity Type: Solution Pipe x 3 Solid Geology Detail: Lambeth Group, Upper Chalk Formation Superficial Geology Detail: Gerrards Cross Gravel	A9NE (SE)	895	7	473100 173000
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	3	472271 173530
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	121	3	472335 173370
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	3	472271 173530
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	121	3	472335 173370
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	3	472271 173530
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	126	3	472037 173476
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	3	472271 173530
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	121	3	472335 173370
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	0	3	472271 173530
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	121	3	472335 173370
	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	A13SW (NE)	0	3	472271 173568
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	3	472271 173568

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
145	**Contemporary Trade Directory Entries** Name: Kodak Processing Location: Kenavon Drive, Reading, RG1 3HT Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	83	-	472491 173595
145	**Contemporary Trade Directory Entries** Name: Northern Freight Services Ltd Location: Kenavon Drive, Reading, RG1 3HT Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	83	-	472491 173595
146	**Contemporary Trade Directory Entries** Name: Comet Group Plc Location: Unit 4, Forbury Retail Park, Forbury Road, Reading, RG1 3JD Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	128	-	472085 173725
146	**Contemporary Trade Directory Entries** Name: Comet Location: Unit 4, Forbury Retail Park, Forbury Road, Reading, RG1 3JD Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	128	-	472085 173725
147	**Contemporary Trade Directory Entries** Name: Kwik-Fit Location: 120, Kings Road, Reading, RG1 3DB Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	138	-	472166 173357
147	**Contemporary Trade Directory Entries** Name: Reading Tyre Centre Ltd Location: Kings Point, 120, Kings Road, Reading, RG1 3DA Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	138	-	472166 173357
148	**Contemporary Trade Directory Entries** Name: Q Tek Tyre Centre Location: A, 4, Kennet Street, Reading, RG1 4AA Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	198	-	472329 173310
149	**Contemporary Trade Directory Entries** Name: Exal Location: Luscinia View,Napier Rd, Reading, Berkshire, RG1 8AF Classification: Laboratories **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (N)	206	-	472249 173864
150	**Contemporary Trade Directory Entries** Name: Acheson Industries (Europe) Ltd Location: Sun Life House, 85, Queens Road, Reading, RG1 4PT Classification: Chemicals & Allied Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (S)	227	-	472253 173287
151	**Contemporary Trade Directory Entries** Name: Care Uk Clinical Services Ltd Location: Unit 6, Napier Court, Napier Road, Reading, RG1 8BW Classification: Hospitals **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	228	-	472098 173855
152	**Contemporary Trade Directory Entries** Name: Berkshire Valet Supplies Location: B, 190, Kings Road, Reading, RG1 4NH Classification: Janitorial Equipment - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	243	-	472396 173265
153	**Contemporary Trade Directory Entries** Name: Pride Of Place Location: 100, Queens Road, Reading, RG1 4DG Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	260	-	472297 173253

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
153	**Contemporary Trade Directory Entries** Name: All In One Windows & Conservatories Location: 96a, Queens Road, Reading, RG1 4DG Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	267	-	472290 173248
154	**Contemporary Trade Directory Entries** Name: Impact Solutions Group Ltd Location: 181-183, Kings Road, Reading, Berkshire, RG1 4EX Classification: Oil & Gas Exploration Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	262	-	472525 173301
154	**Contemporary Trade Directory Entries** Name: Impact Solutions Group Location: 181-183, Kings Road, Reading, Berkshire, RG1 4EX Classification: Oil & Gas Exploration Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	262	-	472525 173301
154	**Contemporary Trade Directory Entries** Name: Access Telecom Location: 187-189, Kings Road, Reading, Berkshire, RG1 4EX Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	298	-	472573 173296
154	**Contemporary Trade Directory Entries** Name: Logoplast Uk Ltd Location: 187-189, Kings Road, Reading, Berkshire, RG1 4EX Classification: Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	298	-	472573 173296
155	**Contemporary Trade Directory Entries** Name: Berkshire Roofing.Co.Uk Location: 15, Crane Wharf, Reading, RG1 3AY Classification: Fascias and Soffits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	262	-	471955 173337
156	**Contemporary Trade Directory Entries** Name: Silverwire Ltd Location: 1, Wesley Gate, Queens Road, Reading, Berkshire, RG1 4AP Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	276	-	472154 173219
157	**Contemporary Trade Directory Entries** Name: 8el Ltd Location: Kings Reach, 38-50, Kings Road, Reading, Berkshire, RG1 3AA Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	308	-	471890 173354
158	**Contemporary Trade Directory Entries** Name: Boiler Installation (Reading) Location: Kings Oak Court,Queens Rd, Reading, Berkshire, RG1 4PX Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8NW (SW)	316	-	471994 173228
159	**Contemporary Trade Directory Entries** Name: Skip It Location: B, 53, South Street, Reading, Berkshire, RG1 4RA Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	334	-	472124 173164
160	**Contemporary Trade Directory Entries** Name: Fereday & Pocock Location: 3, Princes Street, Reading, RG1 4EG Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	362	-	472378 173144
161	**Contemporary Trade Directory Entries** Name: Pest Solutions Ltd Location: Davidson House,The Forbury, Reading, Berkshire, RG1 3EU Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SE (W)	365	-	471798 173471

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
161	**Contemporary Trade Directory Entries** Name: Beautiful Group Ltd Location: Davidson House, The Forbury, Reading, RG1 3EU Classification: Ironing & Home Laundry Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	365	-	471798 173471
161	**Contemporary Trade Directory Entries** Name: Expro North Sea Ltd Location: Davidson House,The Forbury, Reading, Berkshire, RG1 3EU Classification: Oil & Gas Exploration Supplies & Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	365	-	471798 173470
162	**Contemporary Trade Directory Entries** Name: L J P Carpentry Location: 21, Eldon Street, Reading, RG1 4EA Classification: Cabinet Makers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	378	-	472565 173187
162	**Contemporary Trade Directory Entries** Name: Lj Pullen Location: 21, Eldon Street, Reading, RG1 4EA Classification: Cabinet Makers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	378	-	472565 173187
163	**Contemporary Trade Directory Entries** Name: Forest Printing Location: 16, Kings Road, Reading, RG1 3AA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	382	-	471802 173371
163	**Contemporary Trade Directory Entries** Name: One Stop Shop Awnings Location: 23, Duke Street, Reading, Berkshire, RG1 4SA Classification: Blinds, Awnings & Canopies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	402	-	471795 173333
163	**Contemporary Trade Directory Entries** Name: Car & Van Deals Direct Location: Dukesbridge House, 23, Duke Street, Reading, RG1 4SA Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	402	-	471795 173333
163	**Contemporary Trade Directory Entries** Name: Cheapest Carpet Cleaning Location: Dukesbridge House, 23, Duke Street, Reading, RG1 4SA Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SE (SW)	422	-	471770 173343
163	**Contemporary Trade Directory Entries** Name: Cheapest Cleaning Services Location: Dukesbridge House, 23, Duke Street, Reading, RG1 4SA Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SE (SW)	422	-	471770 173343
164	**Contemporary Trade Directory Entries** Name: Calmec Building Services Ltd Location: 49, South Street, Reading, RG1 4QU Classification: Air Conditioning & Refrigeration Contractors **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	385	-	472032 173134
165	**Contemporary Trade Directory Entries** Name: Berkshire Recovery & Breakdown Location: 7, Florence Walk, Reading, RG1 3HH Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	386	-	472772 173444
166	**Contemporary Trade Directory Entries** Name: Cooper (Reading) Location: Kings Meadow Road, Reading, RG1 8BN Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	389	-	471908 173916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	**Contemporary Trade Directory Entries** Name: Cooper Bmw Location: Kings Meadow Road, Reading, RG1 8BN Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	389	-	471908 173916
166	**Contemporary Trade Directory Entries** Name: Cooper Reading B M W Location: Kings Meadow Road, Reading, RG1 8BN Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	389	-	471908 173916
166	**Contemporary Trade Directory Entries** Name: The Cooper Group Ltd Location: Kings Meadow Rd, Reading, Berkshire, RG1 8BN Classification: Car Dealers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	389	-	471908 173916
167	**Contemporary Trade Directory Entries** Name: Abl Systems Ltd Location: Berkshire House, 252-256, Kings Road, Reading, Berkshire, RG1 4HP Classification: Cash Registers & Check-Out Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Tyco Products Ltd Location: 252-256, Kings Road, Reading, Berkshire, RG1 4HP Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Adabra Ltd Location: 252-256, Kings Road, Reading, RG1 4HP Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Wessington Ltd Location: 252-256, Kings Road, Reading, RG1 4HP Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Aci Location: 252-256, Kings Road, Reading, RG1 4HP Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Nec Tokin (Europe) Location: 252-256 Kings Rd, Reading, Berkshire, RG1 4HP Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	403	-	472650 173224
167	**Contemporary Trade Directory Entries** Name: Lighting Services Inc Location: 252-256 Kings Rd, Reading, Berkshire, RG1 4HP Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	403	-	472650 173224
167	**Contemporary Trade Directory Entries** Name: Combat Location: Berkshire House, 252-256, Kings Road, Reading, RG1 4HP Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	403	-	472651 173225
167	**Contemporary Trade Directory Entries** Name: Kwon Services Ltd Location: 258b-260, Kings Road, Reading, Berkshire, RG1 4HP Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	424	-	472678 173224

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
167	**Contemporary Trade Directory Entries** Name: Kwon Services Ltd Location: 258b-260, Kings Road, Reading, Berkshire, RG1 4HP Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	424	-	472678 173224
167	**Contemporary Trade Directory Entries** Name: Lawrence C J Ltd Location: 27, Eldon Terrace, Reading, Berkshire, RG1 4DX Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	428	-	472639 173179
167	**Contemporary Trade Directory Entries** Name: M R Lijinsky Location: 11, Montague Street, Reading, RG1 4JH Classification: French Polishing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	444	-	472679 173195
168	**Contemporary Trade Directory Entries** Name: Stan Chem (International) Ltd Location: 4, Kings Road, Reading, RG1 3AA Classification: Chemicals & Allied Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	430	-	471750 173377
168	**Contemporary Trade Directory Entries** Name: Stan Chem (International) Ltd Location: 4, Kings Road, Reading, RG1 3AA Classification: Chemical Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	430	-	471750 173377
169	**Contemporary Trade Directory Entries** Name: Octavia Design Ltd Location: Sussex House, 6, The Forbury, Reading, RG1 3EJ Classification: Toys, Games & Sporting Goods - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	432	-	471724 173522
170	**Contemporary Trade Directory Entries** Name: Presto Print Ltd Location: 3, London Street, Reading, RG1 4PN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	435	-	471787 173277
171	**Contemporary Trade Directory Entries** Name: Monks & Crane (Industrial Supplies) Ltd Location: Kings Meadow House, Kings Meadow Road, Reading, Berkshire, RG1 8DQ Classification: Engineering Materials **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	452	-	471859 173957
171	**Contemporary Trade Directory Entries** Name: Environment Agencies Oil Bank Line Location: Kings Meadow House, Kings Meadow Road, Reading, RG1 8DQ Classification: Oil Recycling & Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	452	-	471859 173957
172	**Contemporary Trade Directory Entries** Name: Bestway Location: 5 High St, Reading, Berkshire, RG6 1JN Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	453	-	471719 173408
172	**Contemporary Trade Directory Entries** Name: Norman Jordan Garage Location: 46, Market Place, Reading, Berkshire, RG1 2DT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	491	-	471677 173423
172	**Contemporary Trade Directory Entries** Name: Sketchley Retail Ltd Location: 42, Market Place, Reading, RG1 2DE Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	505	-	471660 173447

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
172	**Contemporary Trade Directory Entries** Name: Bonusprint Location: 3, Broad Street, Reading, RG1 2BH Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	527	-	471641 173427
173	**Contemporary Trade Directory Entries** Name: Murco Petroleum Ltd Location: 69, London Road, Reading, RG1 5BW Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	483	-	472319 173024
174	**Contemporary Trade Directory Entries** Name: C & M Refrigeration & Catering Equipment Location: Reading Business Centre, 33, London Street, Reading, Berkshire, RG1 4PS Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	483	-	471807 173170
174	**Contemporary Trade Directory Entries** Name: Lidimus Location: Reading Business Centre, 33, London Street, Reading, RG1 4PS Classification: Toys, Games & Sporting Goods - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	483	-	471807 173170
174	**Contemporary Trade Directory Entries** Name: Samka Construction Location: 1, London Court, East Street, Reading, RG1 4QL Classification: Staircase, Balustrade & Handrail Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	491	-	471831 173134
175	**Contemporary Trade Directory Entries** Name: Shop At Panasonic Location: 19-23, Kings Walk, Reading, RG1 2HG Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	497	-	471688 173353
176	**Contemporary Trade Directory Entries** Name: Spacecraft Location: Commercial House, 24-26, East Street, Reading, RG1 4QH Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	498	-	471851 173107
176	**Contemporary Trade Directory Entries** Name: The Cleaning Co Location: 11, South Street, Reading, RG1 4QP Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	502	-	471871 173086
176	**Contemporary Trade Directory Entries** Name: Clean (Uk) Ltd Location: 11, South Street, Reading, RG1 4QP Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	502	-	471871 173086
176	**Contemporary Trade Directory Entries** Name: South Street Auto'S Location: 10, South Street, Reading, RG1 4QP Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A7NE (SW)	505	-	471886 173073
177	**Contemporary Trade Directory Entries** Name: Reading Cleaners Location: Reading Bridge House, Reading Bridge, Reading, RG1 8LS Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	500	-	471800 173963
177	**Contemporary Trade Directory Entries** Name: Reading Cleaners Location: Reading Bridge House, Reading Bridge, Reading, RG1 8LS Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	500	-	471800 173963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
177	**Contemporary Trade Directory Entries** Name: Expro International Group Plc Location: Reading Bridge House, Reading Bridge, Reading, Berkshire, RG1 8PL Classification: Oil & Gas Exploration Supplies & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	500	-	471800 173963
178	**Contemporary Trade Directory Entries** Name: Berkshire Private X-Rays Location: London Road, Reading, RG1 5AN Classification: Radiographic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	-	472458 173005
178	**Contemporary Trade Directory Entries** Name: Royal Berkshire & Battle Hospitals Nhs Trust Location: London Road, Reading, RG1 5AN Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	-	472458 173005
178	**Contemporary Trade Directory Entries** Name: The Royal Berkshire Hospital Location: London Road, Reading, RG1 5AN Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	509	-	472458 173005
179	**Contemporary Trade Directory Entries** Name: Osprey Printing Management Ltd Location: London Road, Reading, Berkshire, RG1 5AQ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NW (S)	522	-	472247 172980
180	**Contemporary Trade Directory Entries** Name: Wessington Group Ltd Location: Caretaker, 17, Blagrave Street, Reading, RG1 1QB Classification: Chemicals - Distributors & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	538	-	471620 173643
181	**Contemporary Trade Directory Entries** Name: Garnay International Location: 54, London Street, Reading, Berkshire, RG1 4SQ Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	546	-	471772 173114
181	**Contemporary Trade Directory Entries** Name: Intascope Ltd Location: 54, London Street, Reading, Berkshire, RG1 4SQ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	546	-	471772 173114
182	**Contemporary Trade Directory Entries** Name: First Great Western Link Location: 37-43, Blagrave Street, Reading, RG1 1PZ Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	562	-	471603 173692
182	**Contemporary Trade Directory Entries** Name: Thames Trains Ltd Location: 37-43, Blagrave Street, Reading, RG1 1PZ Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	562	-	471603 173692
182	**Contemporary Trade Directory Entries** Name: Thames Trains Location: 37-43, Blagrave Street, Reading, RG1 1PZ Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	562	-	471603 173692
183	**Contemporary Trade Directory Entries** Name: Maple Tree Clinic Location: Unit 6 & 7 ,Centurion Court,64 London Rd, Reading, Berkshire, RG1 5AS Classification: Hospitals **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	565	-	472698 173052

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
184	**Contemporary Trade Directory Entries** Name: Fourthtrack Systems Location: 107, Cumberland Road, Reading, RG1 3JY Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	570	-	472976 173509
185	**Contemporary Trade Directory Entries** Name: Cromwell Ltd Location: 7-11, Cross Street, Reading, RG1 1ST Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	577	-	471578 173541
185	**Contemporary Trade Directory Entries** Name: Kd Electrolysis Location: 24, Cross Street, Reading, RG1 1SN Classification: Electrolysis **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	615	-	471542 173506
185	**Contemporary Trade Directory Entries** Name: Johnson Cleaners Uk Ltd Location: 10, Queen Victoria Street, Reading, RG1 1TG Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	625	-	471530 173547
185	**Contemporary Trade Directory Entries** Name: Snappy Snaps Location: 149, Friar Street, Reading, RG1 1EX Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	629	-	471526 173571
185	**Contemporary Trade Directory Entries** Name: Delta Air Conditioning (Reading) Ltd Location: 147, Friar Street, Reading, Berkshire, RG1 1EX Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	664	-	471490 173551
186	**Contemporary Trade Directory Entries** Name: Adrienne Henrey Location: 25, Harris Arcade, Reading, RG1 1DN Classification: Millinery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	595	-	471561 173610
186	**Contemporary Trade Directory Entries** Name: Bench Mark Jewellers Location: 8, Harris Arcade, Reading, RG1 1DN Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	610	-	471547 173635
186	**Contemporary Trade Directory Entries** Name: Precision Watches Location: 8, Harris Arcade, Reading, RG1 1DN Classification: Clocks & Watches - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	610	-	471547 173635
187	**Contemporary Trade Directory Entries** Name: Minerva International Ltd Location: 86, London Street, Reading, RG1 4SQ Classification: Machine Tools - Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	601	-	471806 173012
188	**Contemporary Trade Directory Entries** Name: My Home Location: Kendrick Road, Reading, RG1 5DX Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	607	-	472086 172893
188	**Contemporary Trade Directory Entries** Name: My Home Services Location: 1-3, Kendrick Road, Reading, RG1 5DX Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	607	-	472086 172893

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	**Contemporary Trade Directory Entries** Name: Myhome Location: 1-3, Kendrick Road, Reading, RG1 5DX Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	607	-	472086 172893
189	**Contemporary Trade Directory Entries** Name: Eureka Ovencare Location: 105, London Street, Reading, RG1 4QD Classification: Oven cleaning **Status: Active** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	610	-	471871 172960
189	**Contemporary Trade Directory Entries** Name: Shareplan Leaflet Distribution Location: 105, London Street, Reading, RG1 4QD Classification: Distribution Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A7NE (SW)	610	-	471871 172960
189	**Contemporary Trade Directory Entries** Name: Msk Cleaning Location: 105, London Street, Reading, RG1 4QD Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	610	-	471871 172960
189	**Contemporary Trade Directory Entries** Name: Tivall Europe B V Location: 106, London Street, Reading, RG1 4SJ Classification: Frozen Food Processors & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	632	-	471827 172960
190	**Contemporary Trade Directory Entries** Name: Rentacure Location: Minster St, Reading, Berkshire, RG1 2JB Classification: Timber Preservation Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	612	-	471566 173360
190	**Contemporary Trade Directory Entries** Name: Rentacure Ltd Location: Minster St, Reading, Berkshire, RG1 2JB Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SW (W)	612	-	471566 173360
191	**Contemporary Trade Directory Entries** Name: Currys Digital Location: Unit 16, Upper Ground Level, The Oracle Centre, Reading, RG1 2AH Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	641	-	471574 173242
191	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: Unit 37A, Upper Ground Level, The Oracle Centre, Reading, Berkshire, RG1 2AH Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	641	-	471574 173242
191	**Contemporary Trade Directory Entries** Name: Wax Lyrical Location: Unit 14, Upper Ground Level, The Oracle Centre, Reading, RG1 2AH Classification: Candle Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	641	-	471574 173242
191	**Contemporary Trade Directory Entries** Name: L'Occitane Location: Unit 18, Upper Ground Level, The Oracle Centre, Reading, Berkshire, RG1 2AH Classification: Toiletries **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SW (SW)	641	-	471574 173242

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**Contemporary Trade Directory Entries** Name: Www.Mbitzdirect.Com Location: The Oracle Centre,Riverside Level, Reading, Berkshire, RG1 2AG Classification: Mobile Phone Accessories and Car Kits **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SW (SW)	642	-	471574 173242
191	**Contemporary Trade Directory Entries** Name: Apple Location: The Oracle Centre, Reading, Berkshire, RG1 2AG Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12SW (SW)	642	-	471574 173242
192	**Contemporary Trade Directory Entries** Name: Bombardier Transportation Uk Ltd Location: 10, Church Street, Reading, RG1 2SD Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	658	-	471708 173021
193	**Contemporary Trade Directory Entries** Name: Railair Location: Station Approach, Reading, RG1 1LZ Classification: Bus & Coach Operators & Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	665	-	471539 173841
194	**Contemporary Trade Directory Entries** Name: Eco Carpet Clean (Reading) Ltd Location: Station Rd, Reading, Berkshire, RG1 1LG Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A12NW (W)	668	-	471489 173635
194	**Contemporary Trade Directory Entries** Name: A E A Technology Rail Location: 7-11, Station Road, Reading, RG1 1LG Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	668	-	471489 173635
195	**Contemporary Trade Directory Entries** Name: Mirek Azentis Location: 320, Kings Road, Reading, Berkshire, RG1 4JG Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	671	-	472953 173185
196	**Contemporary Trade Directory Entries** Name: Crabtree & Evelyn Ltd Location: Riverside Level, The Oracle Centre, Reading, RG1 2AG Classification: Toiletries **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	678	-	471595 173125
197	**Contemporary Trade Directory Entries** Name: A M Stratton Location: Friar St, Reading, Berkshire, RG1 1DB Classification: Water Softeners **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NW (W)	699	-	471456 173586
197	**Contemporary Trade Directory Entries** Name: Redknee Location: 30-31, Friar Street, Reading, Berkshire, RG1 1DX Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	731	-	471424 173604
198	**Contemporary Trade Directory Entries** Name: Reading Recovery Location: Mill Green, Caversham, Reading, Berkshire, RG4 8EX Classification: Breakdown and Recovery **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A18NE (N)	700	-	472361 174349
198	**Contemporary Trade Directory Entries** Name: Dave Roberts Location: 55, Mill Green, Caversham, Reading, RG4 8EX Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A18NE (N)	706	-	472361 174355

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
199	**Contemporary Trade Directory Entries** Name: Bombardier Transportation Location: Church St, Reading, Berkshire, RG1 2ST Classification: Railway Equipment Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	712	-	471711 172946
200	**Contemporary Trade Directory Entries** Name: Walker Outboard Services Location: The Boatyard, Mill Green, Caversham, Reading, RG4 8EX Classification: Marine Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	714	-	472499 174332
200	**Contemporary Trade Directory Entries** Name: Marine Windows Location: The Boatyard, Mill Green, Caversham, Reading, RG4 8EX Classification: Boatbuilders & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	714	-	472499 174332
200	**Contemporary Trade Directory Entries** Name: Better Boating Co Location: Mill Green, Caversham, Reading, Berkshire, RG4 8EX Classification: Chandlers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	730	-	472488 174352
201	**Contemporary Trade Directory Entries** Name: Sanbei Location: 14 Union St, Reading, Berkshire, RG1 1EU Classification: Mobile Phone Accessories and Car Kits **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	727	-	471428 173537
202	**Contemporary Trade Directory Entries** Name: Clinical Print Services Location: 52, Station Hill, Reading, RG1 1NF Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	734	-	471443 173766
203	**Contemporary Trade Directory Entries** Name: Tones Body & Paint Centre Location: 28, Send Road, Caversham, Reading, RG4 8EH Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	754	-	472412 174395
203	**Contemporary Trade Directory Entries** Name: Star Motor Services Location: 28, Send Road, Caversham, Reading, RG4 8EH Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	763	-	472409 174405
204	**Contemporary Trade Directory Entries** Name: Fuel Doctor Location: 32, Mill Road, Caversham, Reading, RG4 8DP Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	761	-	472242 174420
205	**Contemporary Trade Directory Entries** Name: N & T Motorcycles Location: Piggotts Rd, Caversham, Reading, Berkshire, RG4 8EN Classification: Motor Cycle Repairs **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A18NE (N)	773	-	472297 174429
206	**Contemporary Trade Directory Entries** Name: Swatchtime Fabrics Location: 189a, London Road, Reading, RG1 3NU Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	776	-	473090 173206
207	**Contemporary Trade Directory Entries** Name: Porterhouse Medical Ltd Location: 4, Windsor Square, Silver Street, Reading, RG1 2TH Classification: Medical & Dental Laboratories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	779	-	471962 172743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
207	**Contemporary Trade Directory Entries** Name: Monel Electronics Ltd Location: 3, Windsor Square, Silver Street, Reading, Berkshire, RG1 2TH Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	782	-	471952 172742
207	**Contemporary Trade Directory Entries** Name: Berkshire Haulage Location: 79, Silver Street, Reading, RG1 2TN Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	821	-	471952 172702
207	**Contemporary Trade Directory Entries** Name: Photobition Cpl Ltd Location: 79, Silver Street, Reading, RG1 2TN Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	821	-	471952 172702
208	**Contemporary Trade Directory Entries** Name: Parks Location: George Street, Caversham, Reading, RG4 8DH Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	783	-	471950 174395
209	**Contemporary Trade Directory Entries** Name: S S E Contracting Ltd Location: 55, Vastern Road, Reading, RG1 8BU Classification: Electricity Companies **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	785	-	471536 174089
210	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: 55-59, Broad Street, Reading, RG1 2AF Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	793	-	471365 173481
211	**Contemporary Trade Directory Entries** Name: Swift Force Ltd Location: 28-34, Station Hill, Reading, Berkshire, RG1 1NF Classification: Shop Fittings Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	795	-	471378 173758
211	**Contemporary Trade Directory Entries** Name: Higgs Print Centre Location: Station Hill, Reading, Berkshire, RG1 1NF Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NW (W)	813	-	471370 173798
212	**Contemporary Trade Directory Entries** Name: Wildlife Control Services Location: 13, Upper Crown Street, Reading, RG1 2SS Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	813	-	471806 172765
213	**Contemporary Trade Directory Entries** Name: Network Critical Solutions Location: 1, Paddock Road, Caversham, Reading, RG4 5BY Classification: Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	813	-	472537 174424
214	**Contemporary Trade Directory Entries** Name: Kennet Joinery Ltd Location: 2a, Cumberland Road, Reading, RG1 3LB Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	818	-	473159 173249
214	**Contemporary Trade Directory Entries** Name: Reading Stained Glass Ltd Location: 213, London Road, Reading, RG1 3NY Classification: Stained Glass Designers & Producers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (E)	835	-	473166 173225

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
214	**Contemporary Trade Directory Entries** Name: Butts Location: 225a, London Road, Reading, RG1 3NY Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (E)	862	-	473200 173235
214	**Contemporary Trade Directory Entries** Name: F A Auto Engineering Location: 229, London Road, Reading, RG1 3NY Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	867	-	473210 173245
214	**Contemporary Trade Directory Entries** Name: A & A Transmission Location: 229 London Rd, Reading, Berkshire, RG1 3NY Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	867	-	473210 173244
215	**Contemporary Trade Directory Entries** Name: Southampton Street Garage Location: 70, Southampton Street, Reading, RG1 2QR Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	823	-	471626 172871
215	**Contemporary Trade Directory Entries** Name: Universal Auto Services Location: 70, Southampton Street, Reading, RG1 2QR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	823	-	471626 172871
215	**Contemporary Trade Directory Entries** Name: Kevin Trayhorne Location: 70, Southampton Street, Reading, RG1 2QR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	823	-	471626 172871
215	**Contemporary Trade Directory Entries** Name: Southampton Street Garage Location: 70, Southampton Street, Reading, RG1 2QR Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	823	-	471626 172871
216	**Contemporary Trade Directory Entries** Name: Neal Location: 6, Send Road, Caversham, Reading, Berkshire, RG4 8EH Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	824	-	472392 174470
217	**Contemporary Trade Directory Entries** Name: Domestic Bliss Location: 64, Queens Road, Caversham, Reading, RG4 8DL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	824	-	472051 174465
217	**Contemporary Trade Directory Entries** Name: B A Turner Location: 76a, Queens Road, Caversham, Reading, RG4 8DL Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	827	-	472081 174473
218	**Contemporary Trade Directory Entries** Name: Wasteking Ltd Location: 7, Castle Street, Reading, RG1 7SB Classification: Rubbish Clearance **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (W)	825	-	471383 173229
219	**Contemporary Trade Directory Entries** Name: Caversham Coachworks Ltd Location: 3, Send Road, Caversham, Reading, RG4 8EH Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	827	-	472329 174481

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
219	**Contemporary Trade Directory Entries** Name: Caversham Coachworks Location: 383, Gosbrook Road, Caversham, Reading, RG4 8ED Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	853	-	472315 174509
220	**Contemporary Trade Directory Entries** Name: White Knight Location: 78, George Street, Caversham, Reading, RG4 8DJ Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	830	-	471905 174428
220	**Contemporary Trade Directory Entries** Name: Trinity Supplies Location: 78, George Street, Caversham, Reading, Berkshire, RG4 8DJ Classification: Laundry & Dry Cleaning Supplies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	830	-	471905 174428
221	**Contemporary Trade Directory Entries** Name: Pro-Clean Location: 85, Southampton Street, Reading, Berkshire, RG1 2QU Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7SE (SW)	831	-	471728 172787
222	**Contemporary Trade Directory Entries** Name: Carpets Like New (Reading) Location: 32, St. Marys Butts, Reading, RG1 2LS Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	833	-	471359 173282
222	**Contemporary Trade Directory Entries** Name: Kall Kwik Location: 32, St. Marys Butts, Reading, RG1 2LS Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	833	-	471359 173282
223	**Contemporary Trade Directory Entries** Name: Forest Gold Location: 76 Broad St, Reading, Berkshire, RG1 2AP Classification: Bags, Belts & Accessories - Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	839	-	471326 173421
223	**Contemporary Trade Directory Entries** Name: The Discount Photo Co Location: 21, West Street, Reading, RG1 1TT Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	863	-	471297 173460
224	**Contemporary Trade Directory Entries** Name: Mill Road Garage Location: 2, Mill Road, Caversham, Reading, RG4 8DP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	850	-	472246 174509
224	**Contemporary Trade Directory Entries** Name: R J Leach Location: 2, Mill Road, Caversham, Reading, Berkshire, RG4 8DP Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	850	-	472246 174509
225	**Contemporary Trade Directory Entries** Name: Happy Ironing Co Location: 51, Vastern Road, READING, RG1 8DJ Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	858	-	471463 174113
226	**Contemporary Trade Directory Entries** Name: Herald Chase Group Location: 4, Paddock Road, Caversham, Reading, RG4 5BY Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	859	-	472530 174474

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
226	**Contemporary Trade Directory Entries** Name: Richfield Graphics Ltd Location: 4, Paddock Road, Caversham, Reading, RG4 5BY Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	859	-	472530 174474
226	**Contemporary Trade Directory Entries** Name: Herald Chase Group Ltd Location: Unit 4B,Paddock Rd Ind Est,Paddock Rd, Caversham, Reading, Berkshire, RG4 5BY Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	879	-	472569 174482
227	**Contemporary Trade Directory Entries** Name: C R Autos Location: B, 2, Amity Road, Reading, RG1 3LJ Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	865	-	473225 173290
227	**Contemporary Trade Directory Entries** Name: Wexham Developments 93 Location: C, 2, Amity Road, Reading, Berkshire, RG1 3LJ Classification: Testing, Inspection & Calibration Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	865	-	473225 173290
227	**Contemporary Trade Directory Entries** Name: W Franks Location: C, 2, Amity Road, Reading, Berkshire, RG1 3LJ Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	865	-	473225 173290
227	**Contemporary Trade Directory Entries** Name: A4 Scooter Store Location: 237, London Road, Reading, RG1 3NY Classification: Motor Cycle Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	897	-	473247 173258
227	**Contemporary Trade Directory Entries** Name: Reality Location: 237, London Road, Reading, Berkshire, RG1 3NY Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	897	-	473247 173258
228	**Contemporary Trade Directory Entries** Name: Suprema Location: 19, West Street, Reading, RG1 1TT Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	865	-	471294 173467
229	**Contemporary Trade Directory Entries** Name: Mavisat Ltd Location: 2-4, Wokingham Road, Reading, Berkshire, RG6 1JG Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	867	-	473165 173153
230	**Contemporary Trade Directory Entries** Name: Reading Paint Services Location: 389, Gosbrook Road, Caversham, Reading, RG4 8ED Classification: Paint Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	878	-	472378 174527
231	**Contemporary Trade Directory Entries** Name: Prim Location: 7, West Street, Reading, RG1 1TT Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	879	-	471276 173522

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
232	**Contemporary Trade Directory Entries** Name: Richfield Labels Ltd Location: Unit 4A Paddock Rd, Caversham, Reading, Berkshire, RG4 5BY Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19NW (N)	879	-	472625 174461
232	**Contemporary Trade Directory Entries** Name: Selway Packaging Location: Unit 4c, Paddock Road Industrial Estate, Paddock Road, Caversham, Reading, RG4 5BY Classification: Packaging & Wrapping Equipment & Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	906	-	472665 174474
233	**Contemporary Trade Directory Entries** Name: Carpet Cleaners (Reading) Ltd Location: 6, Fobney Street, Reading, RG1 6BY Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	885	-	471391 173062
234	**Contemporary Trade Directory Entries** Name: Greenboro Ltd Location: Unit 2 Paddock Rd, Caversham, Reading, Berkshire, RG4 5BY Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	906	-	472610 174496
235	**Contemporary Trade Directory Entries** Name: Abelkill Location: 14, Star Road, Caversham, Reading, RG4 5BS Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	910	-	472476 174541
236	**Contemporary Trade Directory Entries** Name: Quality Stationers & Printers Location: 307, Gosbrook Road, Caversham, Reading, RG4 8DY Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	924	-	472080 174572
237	**Contemporary Trade Directory Entries** Name: Donnington Cars Ltd Location: 37, Erleigh Road, Reading, RG1 5NB Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (SE)	934	-	473016 172839
237	**Contemporary Trade Directory Entries** Name: The Launderette Location: 28, Erleigh Road, Reading, RG1 5NA Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SE (SE)	942	-	472980 172795
237	**Contemporary Trade Directory Entries** Name: A-Z Dry Cleaners Location: 32, Erleigh Road, Reading, RG1 5NA Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (SE)	950	-	472995 172797
238	**Contemporary Trade Directory Entries** Name: The Ways & Means Trust Ltd Location: Unit 2, Paddock Road, Caversham, Reading, RG4 5BY Classification: Packaging & Wrapping Equipment & Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	941	-	472612 174533
238	**Contemporary Trade Directory Entries** Name: Genesis Impressions Location: 3, Paddock Road, Caversham, Reading, RG4 5BY Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (N)	966	-	472650 174545

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
238	**Contemporary Trade Directory Entries** Name: Selway Self Storage Location: Unit 3, Paddock Road Industrial Estate, Paddock Road, Caversham, Reading, Berkshire, RG4 5BY Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (N)	966	-	472650 174545
239	**Contemporary Trade Directory Entries** Name: Carpet Cleaning Reading Location: 35, Castle Street, Reading, RG1 7SB Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A6NE (W)	942	-	471267 173204
240	**Contemporary Trade Directory Entries** Name: Warm Interiors Location: 22, Wokingham Road, Reading, RG6 1JQ Classification: Fireplaces & Mantelpieces **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	943	-	473243 173137
240	**Contemporary Trade Directory Entries** Name: Ilir Skura Location: 28, Wokingham Road, Reading, RG6 1JQ Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	973	-	473270 173124
241	**Contemporary Trade Directory Entries** Name: Service Point Uk Ltd Location: 23-25, Oxford Road, Reading, RG1 7QG Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	943	-	471225 173389
242	**Contemporary Trade Directory Entries** Name: Scamellperformance Location: 17, Swan Place, READING, RG1 6QD Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	943	-	471317 173081
243	**Contemporary Trade Directory Entries** Name: Tony Smith Location: 50, Mount Pleasant, Reading, RG1 2TD Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	956	-	471919 172571
243	**Contemporary Trade Directory Entries** Name: 4 Bays Location: 50, Mount Pleasant, Reading, Berkshire, RG1 2TD Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (S)	956	-	471919 172571
243	**Contemporary Trade Directory Entries** Name: City Cars Location: 50, Mount Pleasant, Reading, Berkshire, RG1 2TD Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	956	-	471919 172571
244	**Contemporary Trade Directory Entries** Name: Chestermans Garage Location: A, 1, Chesterman Street, Reading, RG1 2PR Classification: Car Body Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	961	-	471740 172633
244	**Contemporary Trade Directory Entries** Name: Hermes Plates Ltd Location: 1, Short Street, Reading, RG1 2PS Classification: Lithographic Plate Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	964	-	471765 172617

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	**Contemporary Trade Directory Entries** Name: Magnus Litho Services Ltd Location: 1, Short Street, Reading, RG1 2PS Classification: Lithographic Plate Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	964	-	471765 172617
245	**Contemporary Trade Directory Entries** Name: Exquisite Carpet Cleaning Location: 71, Norton Road, Reading, RG1 3QH Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (E)	969	-	473377 173519
245	**Contemporary Trade Directory Entries** Name: Cheapest Rubbish Removals Location: 71, Norton Road, Reading, RG1 3QH Classification: Rubbish Clearance **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (E)	969	-	473377 173519
246	**Contemporary Trade Directory Entries** Name: Berkshire Radiators Location: 266, Gosbrook Road, Caversham, Reading, RG4 8EA Classification: Car Radiator Servicing & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A23SW (N)	976	-	472037 174617
247	**Contemporary Trade Directory Entries** Name: Nhs Purchasing & Supply Agency Location: Premier House, 60, Caversham Road, Reading, RG1 7EB Classification: Medical Equipment Maintenance & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	986	-	471191 173796
248	**Contemporary Trade Directory Entries** Name: Hoppabag Ltd Location: 1, Montague Street, Caversham, Reading, RG4 5AU Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	472373 174647
248	**Contemporary Trade Directory Entries** Name: Hulse Location: 1, Montague Street, Caversham, Reading, RG4 5AU Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	472373 174647
248	**Contemporary Trade Directory Entries** Name: Hoppabag Ltd Location: 1, Montague Street, Caversham, Reading, RG4 5AU Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	472373 174647
249	**Fuel Station Entries** Name: Kings Road Filling Station Location: 191, Kings Road, READING, Berkshire, RG1 4JL Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	322	-	472591 173280
250	**Fuel Station Entries** Name: Tesco Reading Extra Location: Napier Road, Reading, RG1 8DF Brand: Tesco Extra Premises Type: Hypermarket **Status: Open** Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	394	-	472611 173919
251	**Fuel Station Entries** Name: Reading Service Station Location: 69, London Road, Reading, RG1 5BW Brand: MURCO Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A8NE (S)	483	-	472319 173024

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
252	**Fuel Station Entries** Name: Shell Thames Valley Location: George Street, Caversham, Reading, Berkshire, RG4 8DH Brand: Shell Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A18NW (N)	783	-	471950 174395

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	**Nitrate Vulnerable Zones** Name: Not Supplied Description: NVZ Area Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13NE (N)	202	8	472295 173857

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Wokingham District Council - Environmental Health Department	February 2013	Annual Rolling Update
West Berkshire Council - Environmental Health Department	June 2012	Annual Rolling Update
South Oxfordshire District Council - Environmental Health Department	March 2013	Annual Rolling Update
Reading Borough Council - Environmental Health Department	October 2012	Annual Rolling Update
Discharge Consents		
Environment Agency - Thames Region	April 2013	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Thames Region	March 2013	Quarterly
Integrated Pollution Controls		
Environment Agency - Thames Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control		
Environment Agency - Thames Region	April 2013	Quarterly
Local Authority Integrated Pollution Prevention And Control		
West Berkshire Council - Environmental Health Department	December 2012	Annual Rolling Update
South Oxfordshire District Council - Environmental Health Department	February 2013	Annual Rolling Update
Wokingham District Council - Environmental Health Department	February 2013	Annual Rolling Update
Reading Borough Council - Environmental Health Department	March 2013	Annual Rolling Update
Local Authority Pollution Prevention and Controls		
West Berkshire Council - Environmental Health Department	December 2012	Bi-Annually
South Oxfordshire District Council - Environmental Health Department	February 2013	Annual Rolling Update
Wokingham District Council - Environmental Health Department	February 2013	Annual Rolling Update
Reading Borough Council - Environmental Health Department	March 2013	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
West Berkshire Council - Environmental Health Department	December 2012	Annual Rolling Update
South Oxfordshire District Council - Environmental Health Department	February 2013	Annual Rolling Update
Wokingham District Council - Environmental Health Department	February 2013	Annual Rolling Update
Reading Borough Council - Environmental Health Department	March 2013	Annual Rolling Update
Nearest Surface Water Feature		
Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters		
Environment Agency - Thames Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Thames Region	March 2013	Quarterly
Prosecutions Relating to Controlled Waters		
Environment Agency - Thames Region	March 2013	Quarterly
Registered Radioactive Substances		
Environment Agency - Thames Region	April 2013	Quarterly
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
Substantiated Pollution Incident Register		
Environment Agency - Thames Region - South East Area	April 2013	Quarterly
Environment Agency - Thames Region - West Area	April 2013	Quarterly
Water Abstractions		
Environment Agency - Thames Region	April 2013	Quarterly
Water Industry Act Referrals		
Environment Agency - Thames Region	April 2013	Quarterly

Agency & Hydrological	Version	Update Cycle
Groundwater Vulnerability Environment Agency - Head Office	January 2011	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	Annually
Source Protection Zones Environment Agency - Head Office	March 2013	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2013	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2013	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	April 2013	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	April 2013	Quarterly
Flood Defences Environment Agency - Head Office	April 2013	Quarterly

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Thames Region - South East Area	April 2013	Quarterly
Environment Agency - Thames Region - West Area	April 2013	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Thames Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Southern Region - Solent and South Downs	April 2013	Quarterly
Environment Agency - Thames Region - South East Area	April 2013	Quarterly
Environment Agency - Thames Region - West Area	April 2013	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - West Thames Area	January 2013	Quarterly
Environment Agency - Thames Region - South East Area	January 2013	Quarterly
Environment Agency - Thames Region - West Area	January 2013	Quarterly
Local Authority Landfill Coverage		
Oxfordshire County Council	May 2000	Not Applicable
Reading Borough Council - Planning	May 2000	Not Applicable
South Oxfordshire District Council - Environmental Health Department	May 2000	Not Applicable
West Berkshire Council - Environmental Health Department	May 2000	Not Applicable
Wokingham District Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Oxfordshire County Council	May 2000	Not Applicable
Reading Borough Council - Planning	May 2000	Not Applicable
South Oxfordshire District Council - Environmental Health Department	May 2000	Not Applicable
West Berkshire Council - Environmental Health Department	May 2000	Not Applicable
Wokingham District Council - Environmental Health Department	October 2005	Not Applicable
Registered Landfill Sites		
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Environment Agency - Thames Region - West Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Environment Agency - Thames Region - West Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Thames Region - South East Area	March 2003	Not Applicable
Environment Agency - Thames Region - West Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	March 2013	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2013	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Reading Borough Council - Planning	April 2013	Annual Rolling Update
West Berkshire Council	August 2012	Annual Rolling Update
Wokingham District Council	August 2012	Annual Rolling Update
South Oxfordshire District Council - Planning Department (West)	January 2013	Annual Rolling Update
Oxfordshire County Council	November 2012	Annual Rolling Update
Planning Hazardous Substance Consents		
Reading Borough Council - Planning	April 2013	Annual Rolling Update
West Berkshire Council	August 2012	Annual Rolling Update
Wokingham District Council	August 2012	Annual Rolling Update
South Oxfordshire District Council - Planning Department (West)	January 2013	Annual Rolling Update
Oxfordshire County Council	November 2012	Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	August 1996	Not Applicable
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	January 2010	Variable
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	April 2013	Bi-Annually
Brine Compensation Area		
Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas		
The Coal Authority - Mining Report Service	January 2012	As notified
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	February 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	February 2011	Annually
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	February 2013	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2013	Quarterly
Sensitive Land Use	**Version**	**Update Cycle**
Areas of Adopted Green Belt South Oxfordshire District Council Wokingham District Council	 May 2013 May 2013	 As notified As notified
Areas of Unadopted Green Belt South Oxfordshire District Council Wokingham District Council	 May 2013 May 2013	 As notified As notified
Areas of Outstanding Natural Beauty Natural England	March 2013	Bi-Annually
Environmentally Sensitive Areas Natural England	February 2013	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	February 2013	Bi-Annually
Marine Nature Reserves Natural England	August 2012	Bi-Annually
National Nature Reserves Natural England	February 2013	Bi-Annually
National Parks Natural England	February 2013	Bi-Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2012	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2013	Annually
Ramsar Sites Natural England	February 2013	Bi-Annually
Sites of Special Scientific Interest Natural England	February 2013	Bi-Annually
Special Areas of Conservation Natural England	February 2013	Bi-Annually
Special Protection Areas Natural England	February 2013	Bi-Annually

Data Suppliers

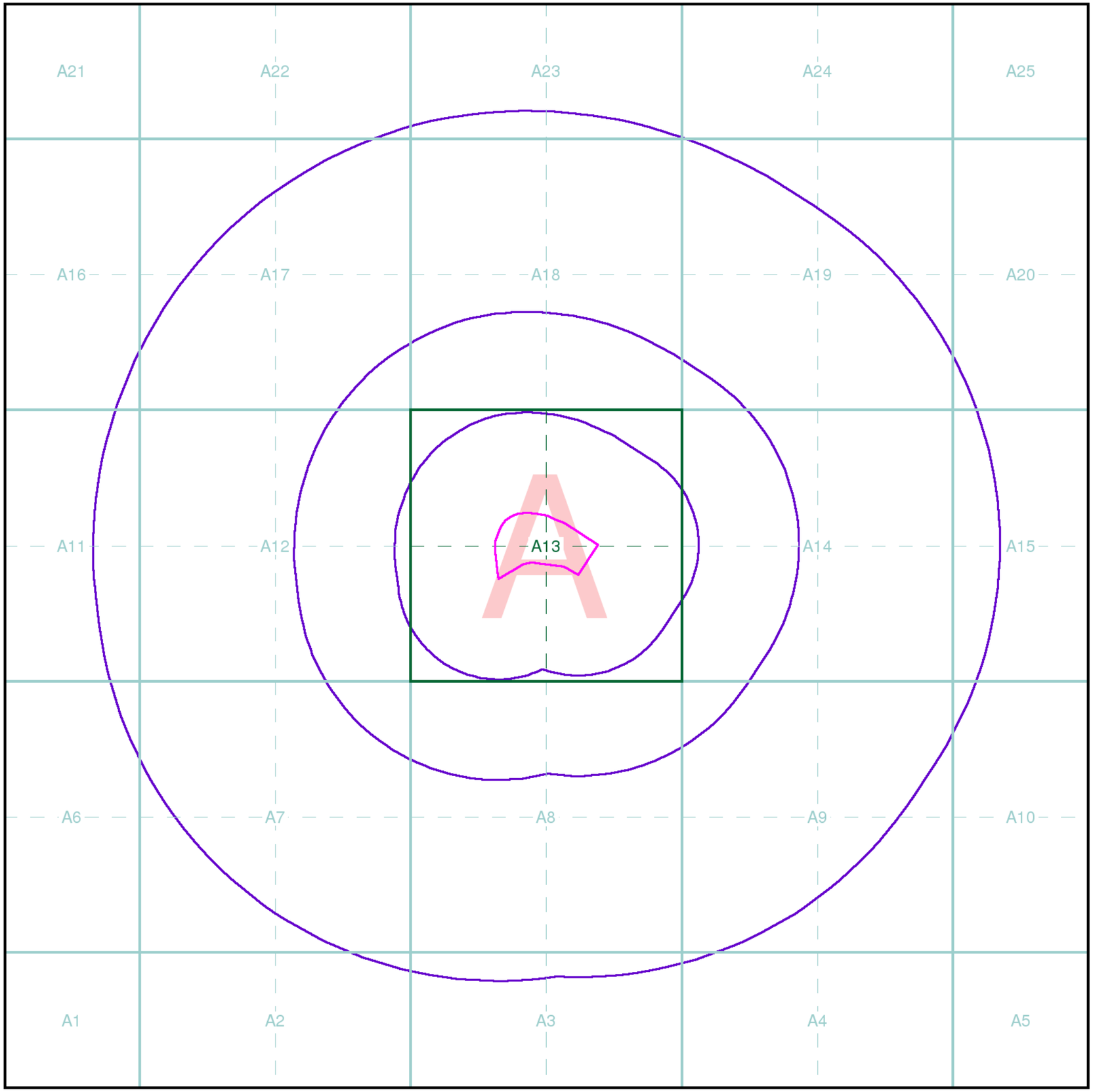
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Countryside Council for Wales	
Scottish Natural Heritage	
Natural England	
Health Protection Agency	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
1	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
2	**Reading Borough Council - Environmental Health Department** Civic Centre, Reading, Hampshire, RG1 7DT	Telephone: 0118 939 9099 Fax: 0118 958 9770 Website: www.reading.gov.uk
3	**British Geological Survey - Enquiry Service** British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
4	**Reading Borough Council - Planning** Civic Centre, READING, Hampshire, RG1 7TD	Telephone: 0118 939 0900 Fax: 0118 958 9770 Website: www.reading.gov.uk
5	**Health and Safety Executive** Explosives Inspectorate, 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
6	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmark.co.uk Website: www.landmarkinfo.co.uk
7	**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
8	**Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)** Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
9	**Oxfordshire County Council** County Hall, New Road, Oxford, Oxfordshire, OX1 1ND	Telephone: 01865 792422 Fax: 01865 810106 Email: environmental.services@oxfordshire.gov.uk Website: www.oxfordshire.gov.uk
10	**South Oxfordshire District Council - Environmental Health Department** Council Offices, P O Box 92, Crowmarsh, Wallingford, Oxfordshire, OX10 8NY	Telephone: 01491 823000 Fax: 01491 823001 Email: env.health@southoxon.gov.uk Website: www.southoxon.gov.uk
11	**Wokingham District Council - Environmental Health Department** Council Offices, Shute End, Wokingham, Surrey, RG40 1BN	Telephone: 0118 974 6000 Fax: 0118 974 5053 Website: www.wokingham.gov.uk
-	**Health Protection Agency - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@hpa.org.uk Website: www.hpa.org.uk
-	**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 / SEPA have a charging policy in place for enquiries.



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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Ordnance Survey® Licensed Partner

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Ms J Pearson, Delta Simons, The Lawn, Union Road,
Lincoln, LN1 3BL

Order Details

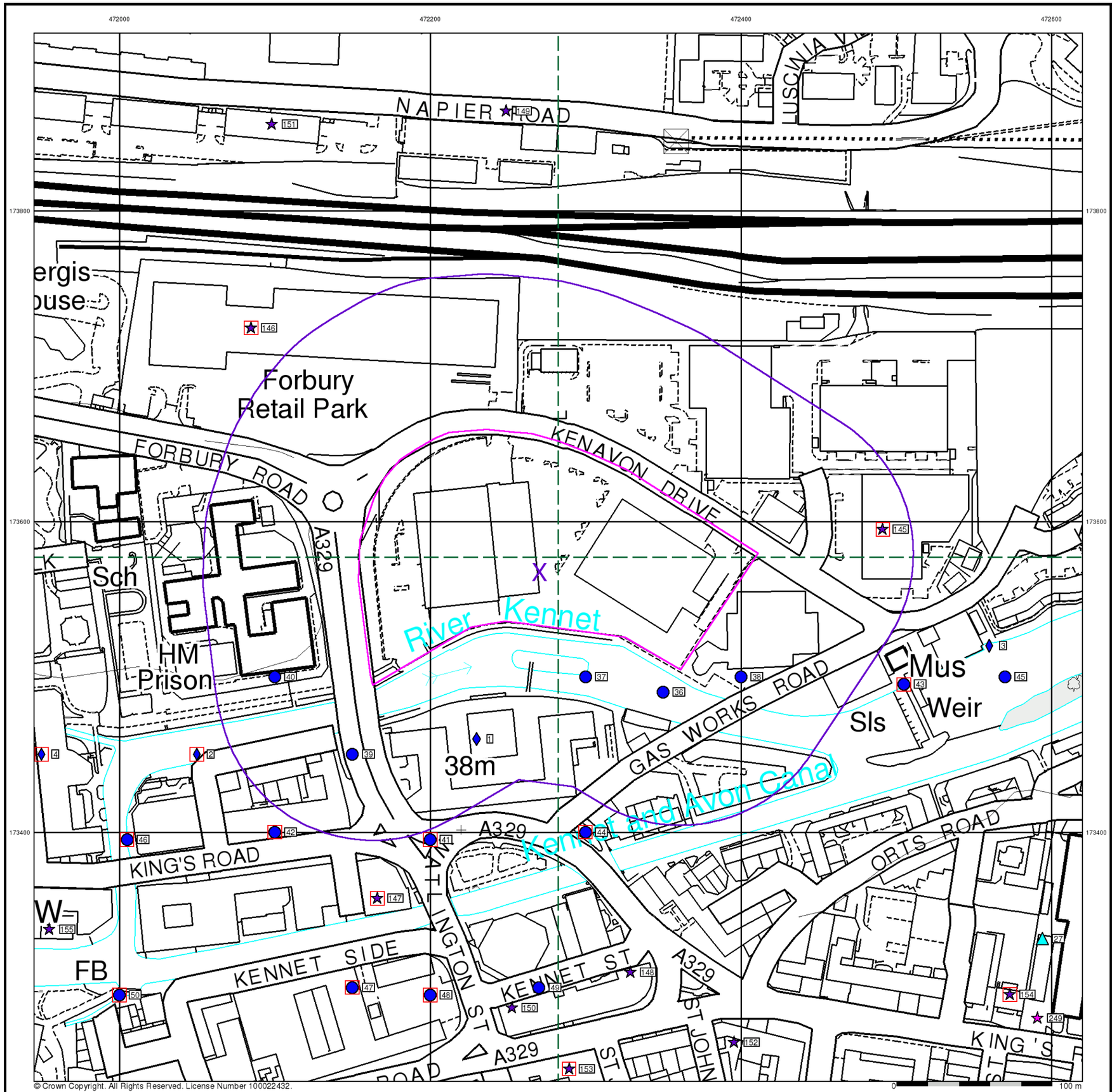
Order Number:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173580
Site Area (Ha):	2.74
Search Buffer (m):	1000

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

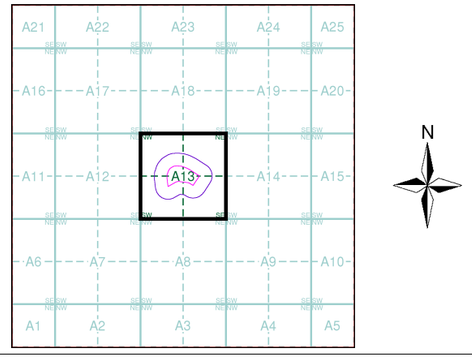
Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A13



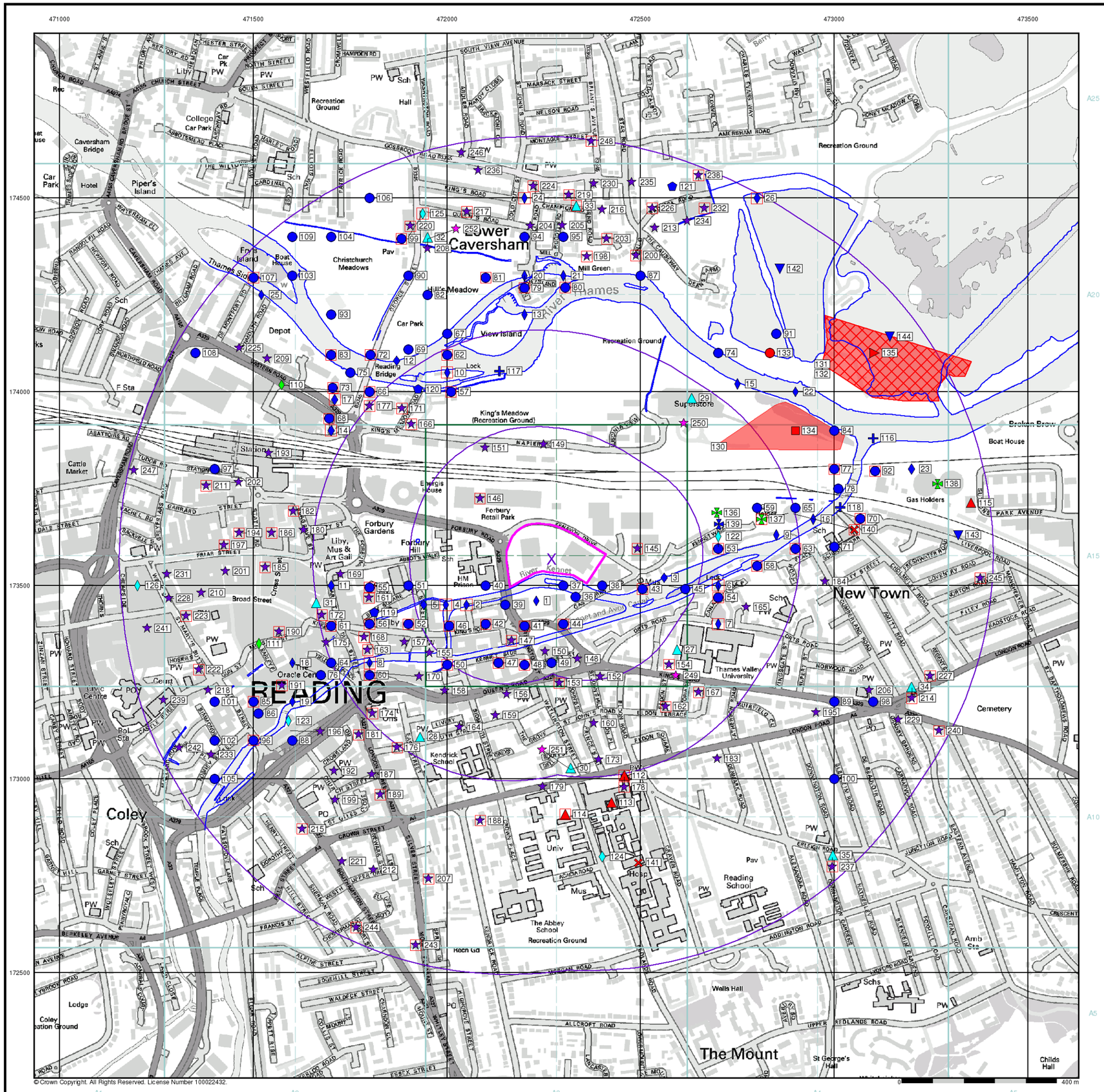
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Order Number:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74

Site Details

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
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- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry

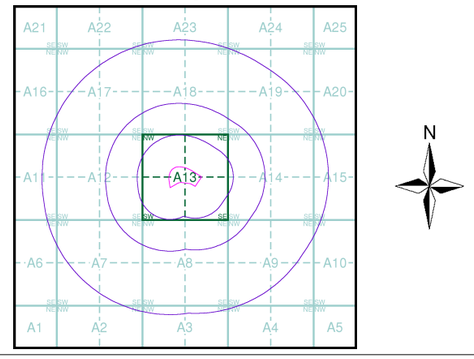
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- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Slice A



Order Details

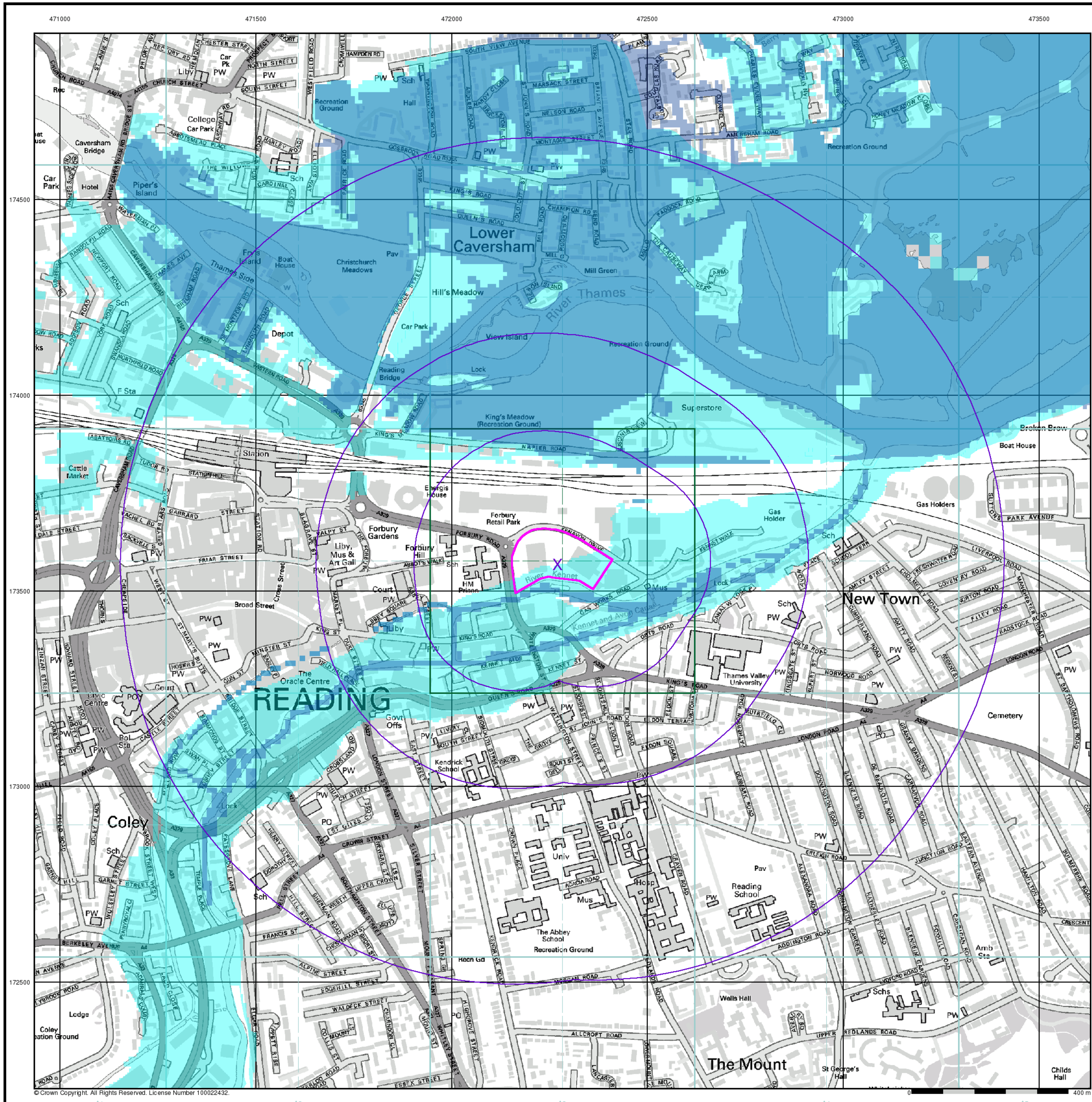
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National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	1000

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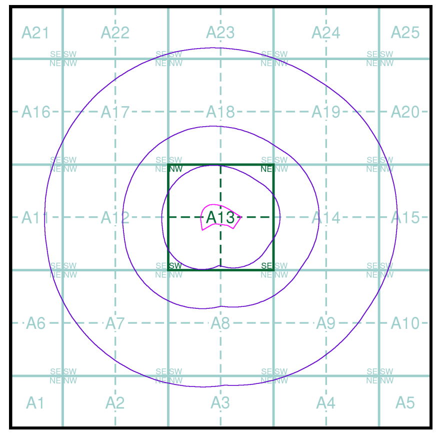
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



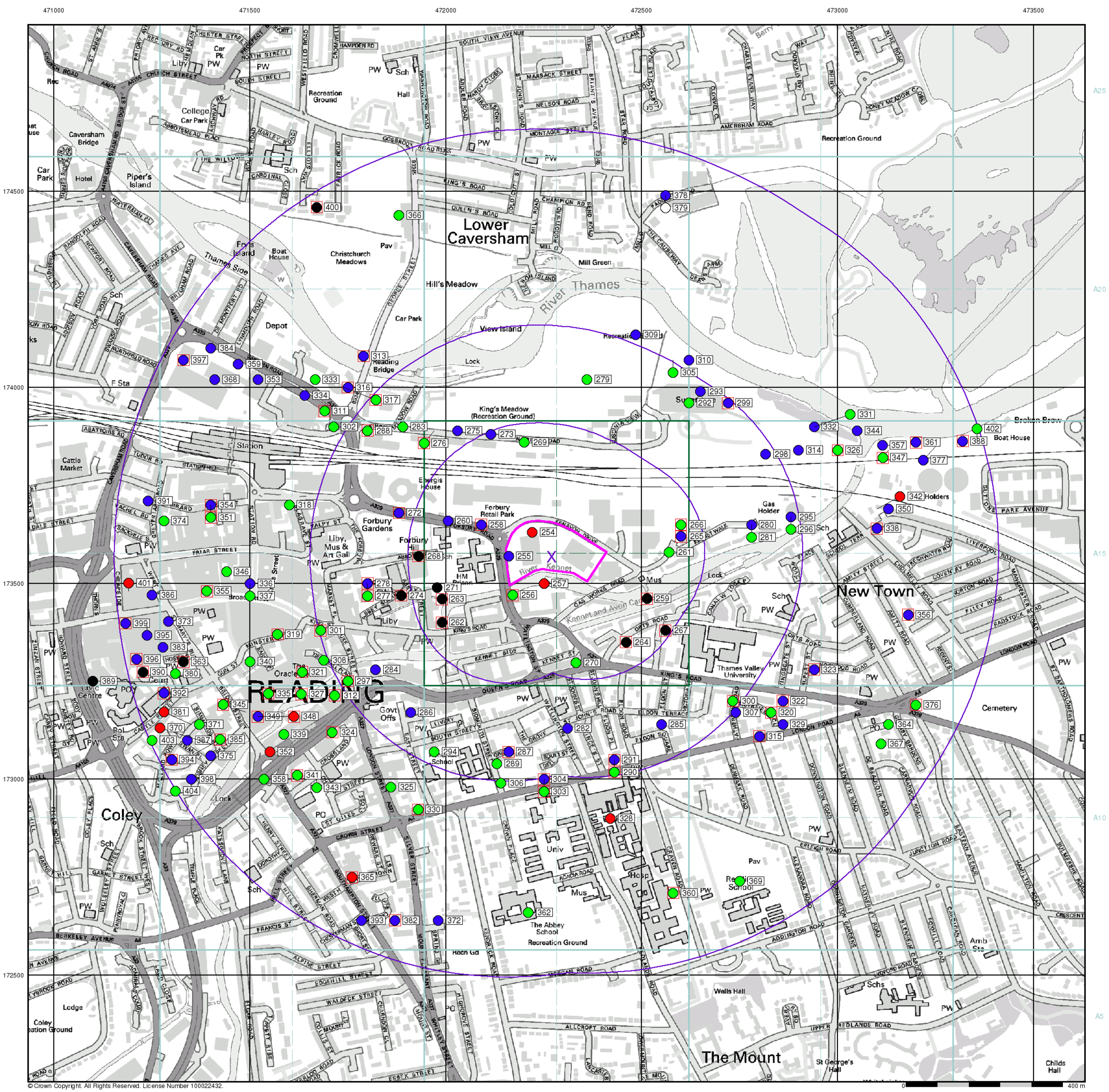
Order Details

Order Number: 47025573_1_1
Customer Ref: DS18848
National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

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General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Map ID
- Several of Type at Location

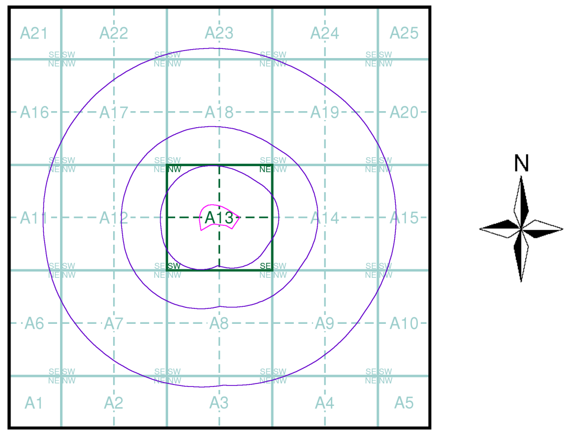
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



Order Details

Order Number: 47025573_1_1
Customer Ref: DS18848
National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

Site Details

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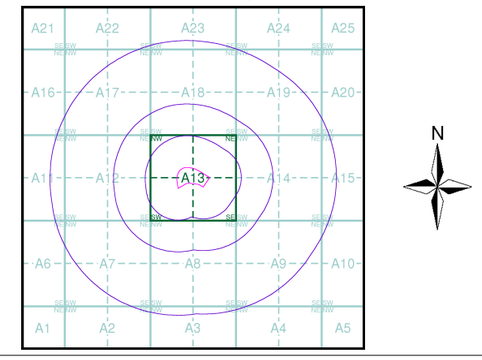
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	1000

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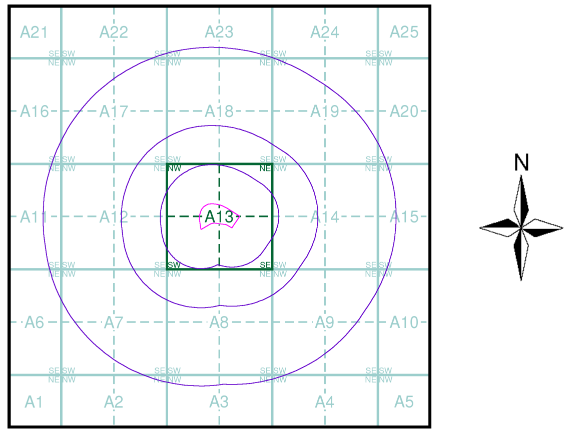
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details: 47025573_1_1
Customer Ref: DS18848
National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

Site Details

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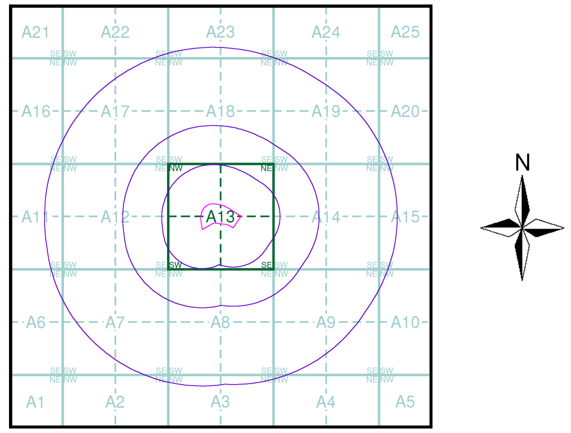
Specified Site   Specified Buffer(s)   X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

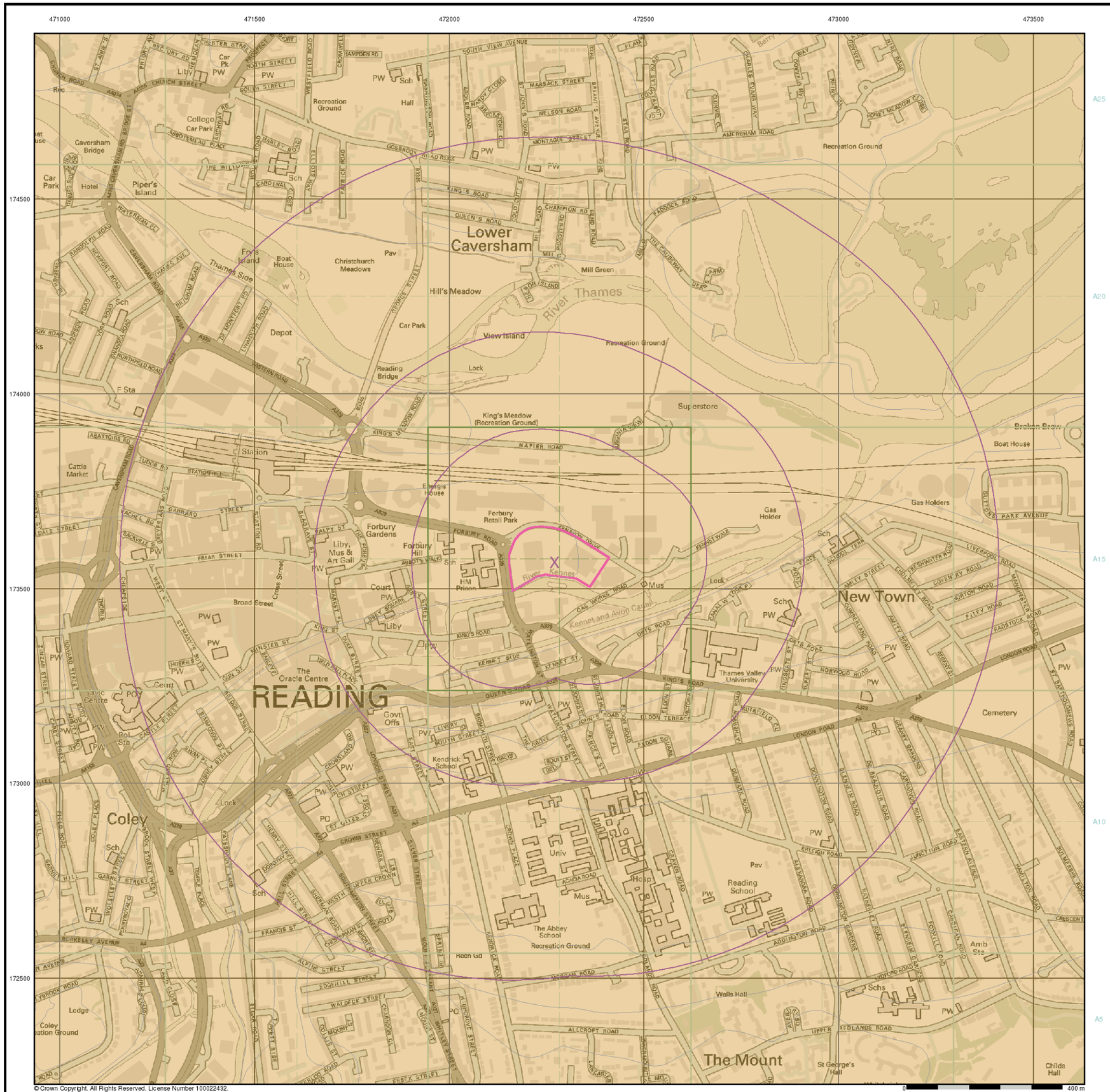
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National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

Site Details

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General

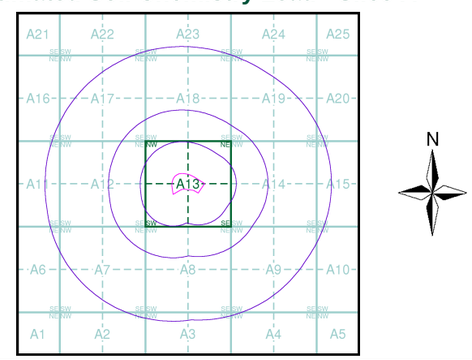
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- < 150
- 150 - 300
- 300 - 600
- 600 - 900
- > 900

Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	1000

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

Landmark Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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General

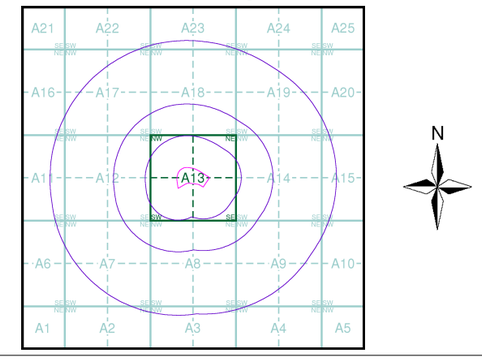
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



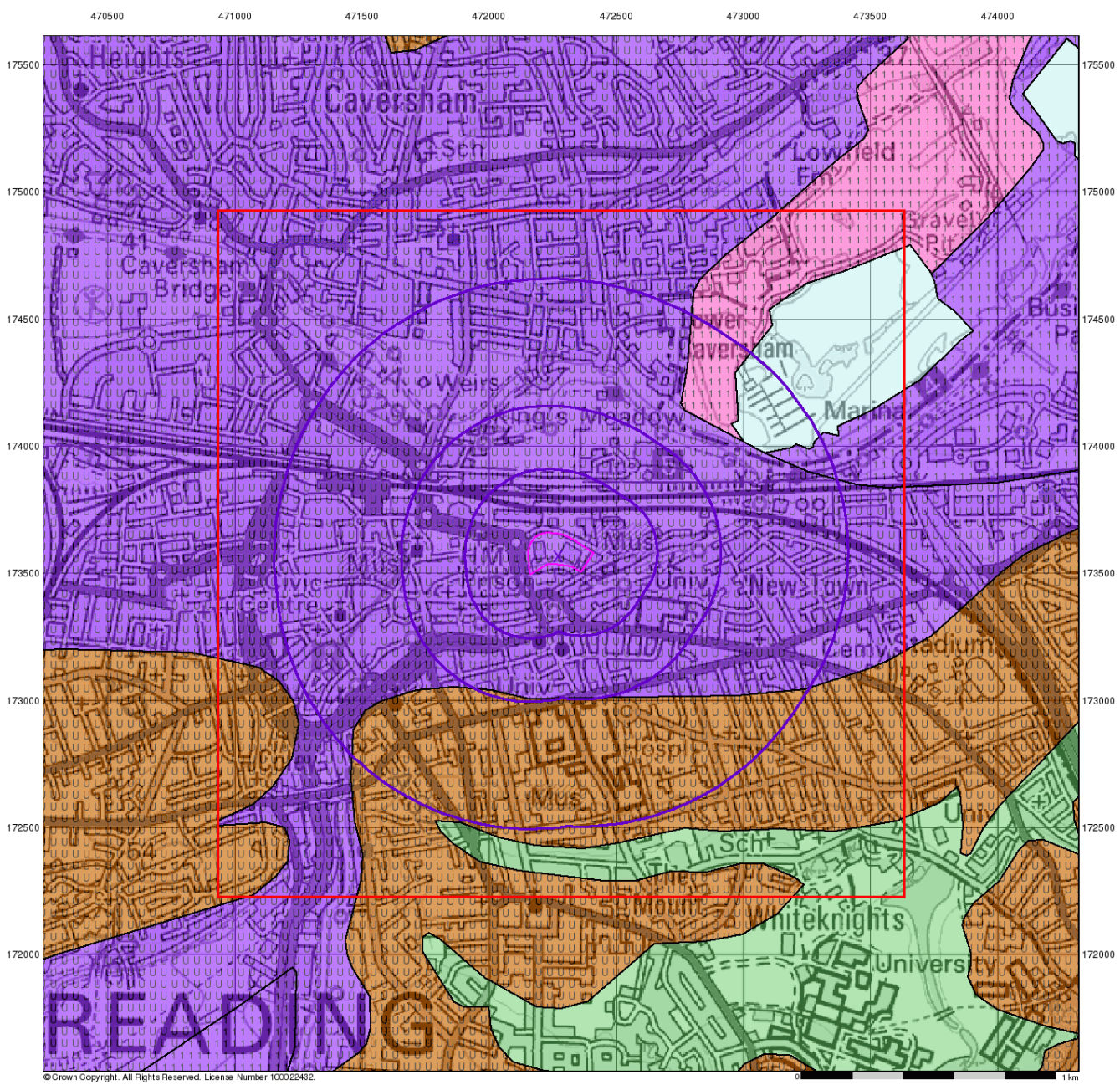
Order Details

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Groundwater Vulnerability

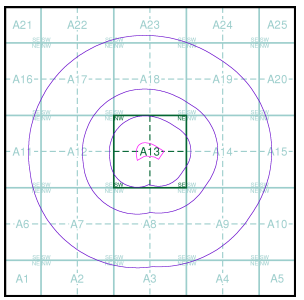
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes	Soil Classes
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Minor Aquifer (Variably Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Non Aquifer (Negligibly Permeable)	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



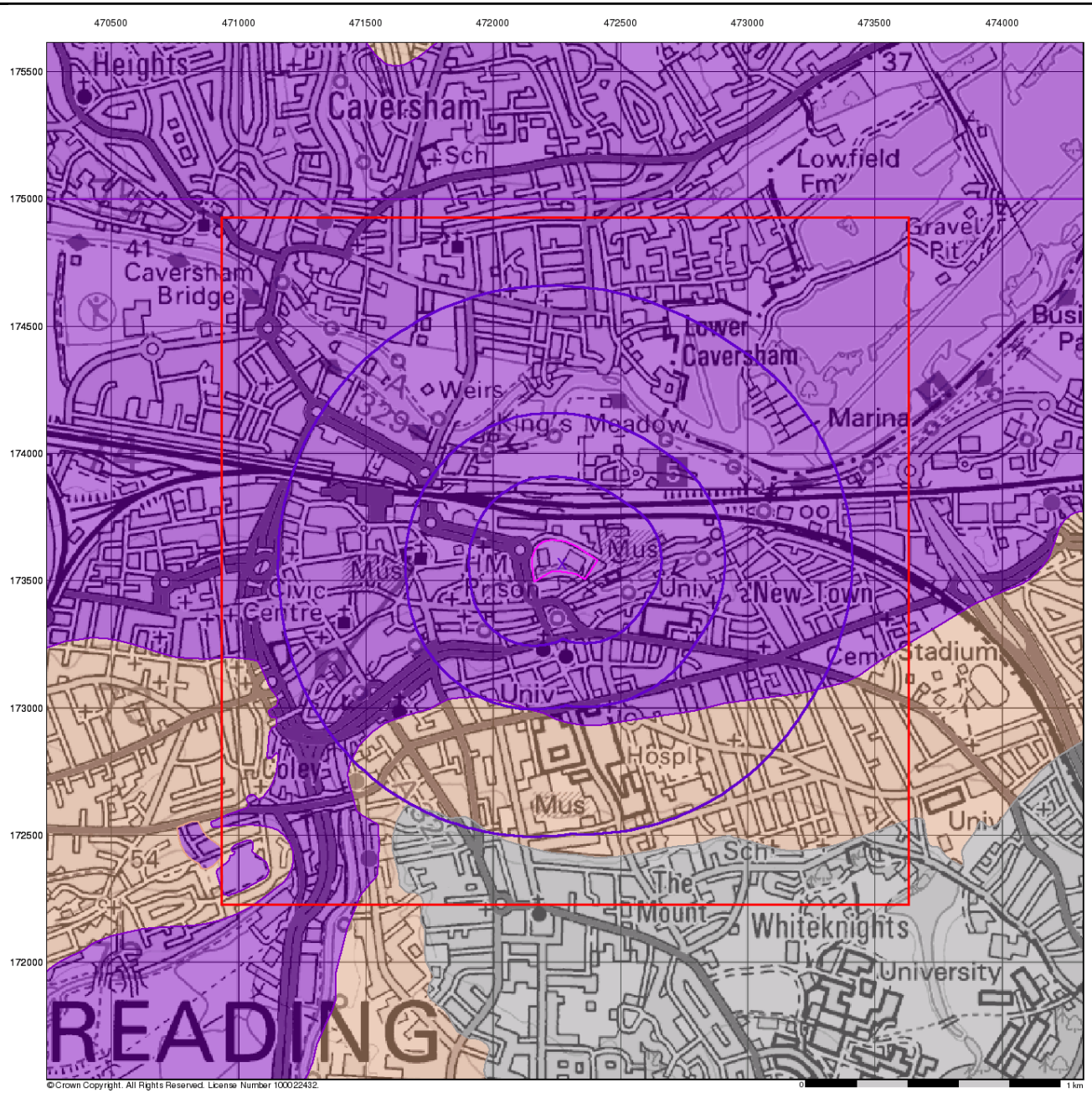
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Bedrock Aquifer Designation

General

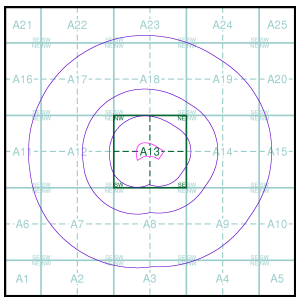
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



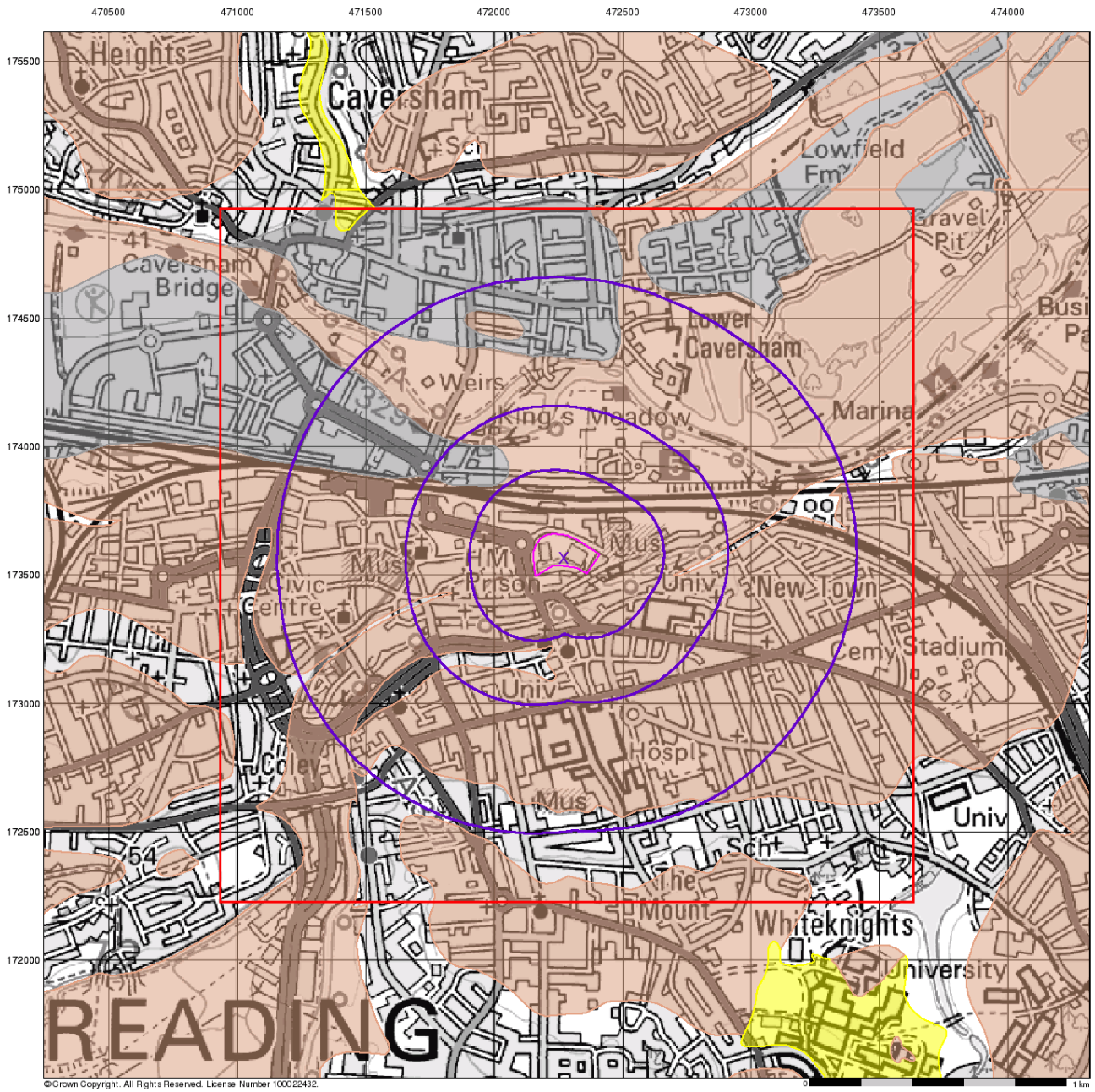
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Superficial Aquifer Designation

General

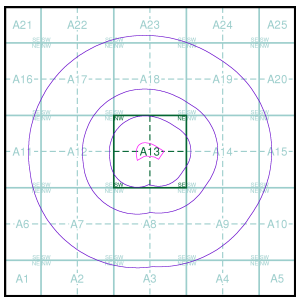
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown

Site Sensitivity Context Map - Slice A



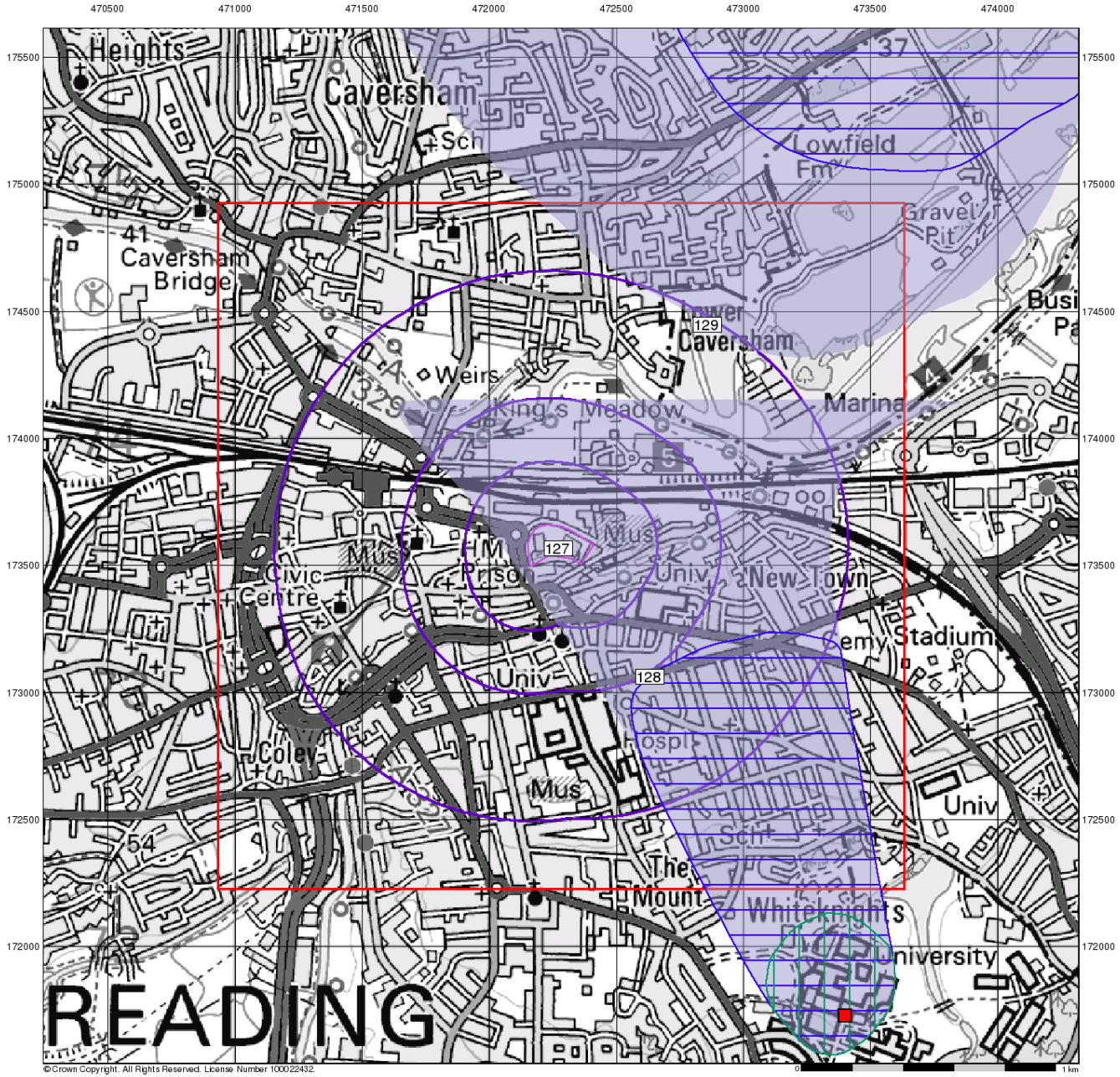
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Source Protection Zones

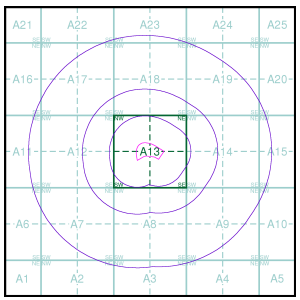
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Source Protection Zone I
Source Protection Zone II
Source Protection Zone III
Zone of Special Interest
Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



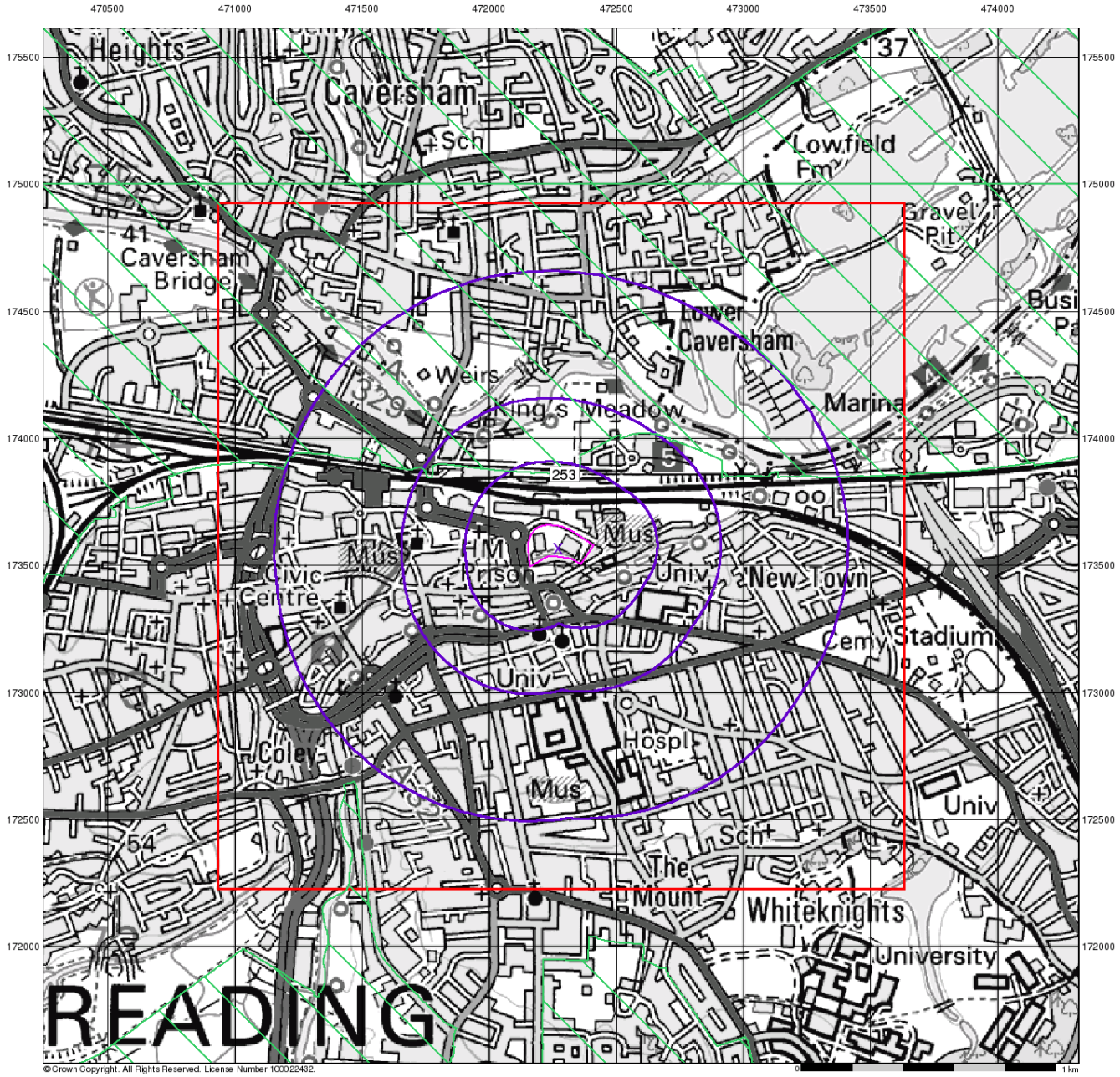
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Sensitive Land Uses

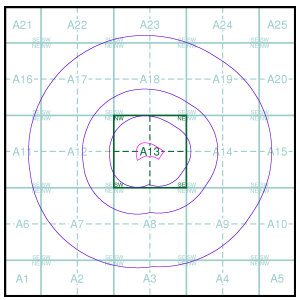
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area

Site Sensitivity Context Map - Slice A



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Appendix II

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

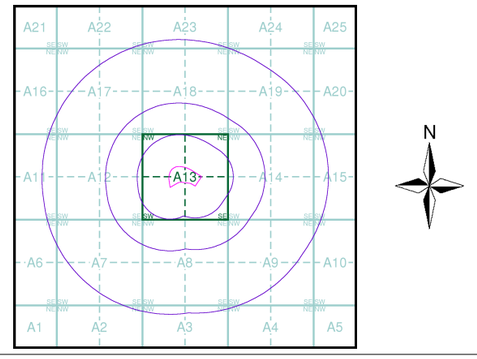
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Oxfordshire	1:10,560	1882	3
Berkshire	1:10,560	1883	4
Oxfordshire	1:10,560	1900	5
Berkshire	1:10,560	1900	6
Oxfordshire	1:10,560	1901	7
Berkshire	1:10,560	1901	8
Berkshire	1:10,560	1913 - 1914	9
Berkshire	1:10,560	1933	10
Berkshire	1:10,560	1938	11
Berkshire	1:10,560	1938	12
Historical Aerial Photography	1:10,560	1948	13
Ordnance Survey Plan	1:10,000	1962	14
Ordnance Survey Plan	1:10,000	1973	15
Ordnance Survey Plan	1:10,000	1979	16
Ordnance Survey Plan	1:10,000	1990	17
Reading	1:10,000	1990	18
Ordnance Survey Plan	1:10,000	1995	19
10K Raster Mapping	1:10,000	2006	20
10K Raster Mapping	1:10,000	2013	21

Historical Map - Slice A



Order Details

Order Number: 47025573_1_1
Customer Ref: DS18848
National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Fireproof Building
- Prominent Fireproof Building
- Non-fireproof Building
- Non-fireproof Building (non-dwelling)
- Factory, mill, and flour mill, with chimneys
- Factory, mill, and flour mill, without chimneys
- Power Station, drawn to scale
- Hydroelectric Power Station
- Radio Station, drawn to scale
- Telephone Station, drawn to scale
- Abandoned Open-pit Mine or Quarry
- Open-pit Salt Mine
- Pit
- Oil Deposit or Well
- Oil Seepage
- Tailings Pile
- Fuel Storage Tanks
- Natural Gas Tank
- Bench Mark
- Drill Hole
- Burial Mound
- Triangulation Point on Burial Mound
- Single-track Railroad
- Double-track Railroad and Station Building
- Coniferous Forest
- Deciduous Forest
- Mixed Forest
- Lawns
- Citrus Orchard
- Wet Ground
- Scattered Vegetation

243,8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0,2 Velocity of the current, width of river bed, depth of river

Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	ъ (–)
Д д (D)	Л л (L)	У у (U)	ы (Y)
Е е (E)	М м (M)	Ф ф (F)	ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual Fireproof Building
- Prominent Industrial Building
- Individual Dwelling, Fireproof
- Ruins of an Individual Dwelling
- Factory or Mill Chimney
- Factory or Mill with Chimney
- Factory or Mill without Chimney
- Mine or Open Pit Mine
- Operating Shaft or Mine
- Non-Operating Shaft or Mine
- Salt Mine
- Tailings Pile
- Pit
- Stone Quarry
- Gas Pump or Service Station
- Fuel Storage or Natural Gas Tank
- Oil or Natural Gas Derrick
- Small Hydroelectric Power Station
- Power Station
- Transformer Station
- Cemetery
- Burial Mound (height in metres)
- Triangulation Point on Burial Mound
- Triangulation Point
- Bench Mark
- Bench Mark (monumented)
- Telegraph Office
- Telephone Station
- Radio Station
- Radio Tower
- Airfield or Seaplane Base
- Landing Strip
- Main Highway
- Highway under Construction
- Improved Dirt Road (former truck road)
- Double-track Railroad with First Class Station
- Dismantled Railroad
- Railroad Under Construction
- Shore Embankment
- River or Ditch with Embankment
- Direction and velocity of current
- Well
- Water Reservoir or Rain Water Pit
- Spring
- Isobath with value
- Heavy (Index) Contour Line
- Contour Line and Value
- Half Contour Line
- Spot Elevation Value
- Coniferous
- Deciduous
- Mixed
- Scrub

Key to Numbers on Mapping

SU77SW_Reading

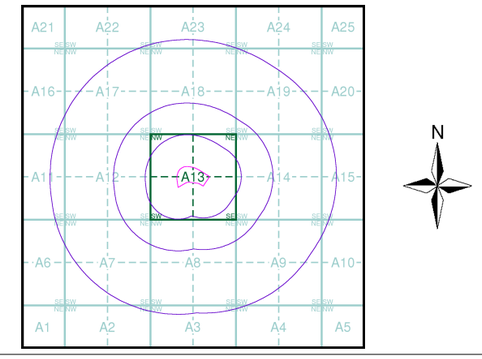
No.	Description
2	Hospital
8	Factory (Gas)
19	Factories (Radio Electronics And Electro Technical)
25	Education Establishment (College)
26	Police Station/Headquarters
28	Post Office
41	Railway Station (Freight And Passenger)
57	Prison
59	Education Establishment (University)

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Historical Mapping & Photography included:

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Oxfordshire	1:10,560	1882	3
Berkshire	1:10,560	1883	4
Oxfordshire	1:10,560	1900	5
Berkshire	1:10,560	1900	6
Oxfordshire	1:10,560	1901	7
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10K Raster Mapping	1:10,000	2013	21

Russian Map - Slice A



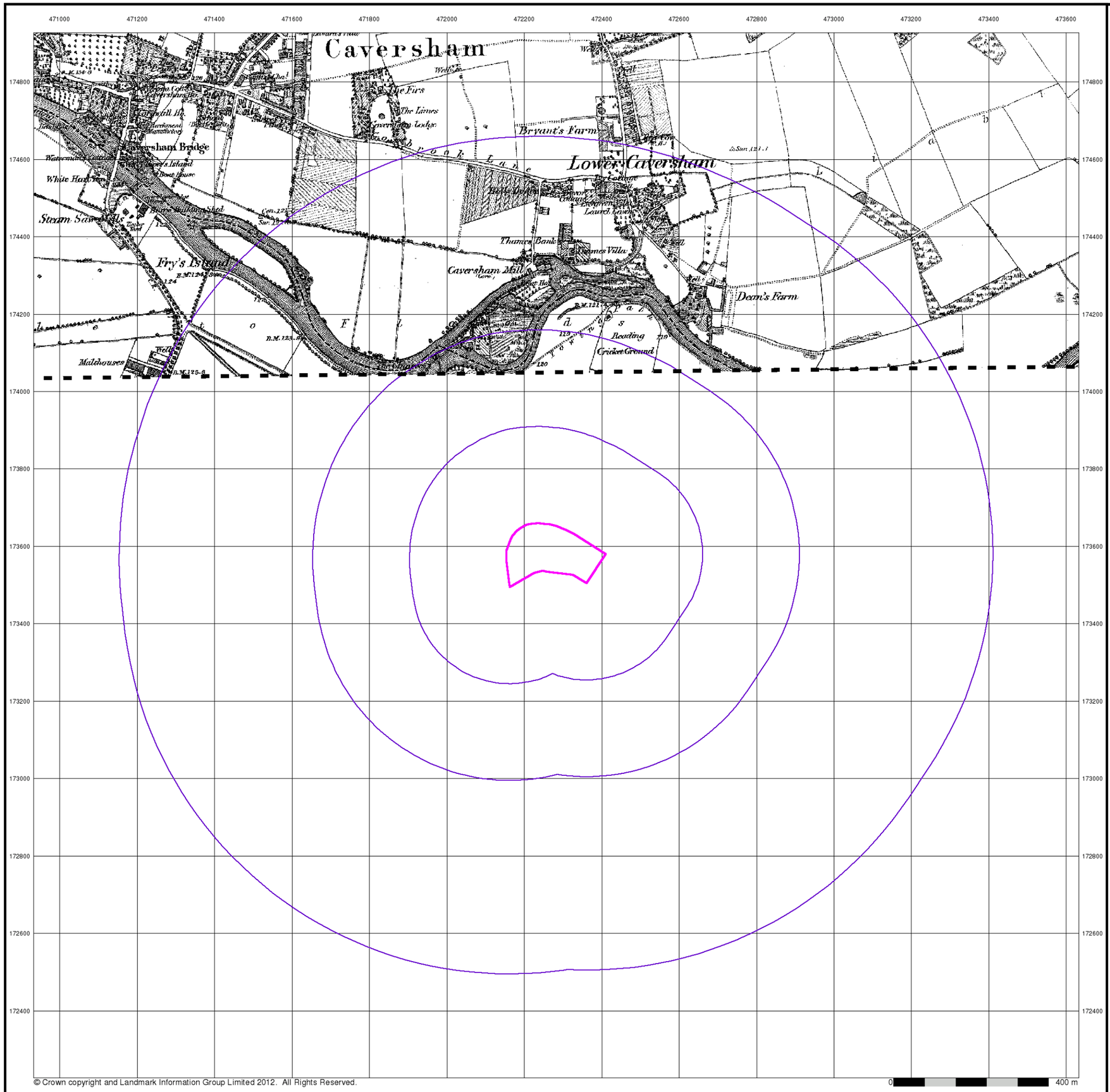
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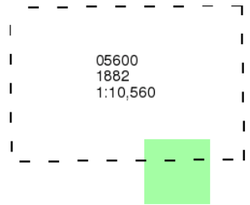
Oxfordshire

Published 1882

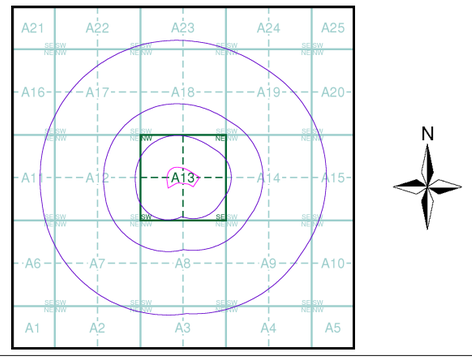
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore 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. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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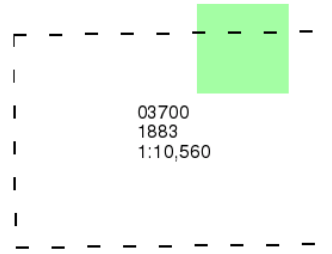
Berkshire

Published 1883

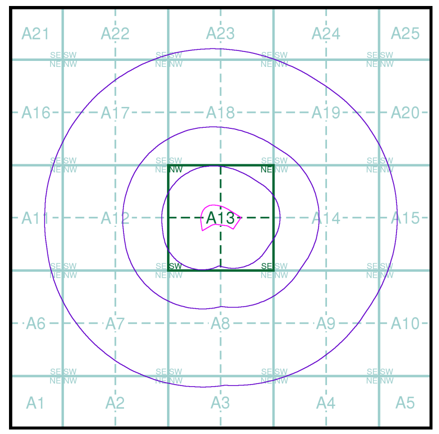
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Map Name(s) and Date(s)



Historical Map - Slice A



N

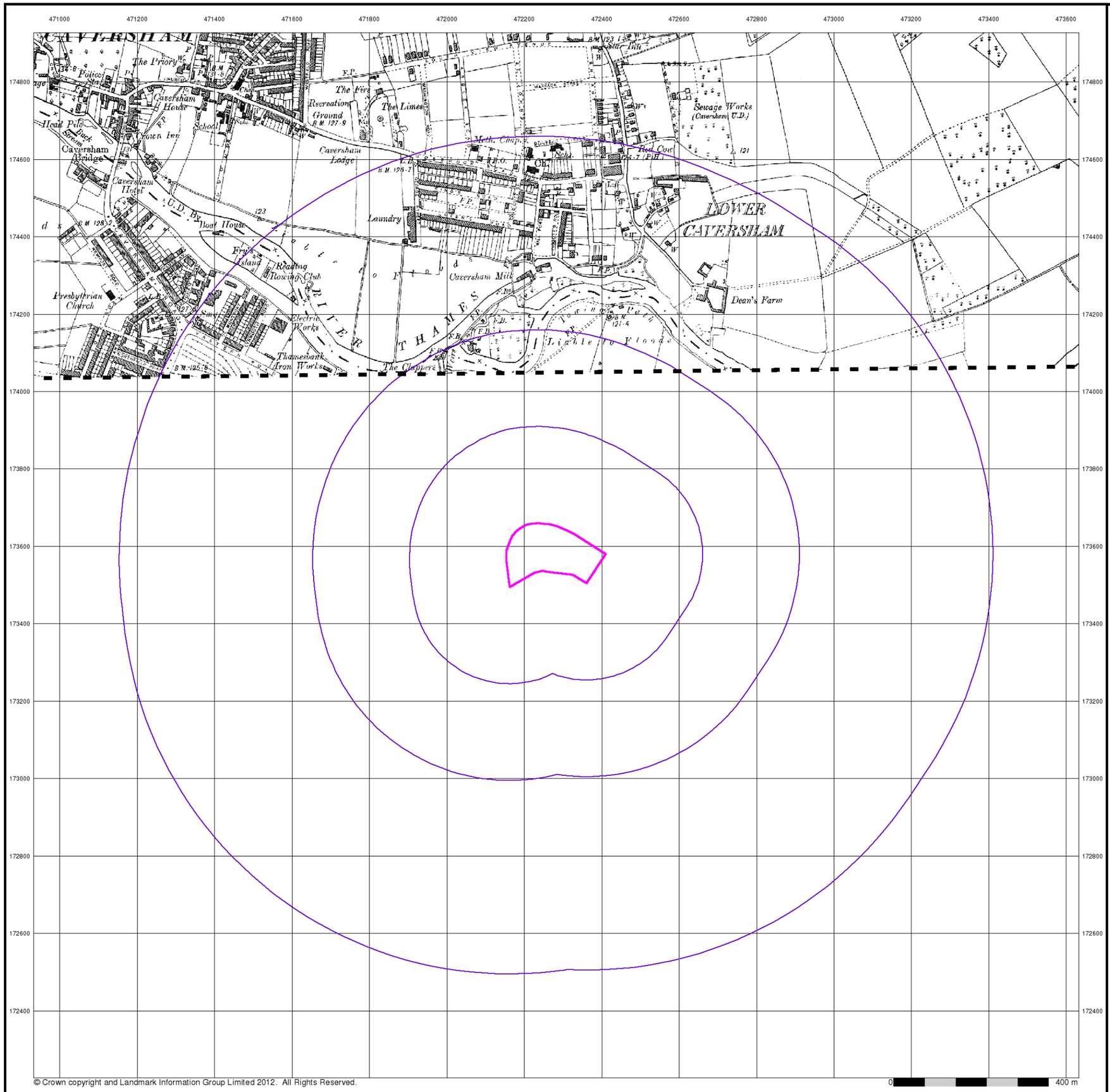
Order Details

Order Number: 47025573_1_1
Customer Ref: DS18848
National Grid Reference: 472270, 173570
Slice: A
Site Area (Ha): 2.74
Search Buffer (m): 1000

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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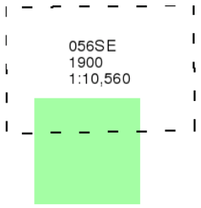
Oxfordshire

Published 1900

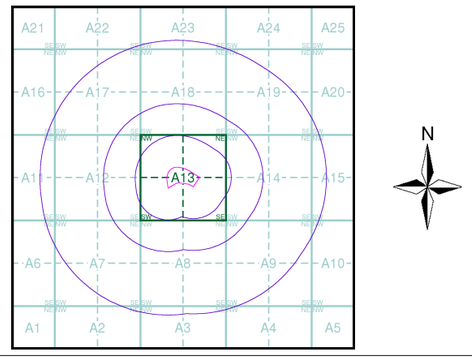
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore 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. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



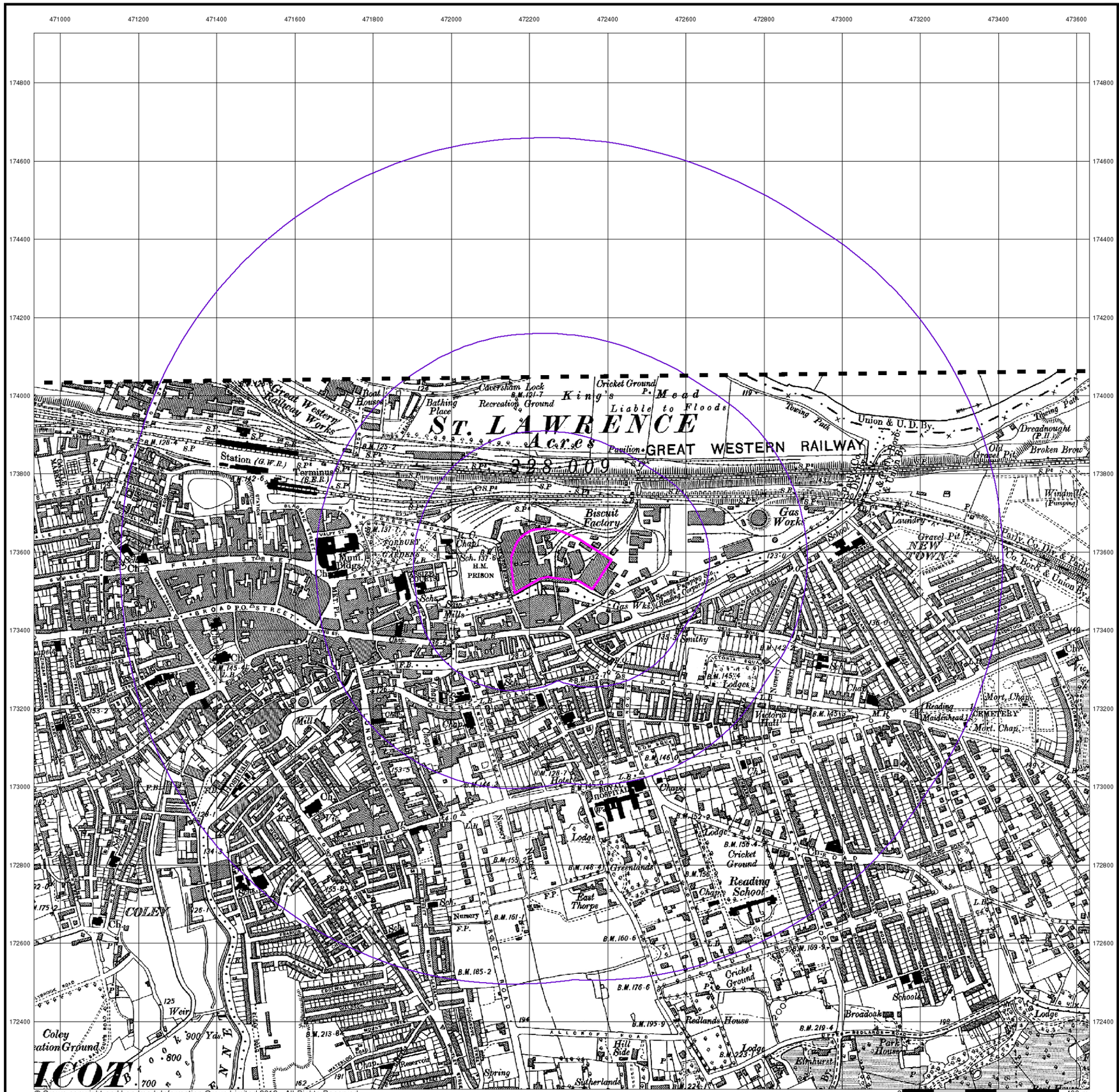
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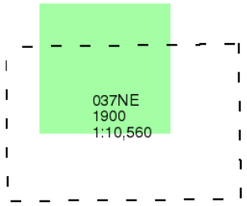
Berkshire

Published 1900

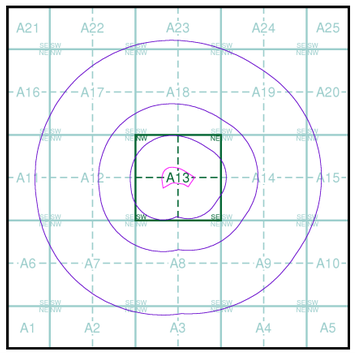
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

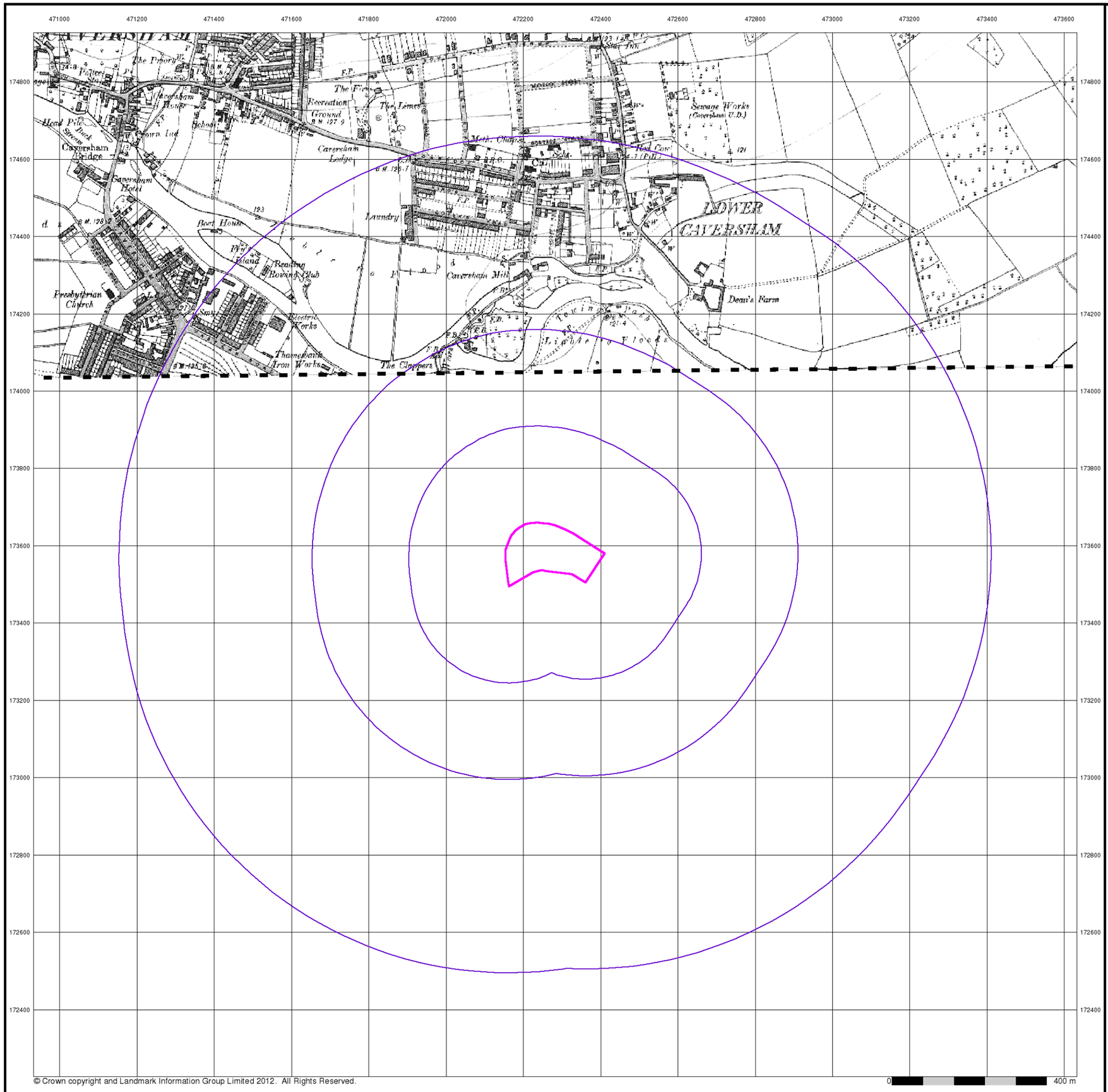
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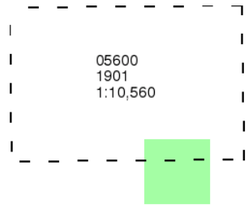
Oxfordshire

Published 1901

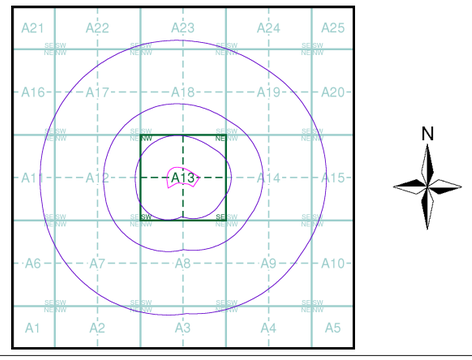
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



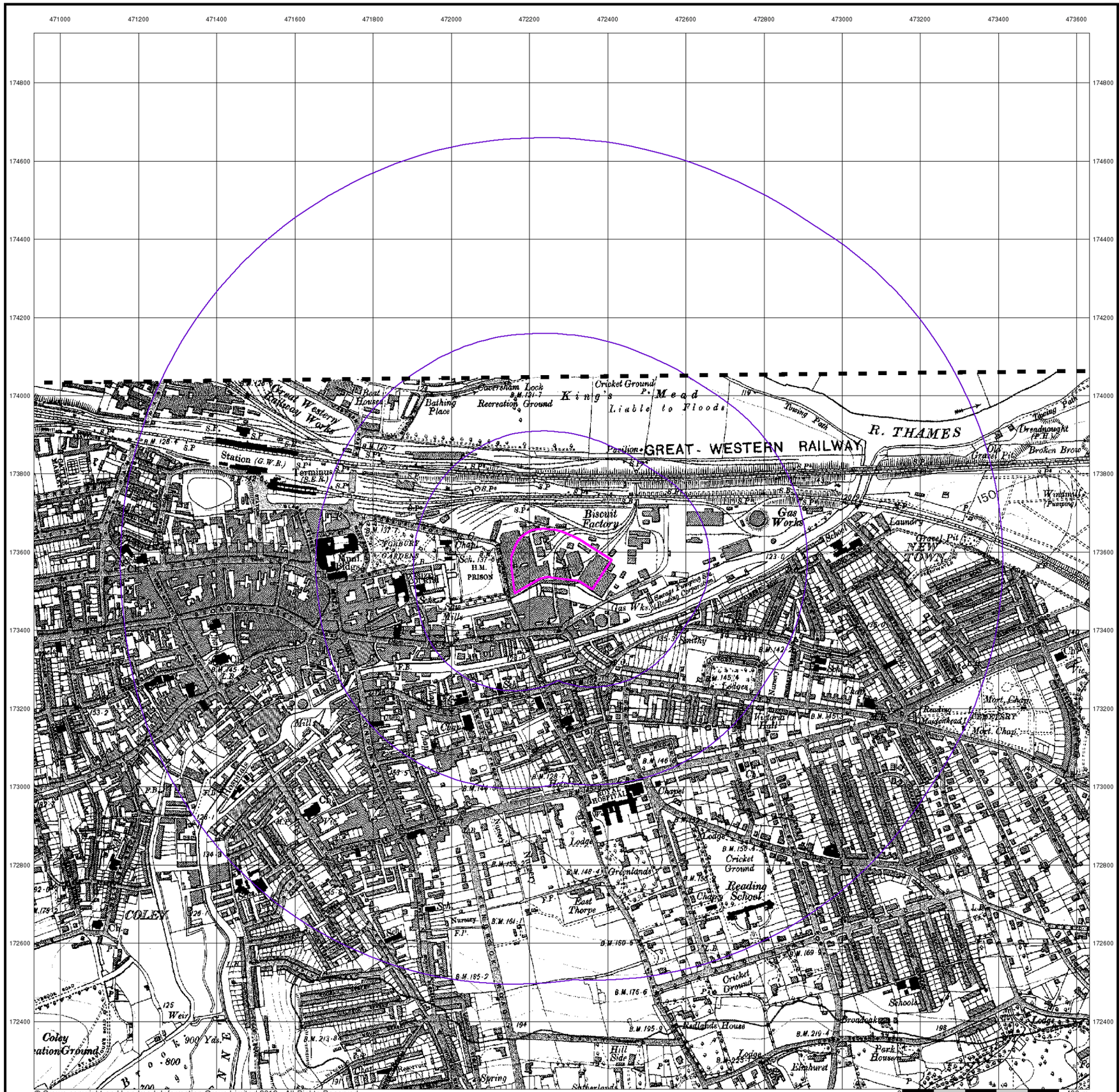
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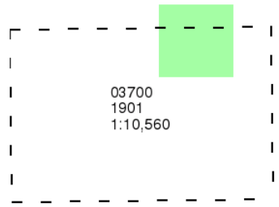
Berkshire

Published 1901

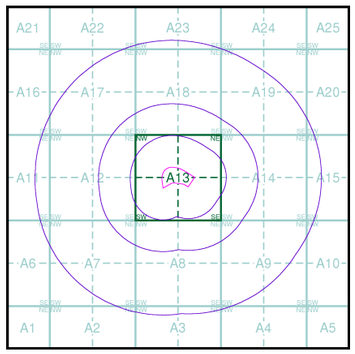
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



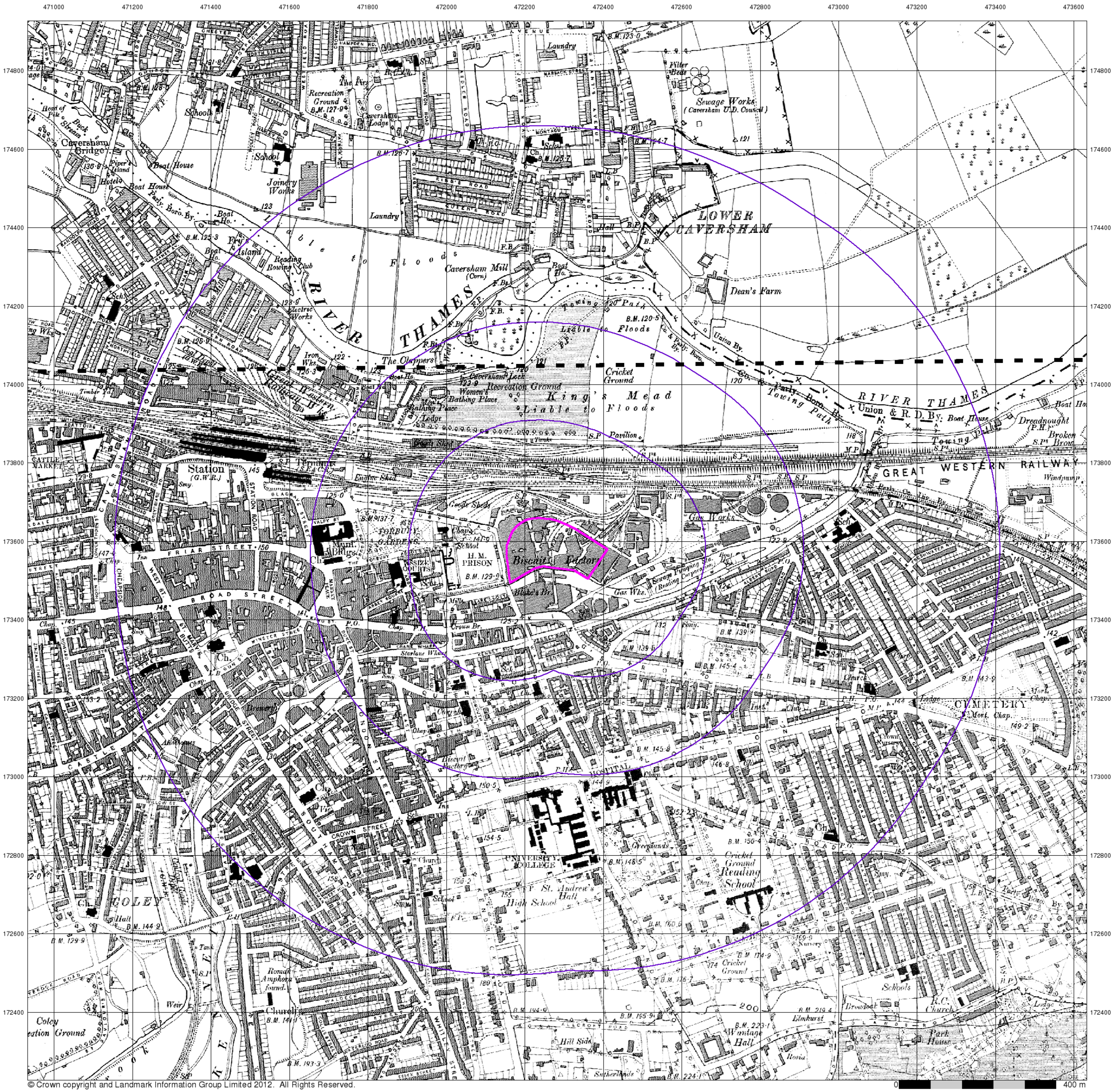
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Berkshire

Published 1913 - 1914

Source map scale - 1:10,560

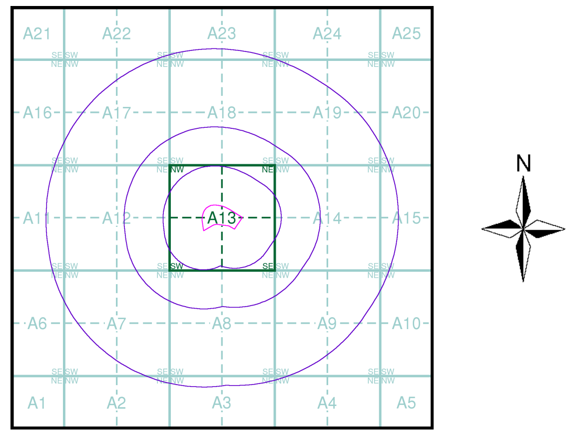
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Map Name(s) and Date(s)

029SE
1914
1:10,560

037NE
1913
1:10,560

Historical Map - Slice A



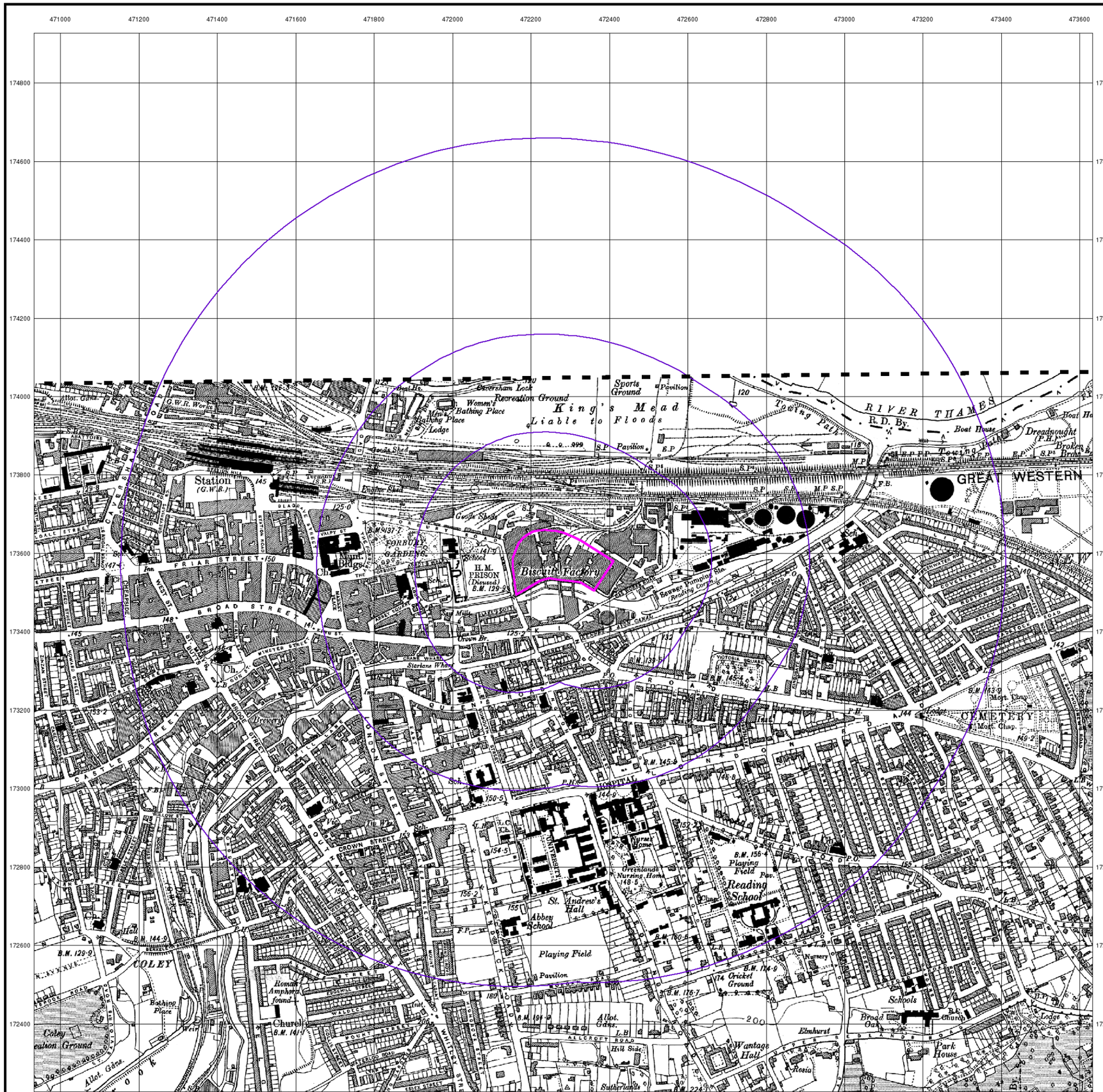
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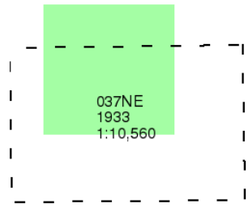
Berkshire

Published 1933

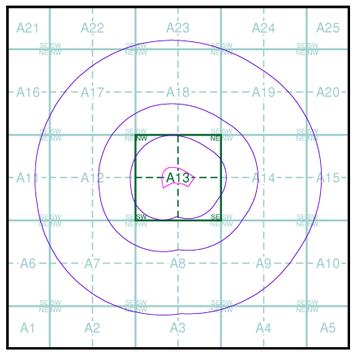
Source map scale - 1:10,560

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; these maps were used to update the 1:10,560 maps. The published date given therefore 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. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

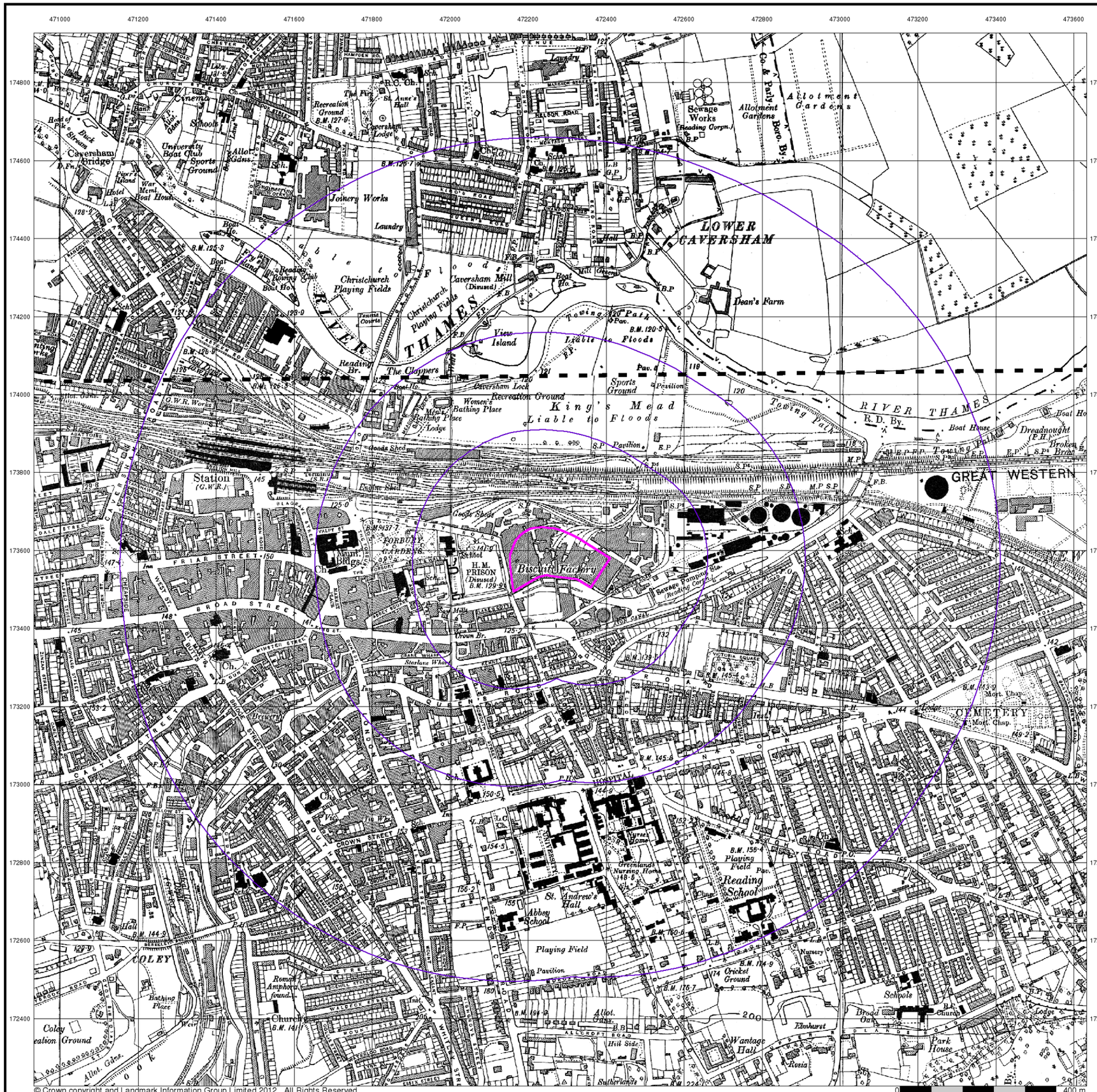
Order Number:	47025573_1_1
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Berkshire

Published 1938

Source map scale - 1:10,560

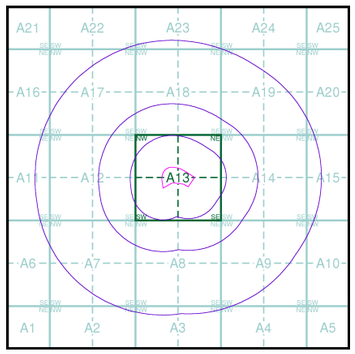
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Map Name(s) and Date(s)

029SE
1938
1:10,560

037NE
1938
1:10,560

Historical Map - Slice A



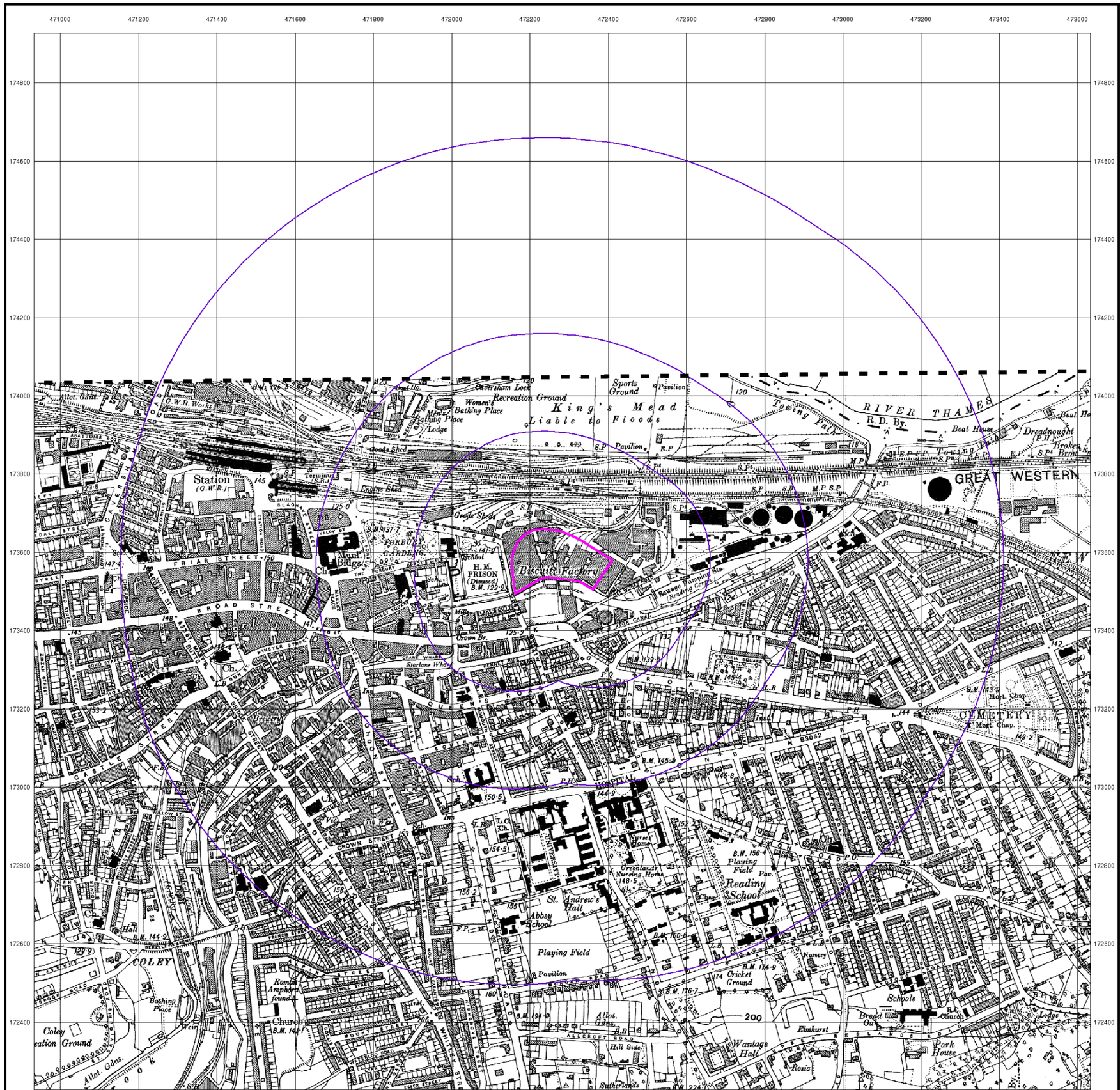
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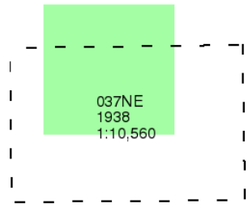
Berkshire

Published 1938

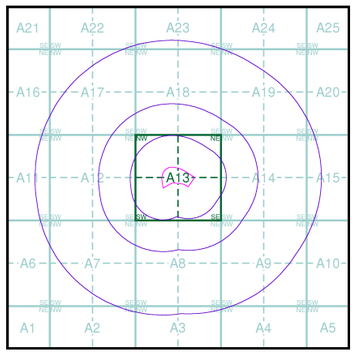
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Map Name(s) and Date(s)



Historical Map - Slice A



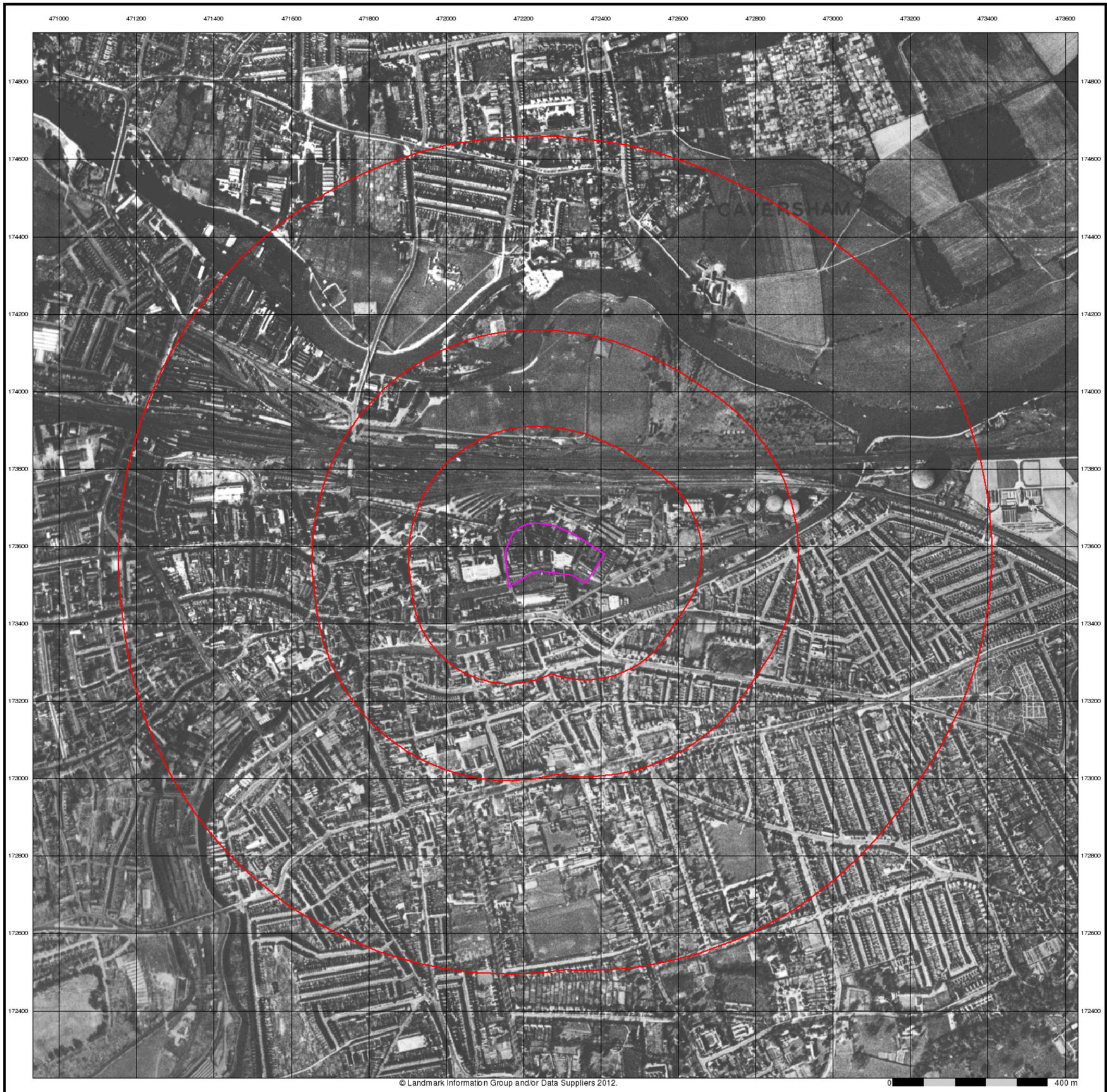
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Historical Aerial Photography

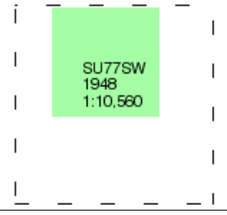
Published 1948

Source map scale - 1:10,560

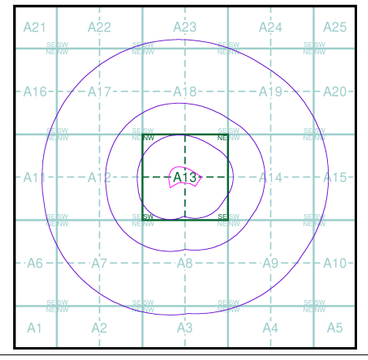
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



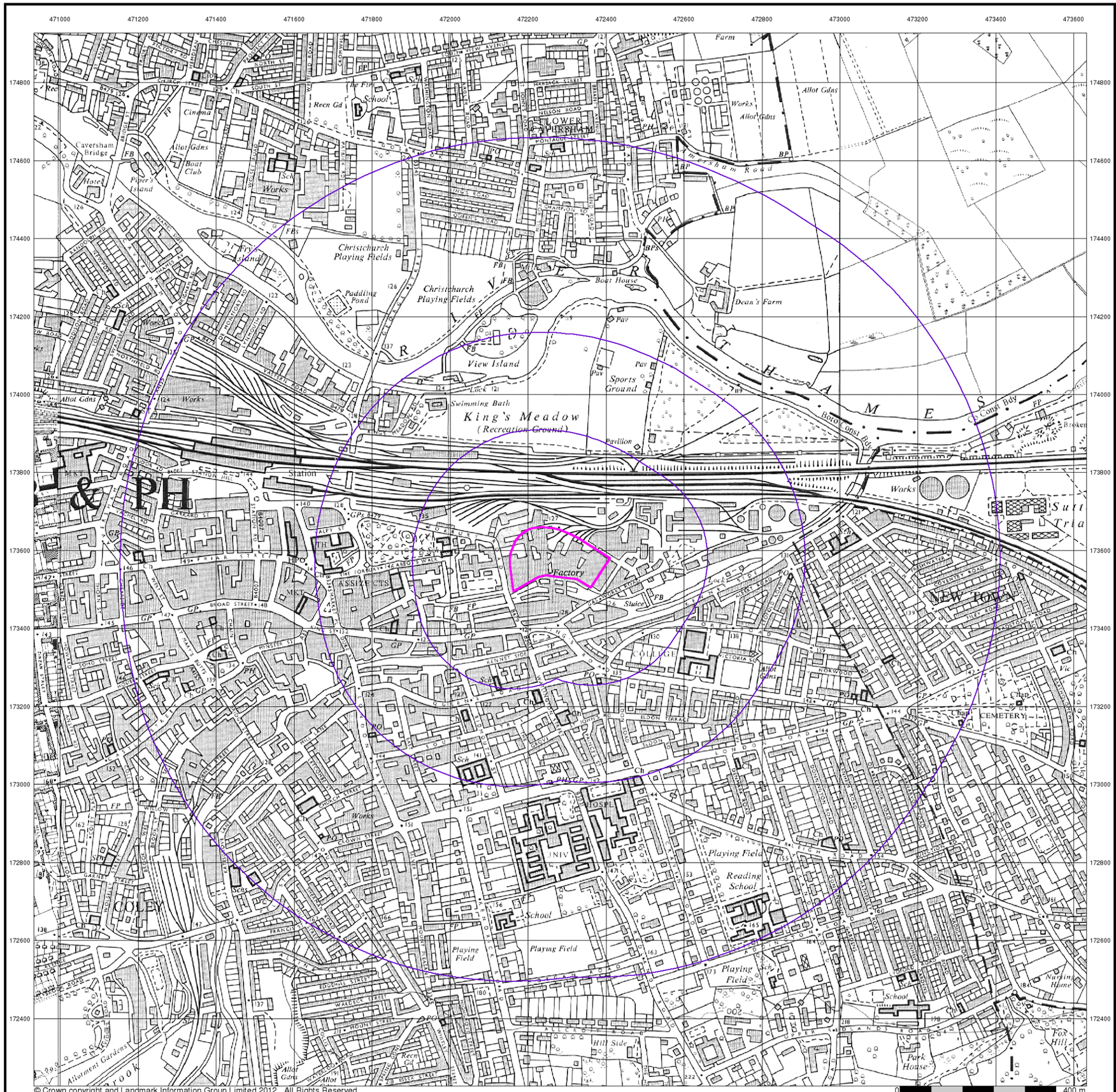
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Ordnance Survey Plan

Published 1962

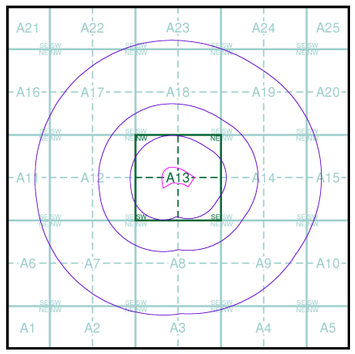
Source map scale - 1:10,000

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Map Name(s) and Date(s)

SU77SW
1962
1:10,560

Historical Map - Slice A



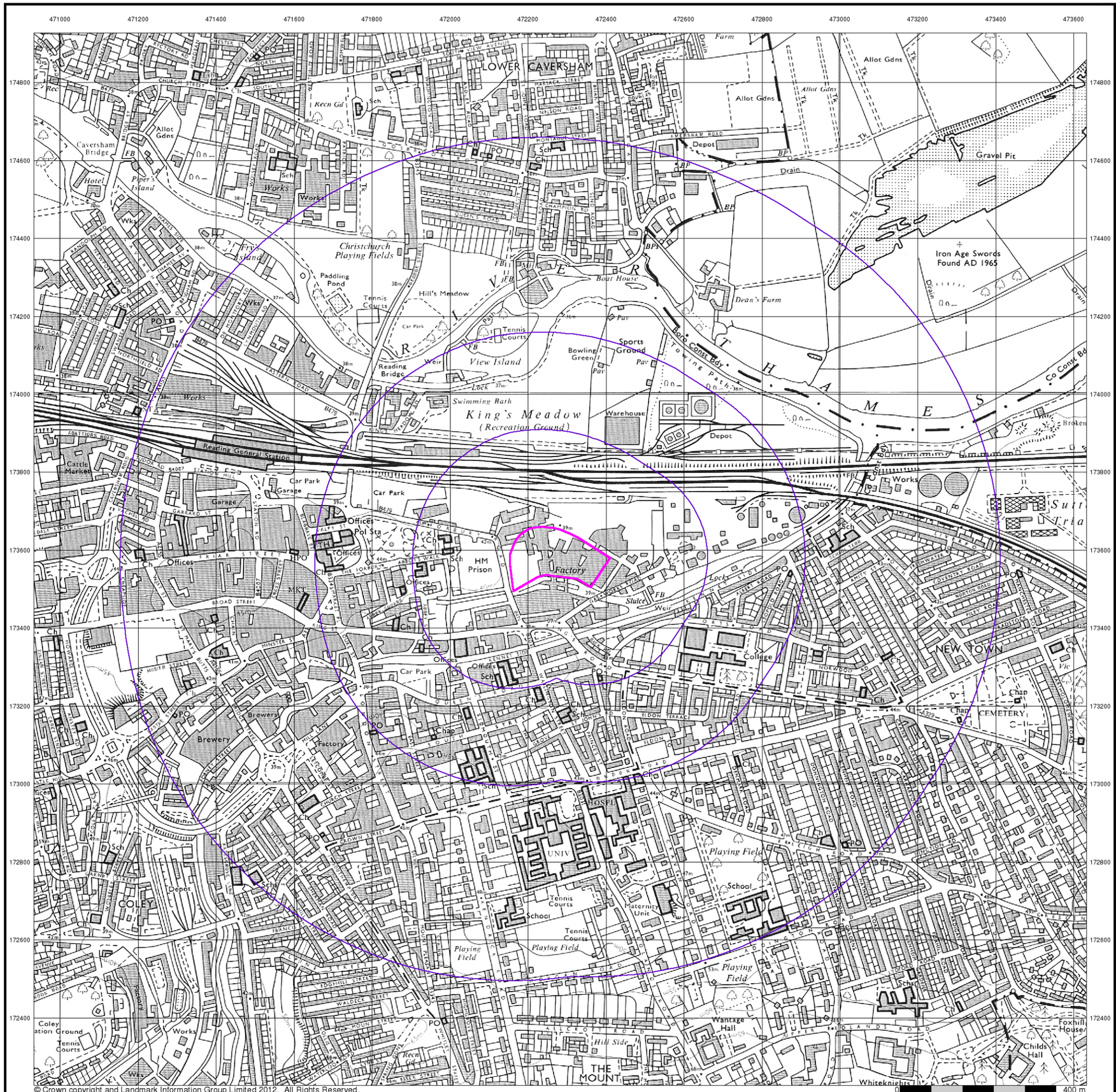
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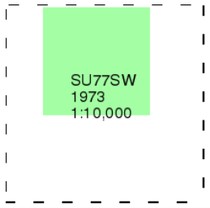
Ordnance Survey Plan

Published 1973

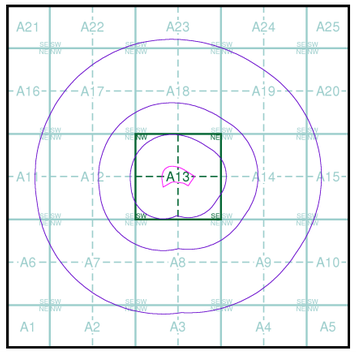
Source map scale - 1:10,000

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; these maps were used to update the 1:10,560 maps. The published date given therefore 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. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



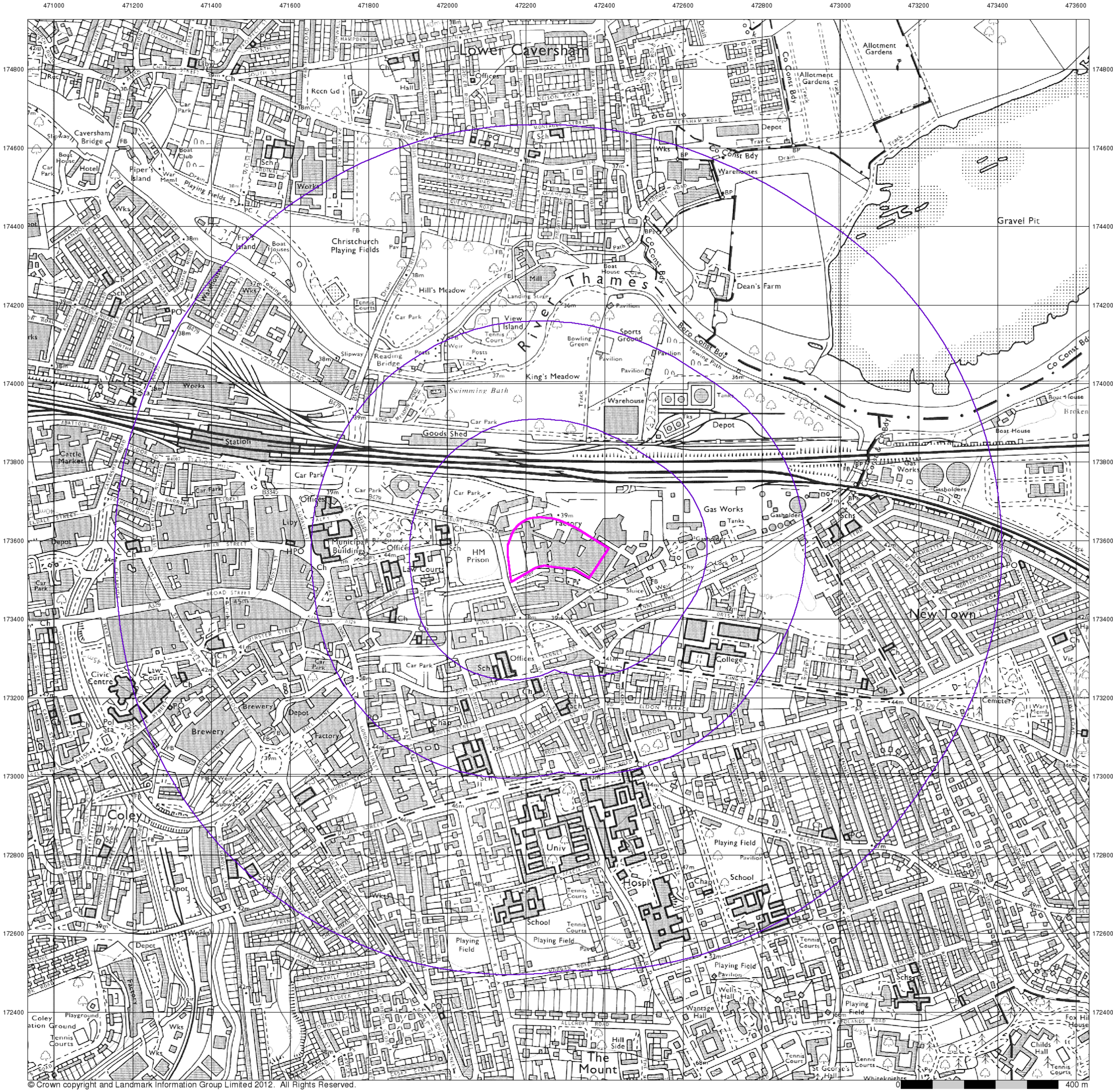
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Order Number:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	1000

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

Landmark Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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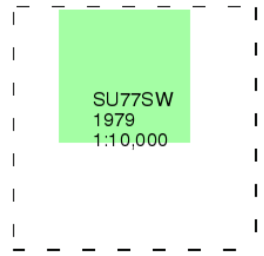
Ordnance Survey Plan

Published 1979

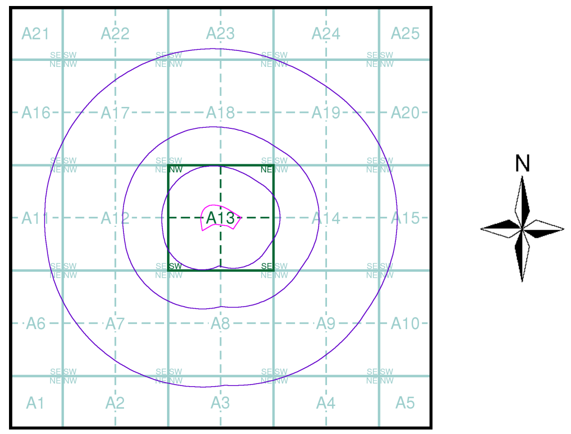
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

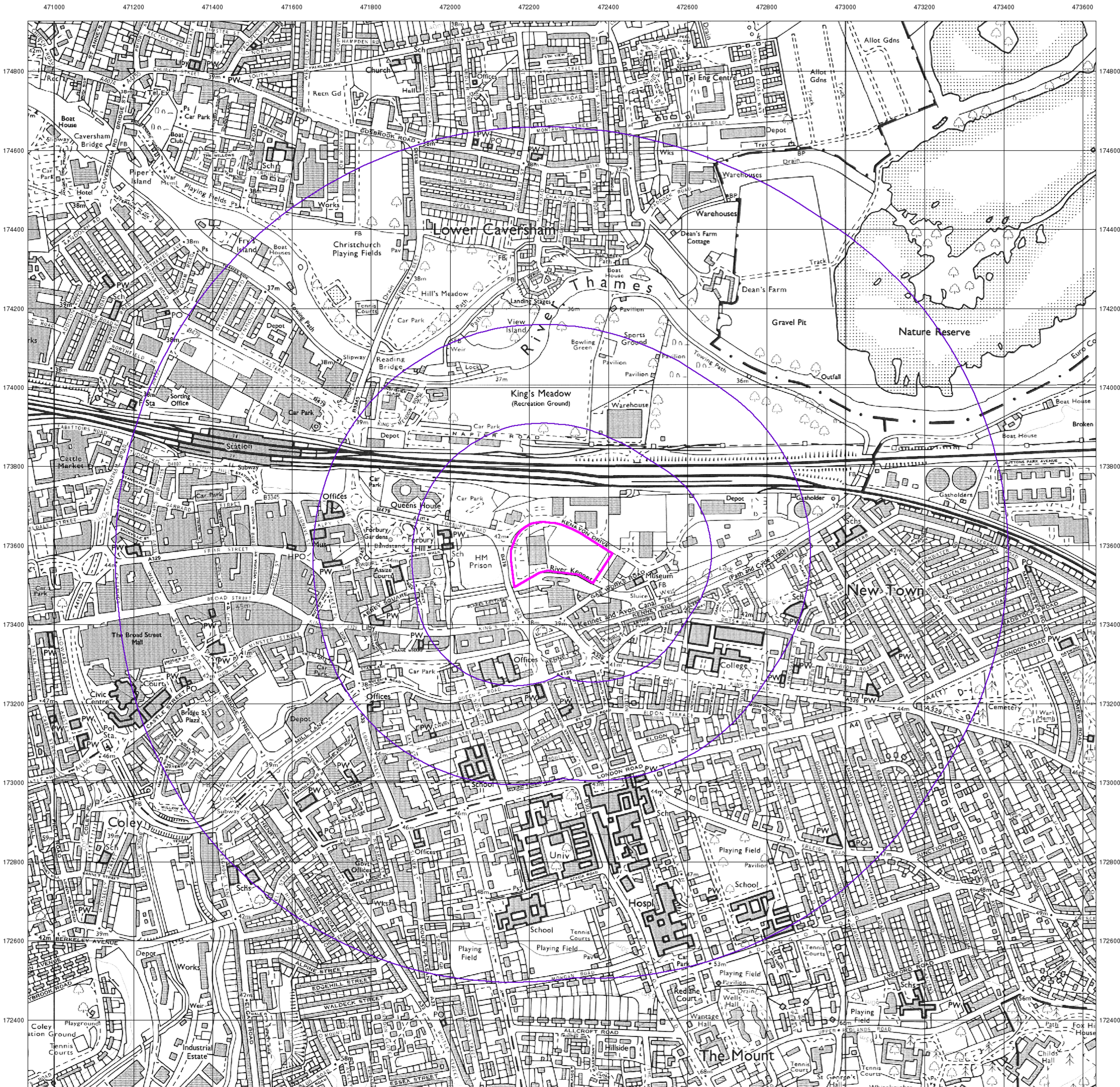
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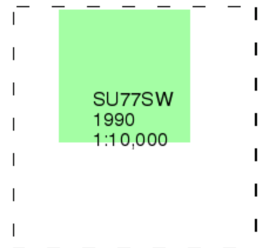
Ordnance Survey Plan

Published 1990

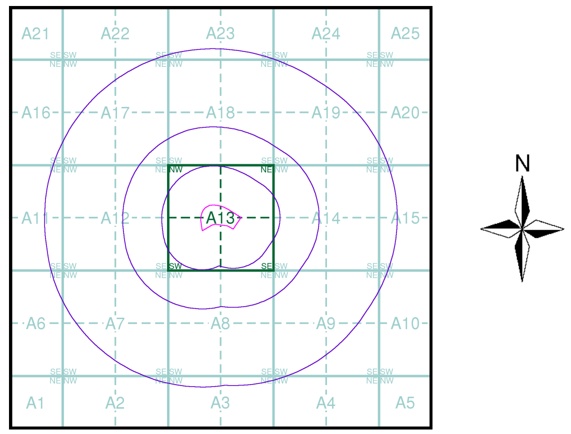
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



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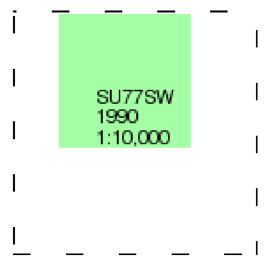
Reading

Published 1990

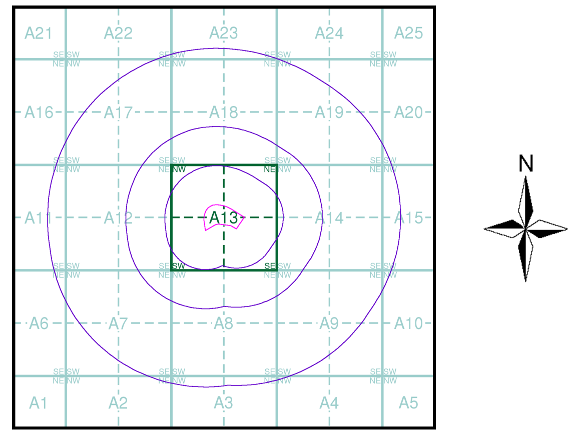
Source map scale - 1:10,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.
They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



Order Details

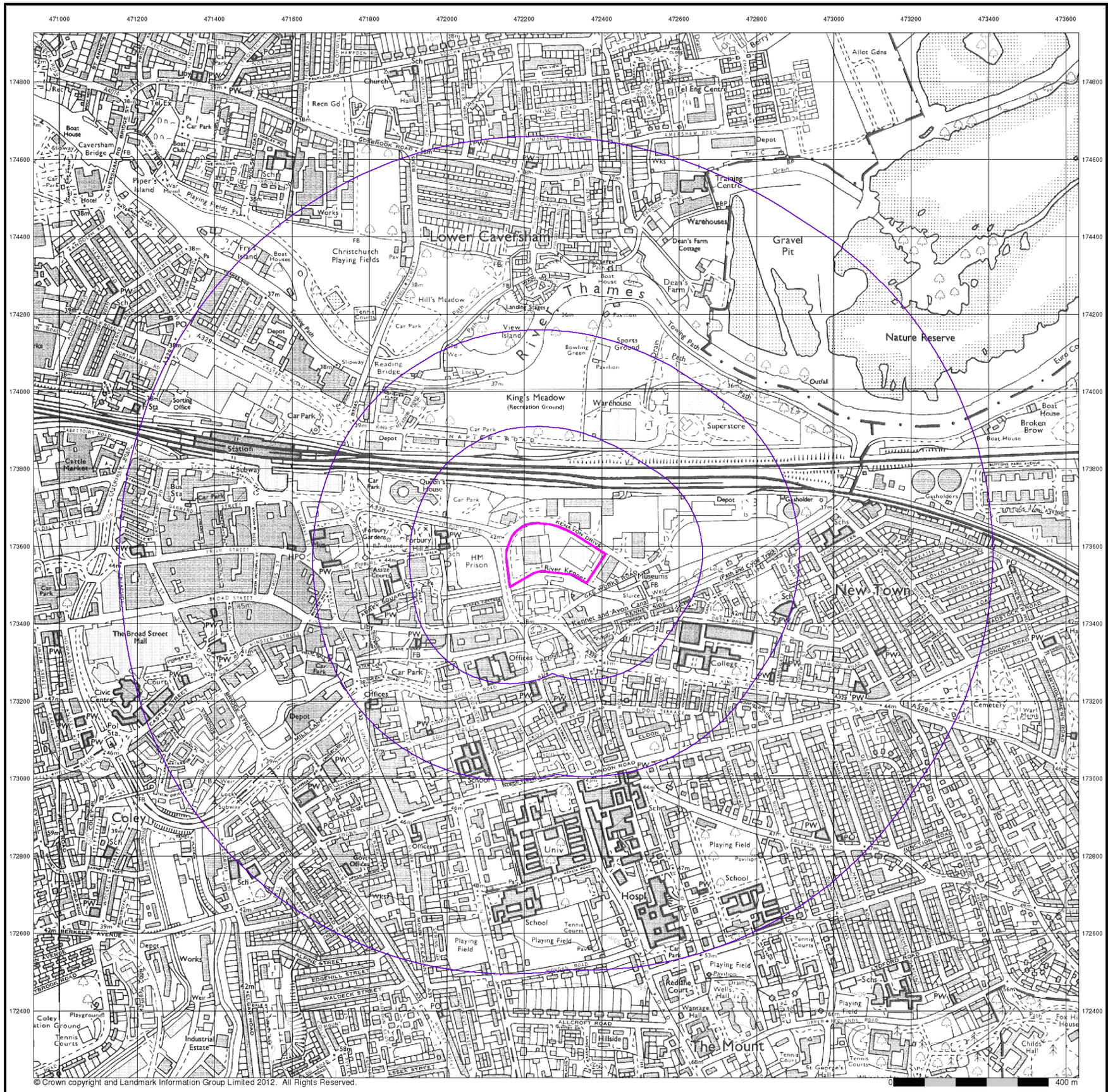
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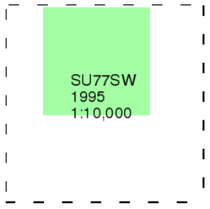
Ordnance Survey Plan

Published 1995

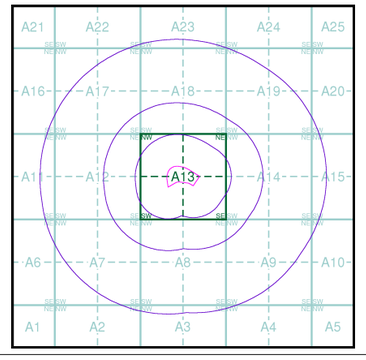
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



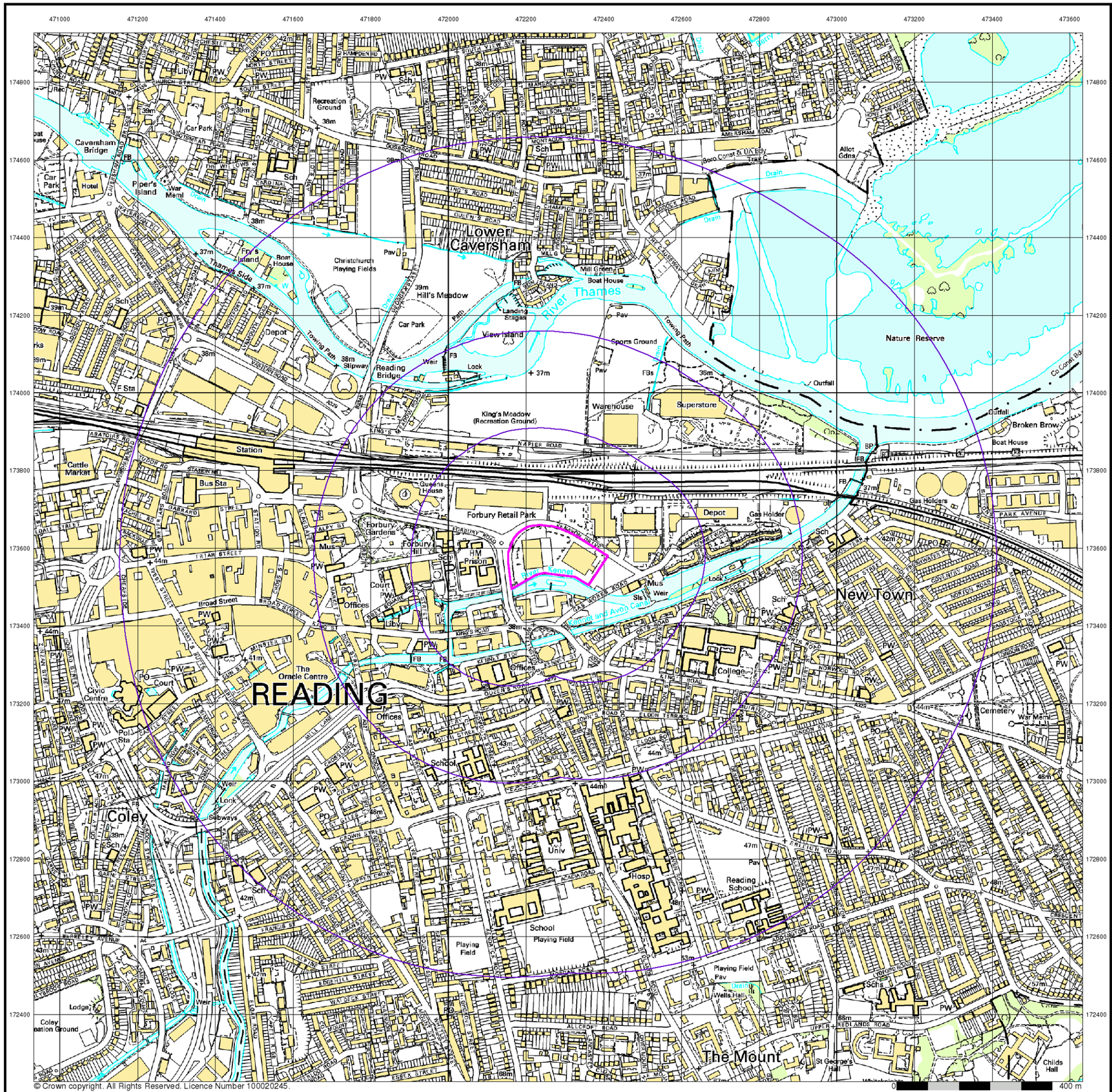
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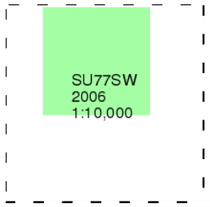
10k Raster Mapping

Published 2006

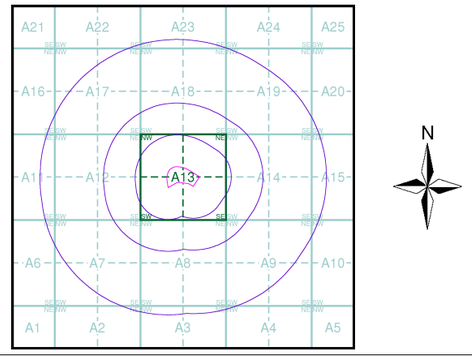
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



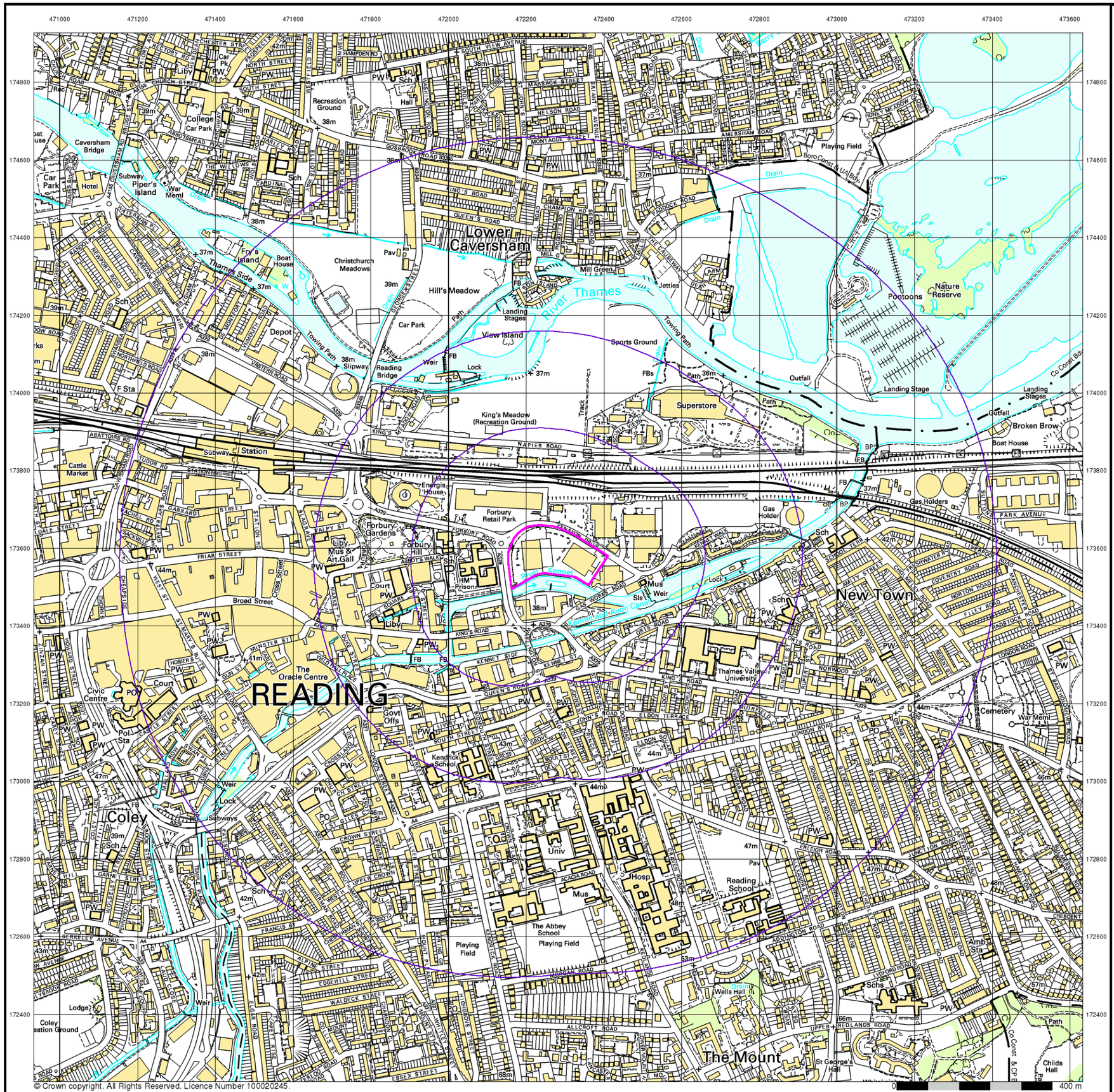
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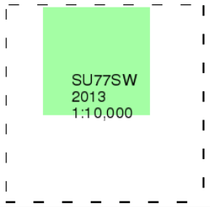
10k Raster Mapping

Published 2013

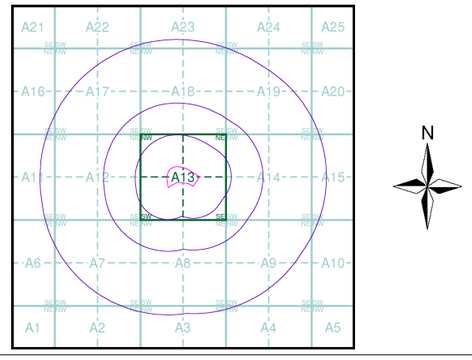
Source map scale - 1:10,000

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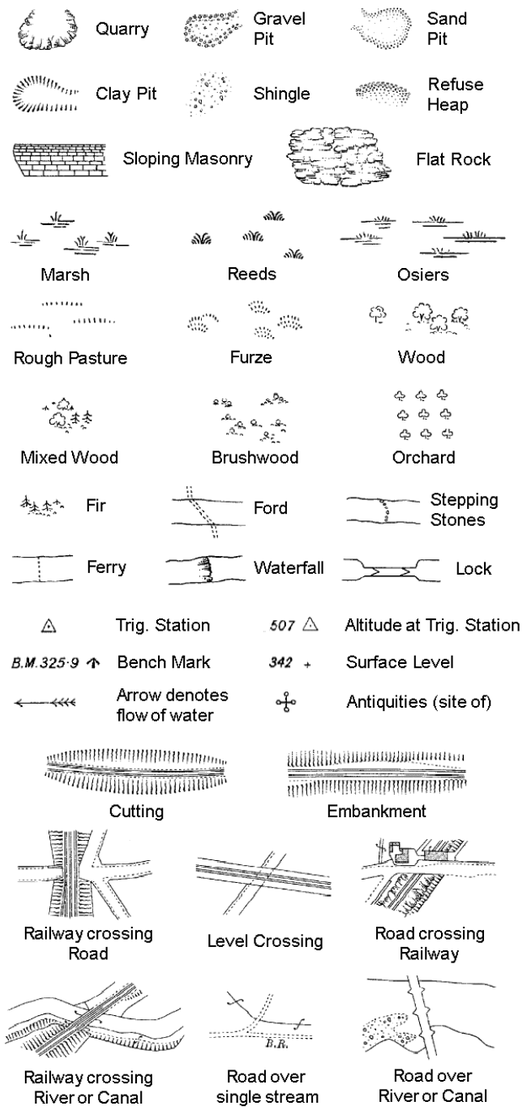
Site Details

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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

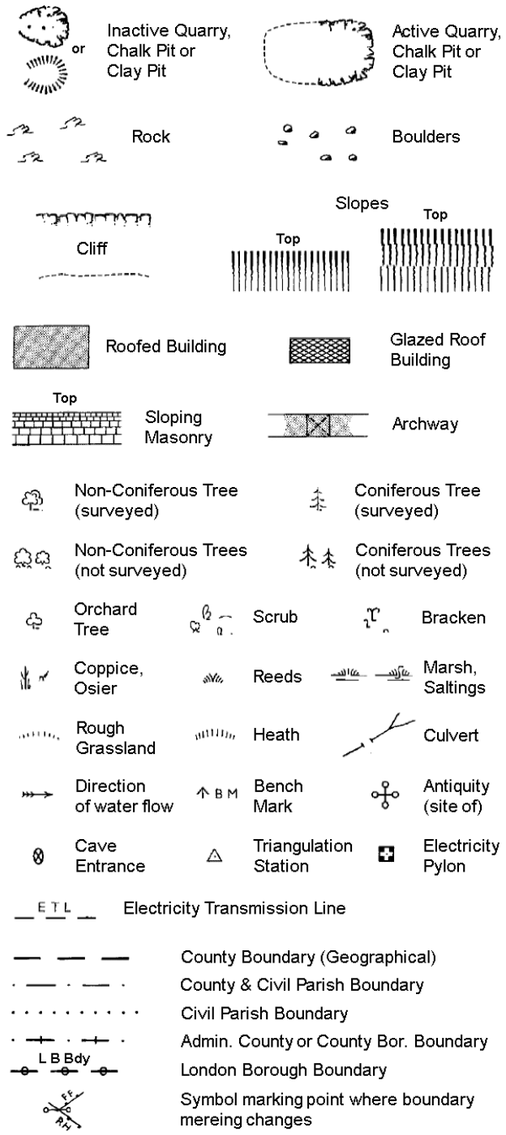
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

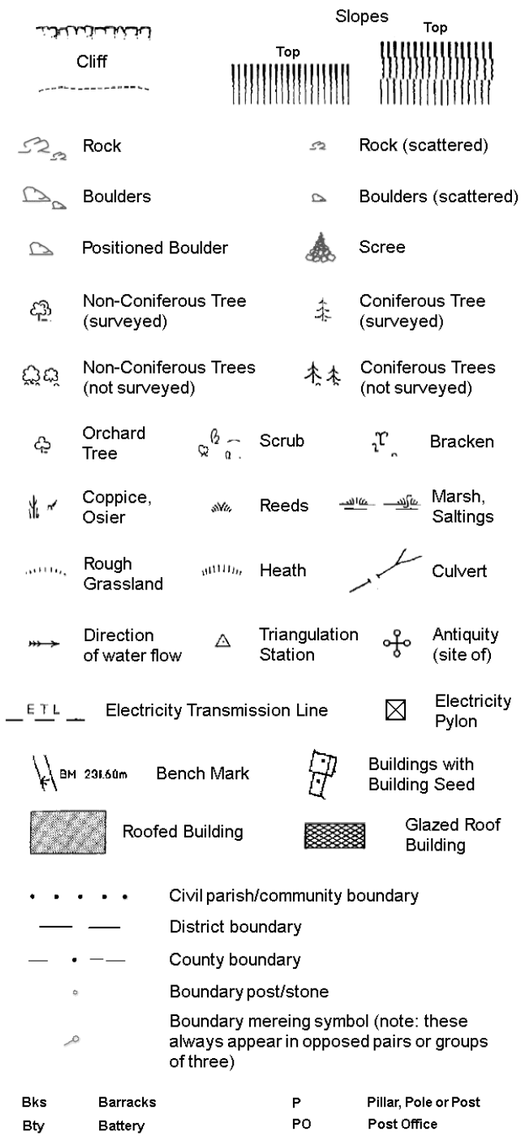
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

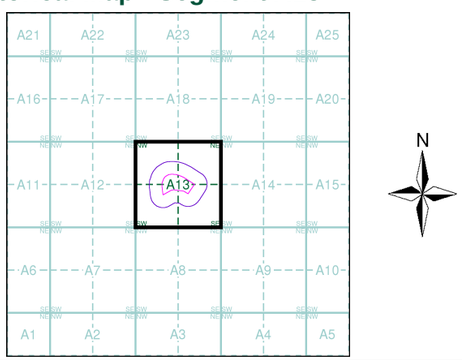
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Berkshire	1:2,500	1879	2
Berkshire	1:2,500	1899	3
Berkshire	1:2,500	1912	4
Berkshire	1:2,500	1931	5
Ordnance Survey Plan	1:1,250	1957	6
Additional SIMs	1:1,250	1957 - 1989	7
Ordnance Survey Plan	1:2,500	1961	8
Ordnance Survey Plan	1:1,250	1962 - 1973	9
Ordnance Survey Plan	1:1,250	1968 - 1991	10
Additional SIMs	1:1,250	1980 - 1991	11
Additional SIMs	1:1,250	1983 - 1992	12
Ordnance Survey Plan	1:1,250	1986 - 1988	13
Additional SIMs	1:1,250	1986	14
Large-Scale National Grid Data	1:1,250	1993	15
Large-Scale National Grid Data	1:1,250	1996 - 1997	16

Historical Map - Segment A13



Order Details

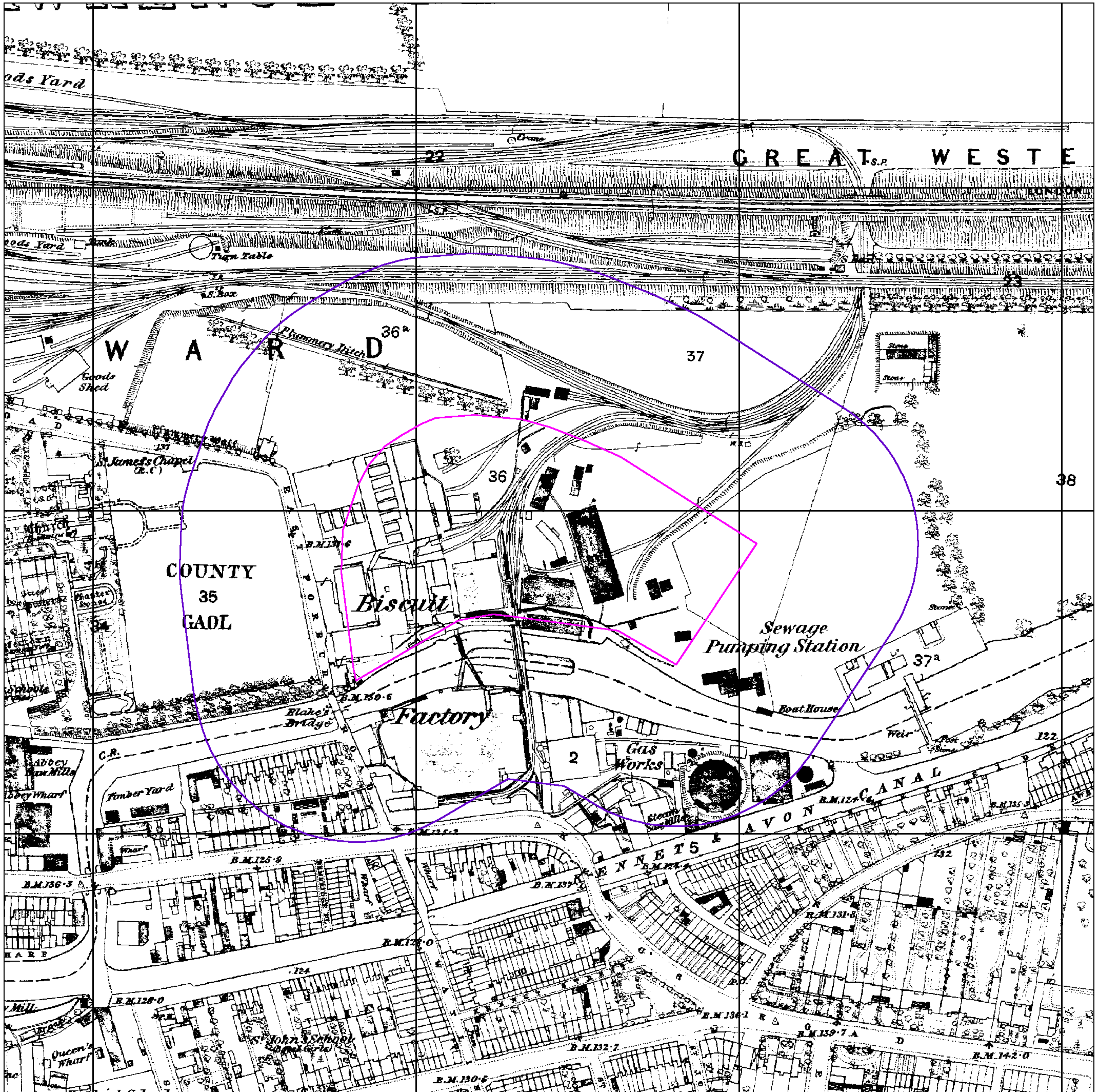
Order Number:	47025573_1_1
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Berkshire

Published 1879

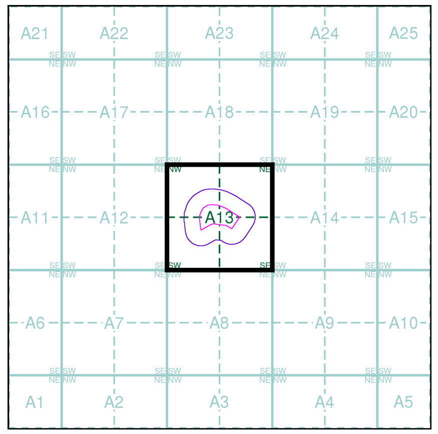
Source map scale - 1:2,500

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Map Name(s) and Date(s)

037_03
1879
1:2,500

Historical Map - Segment A13



Order Details

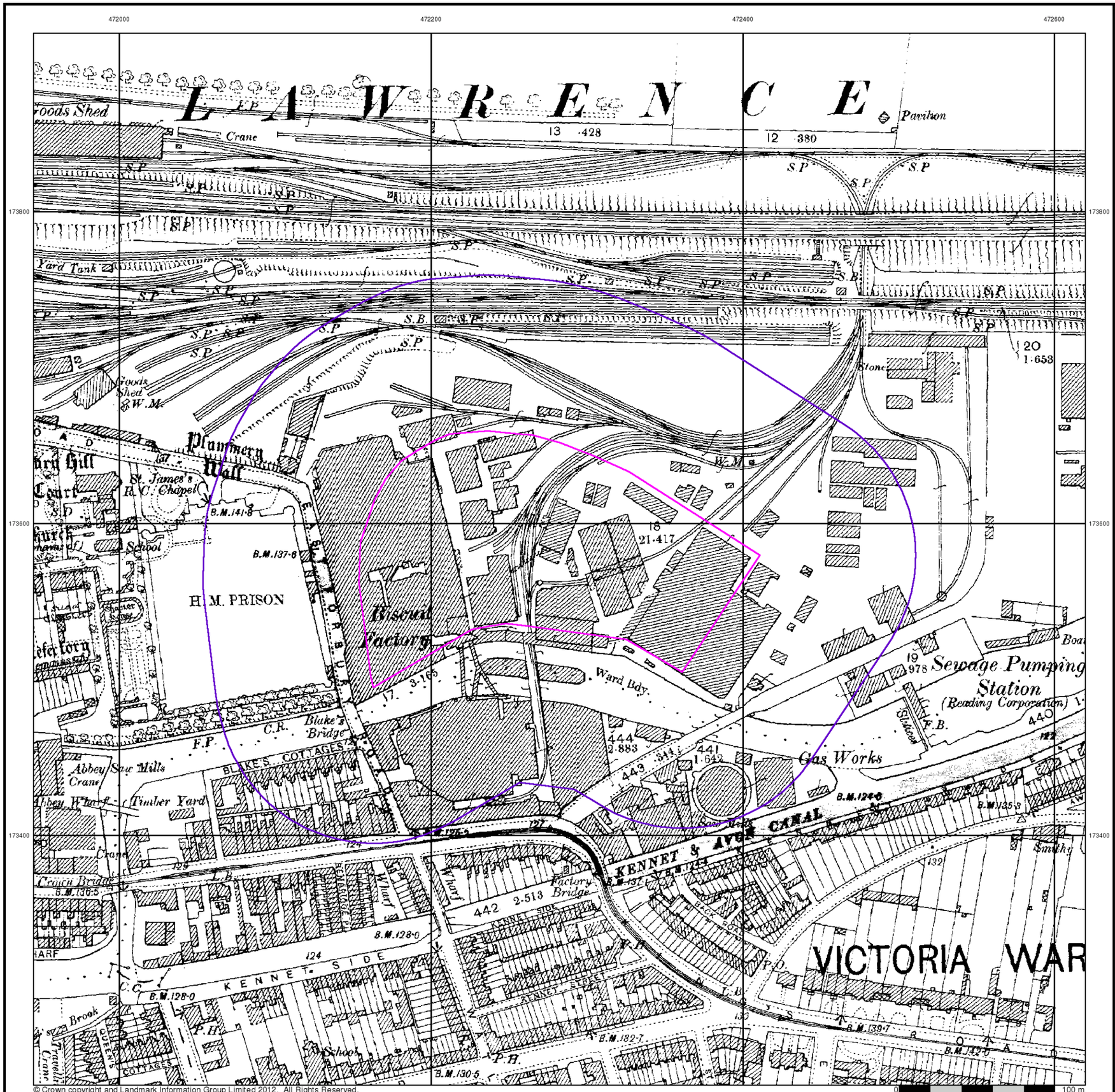
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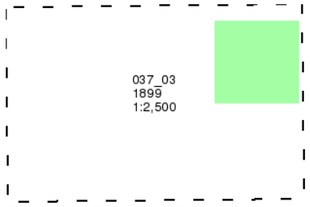
Berkshire

Published 1899

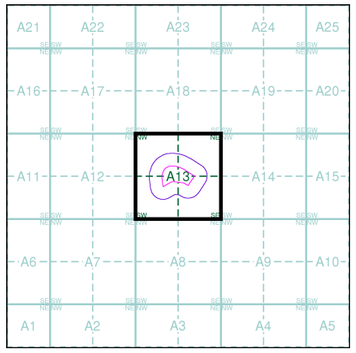
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Historical Map - Segment A13

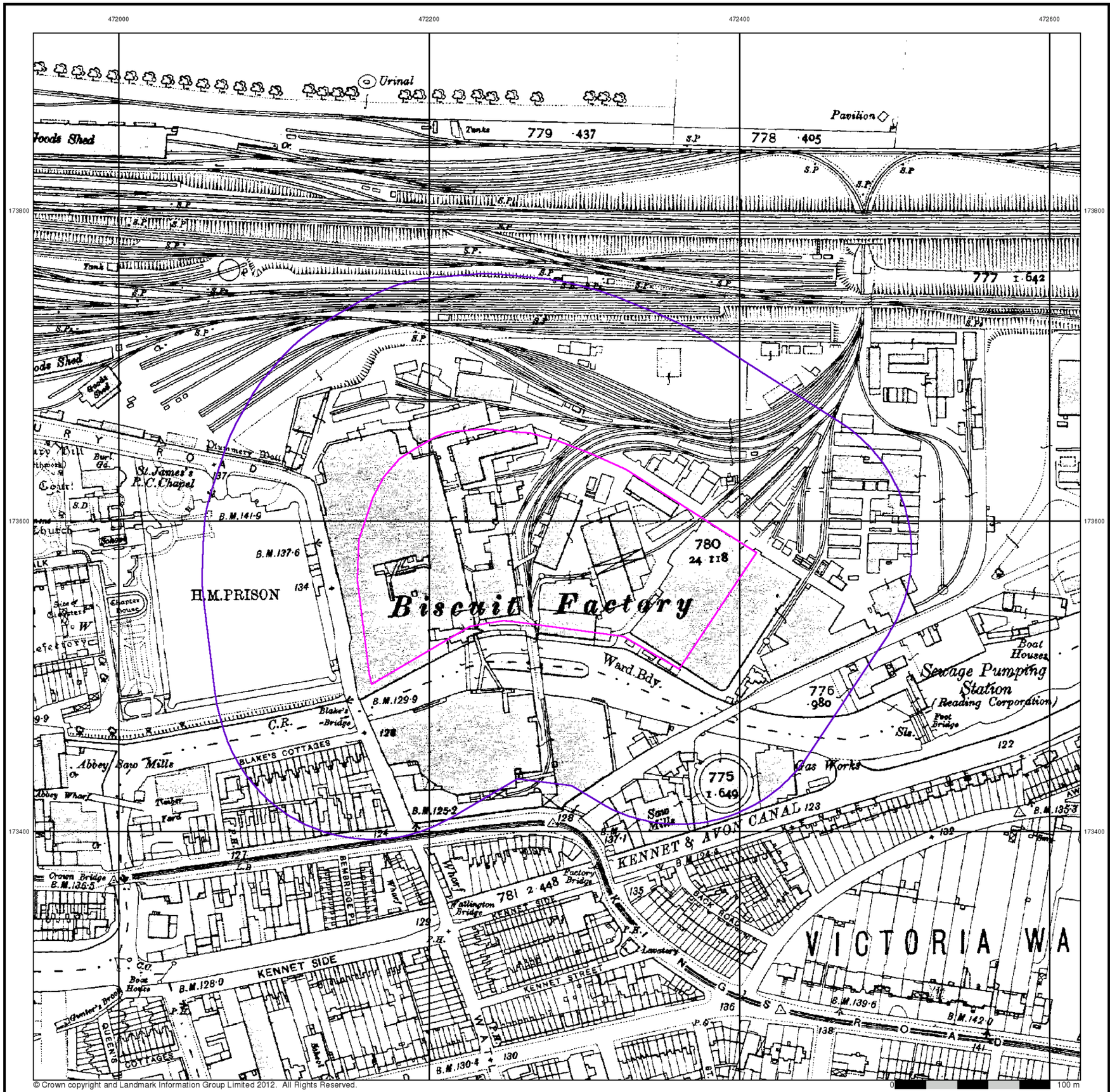


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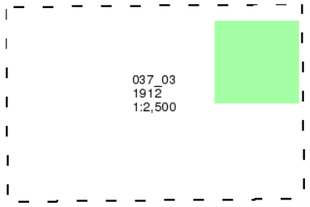
Berkshire

Published 1912

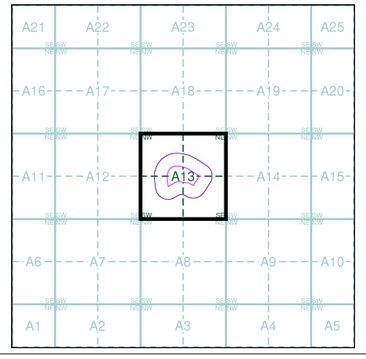
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



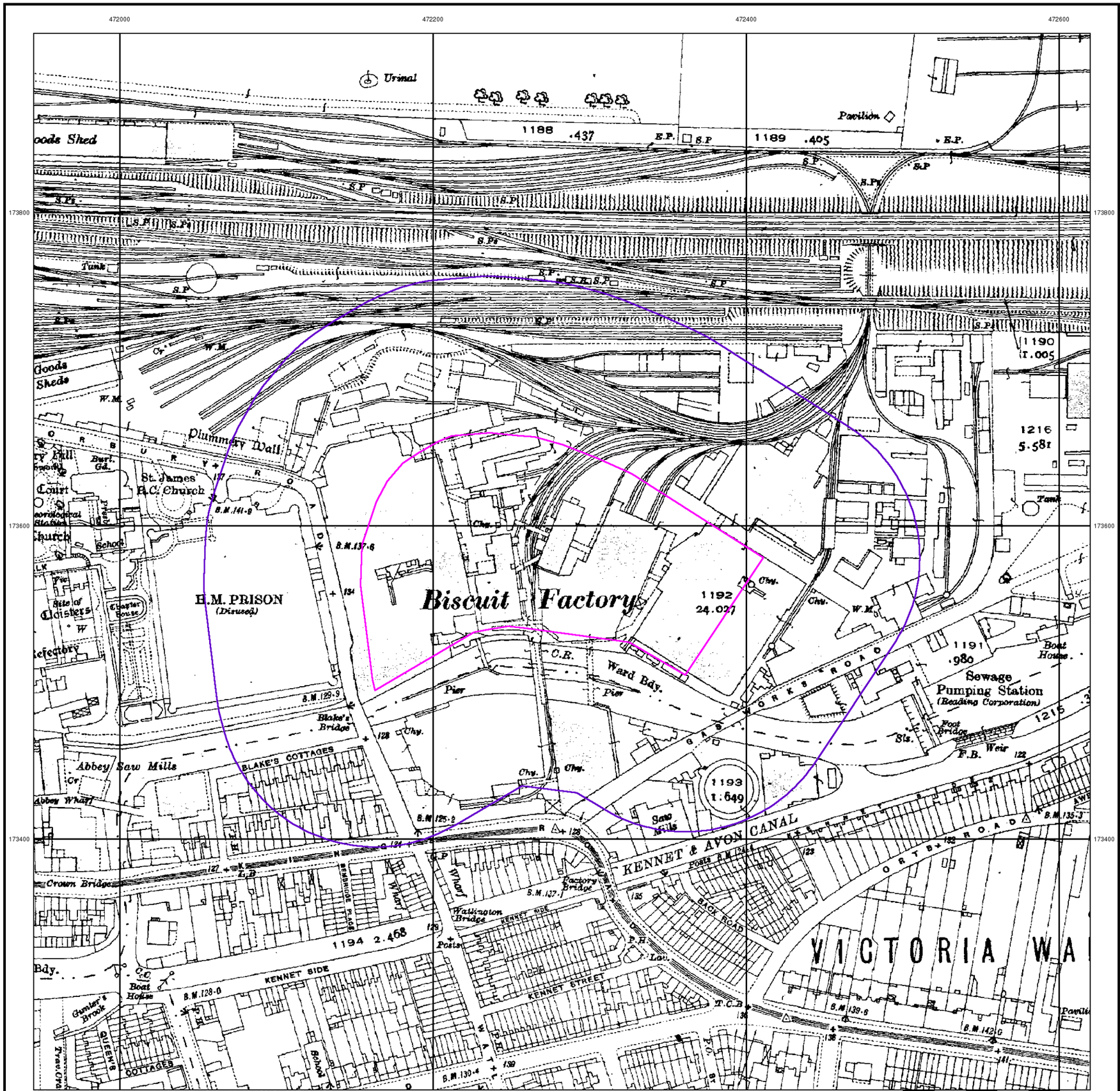
Order Details

Order Number:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	100

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

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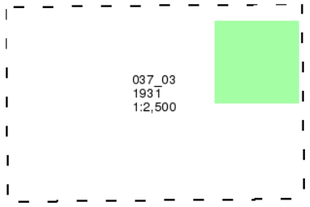
Berkshire

Published 1931

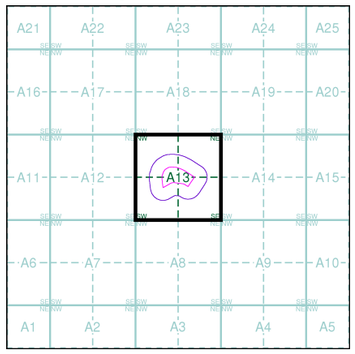
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



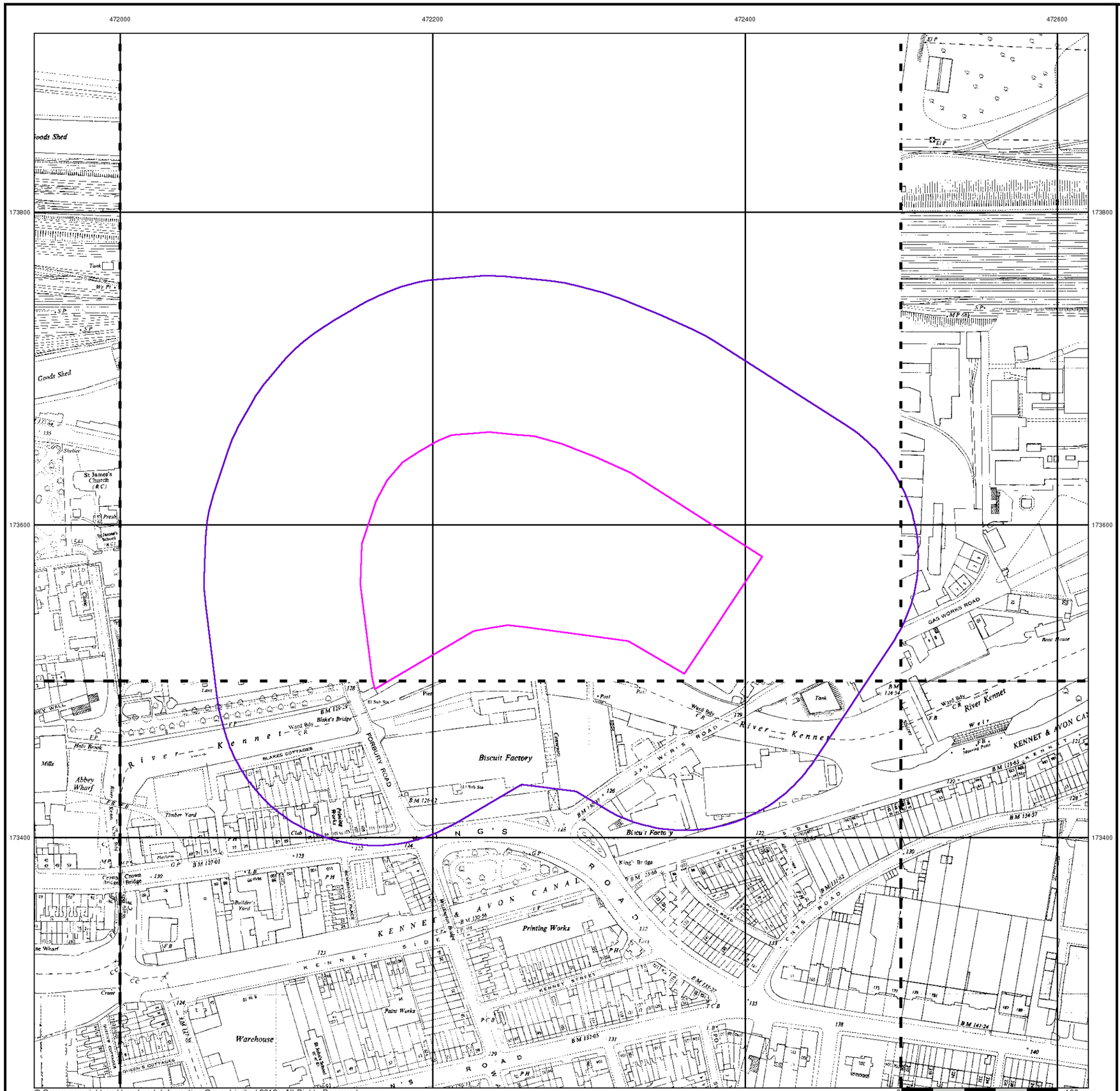
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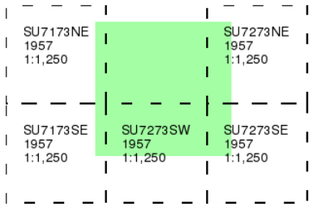
Ordnance Survey Plan

Published 1957

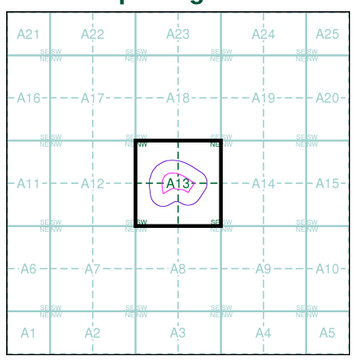
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



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Search Buffer (m):	100

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Additional SIMs

Published 1957 - 1989

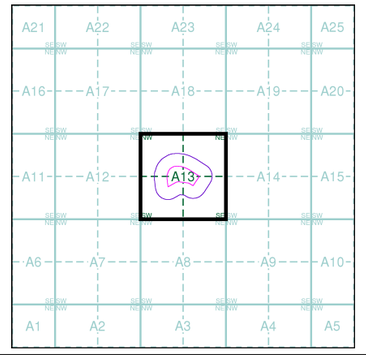
Source map scale - 1:1,250

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Map Name(s) and Date(s)

SU7173NE 1979 1:1,250	SU7273NW 1988 1:1,250	SU7273NE 1983 1:1,250
SU7173SE 1979 1:1,250	SU7273SW 1989 1:1,250	SU7273SE 1957 1:1,250

Historical Map - Segment A13



Order Details

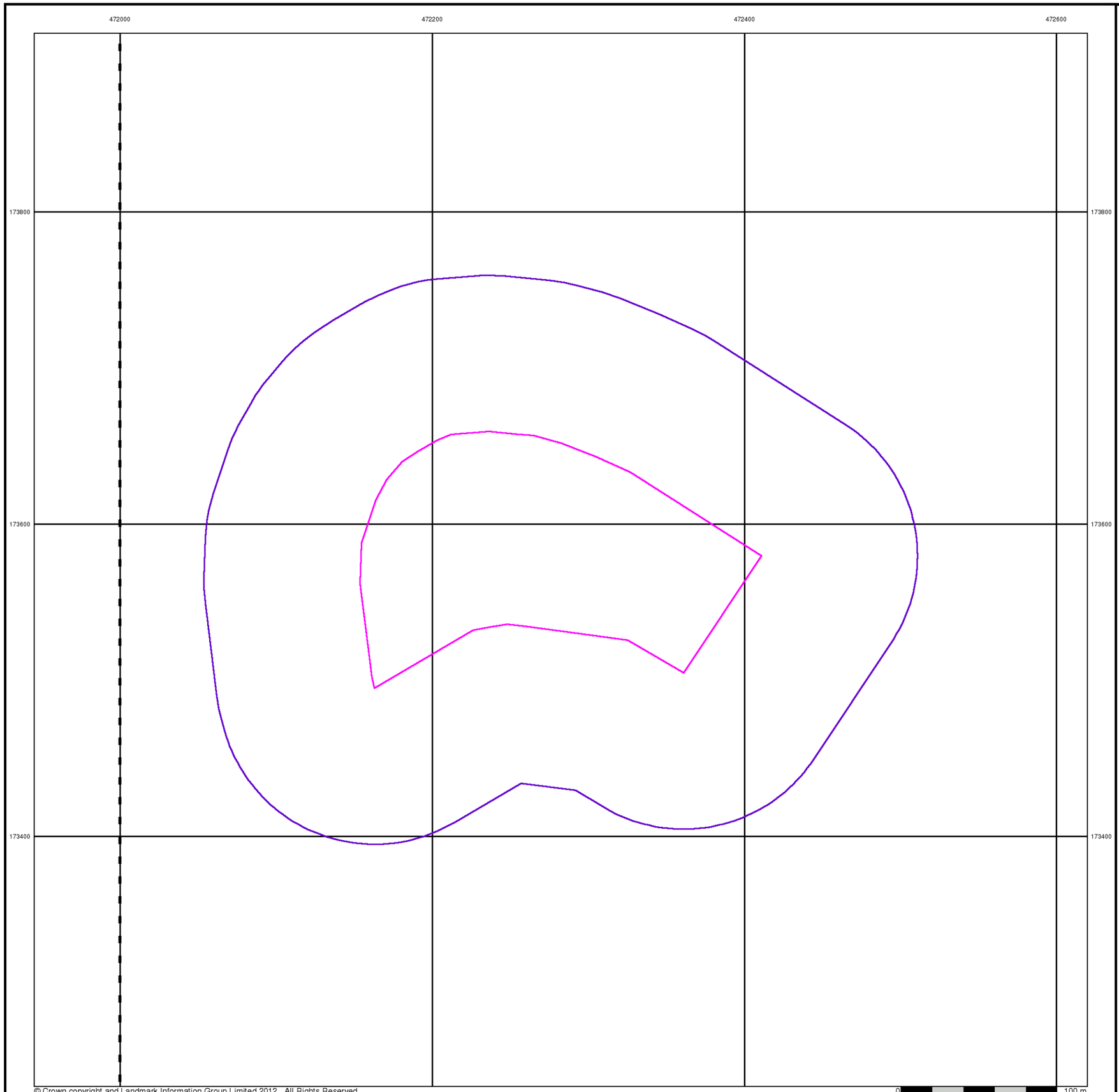
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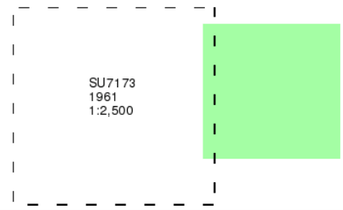
Ordnance Survey Plan

Published 1961

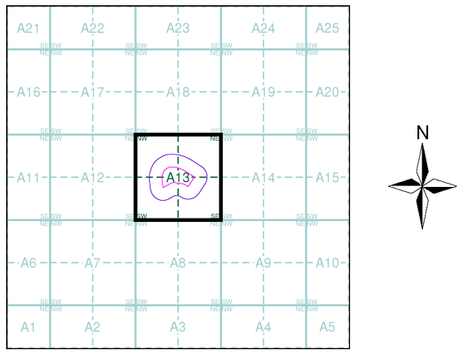
Source map scale - 1:2,500

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



Order Details

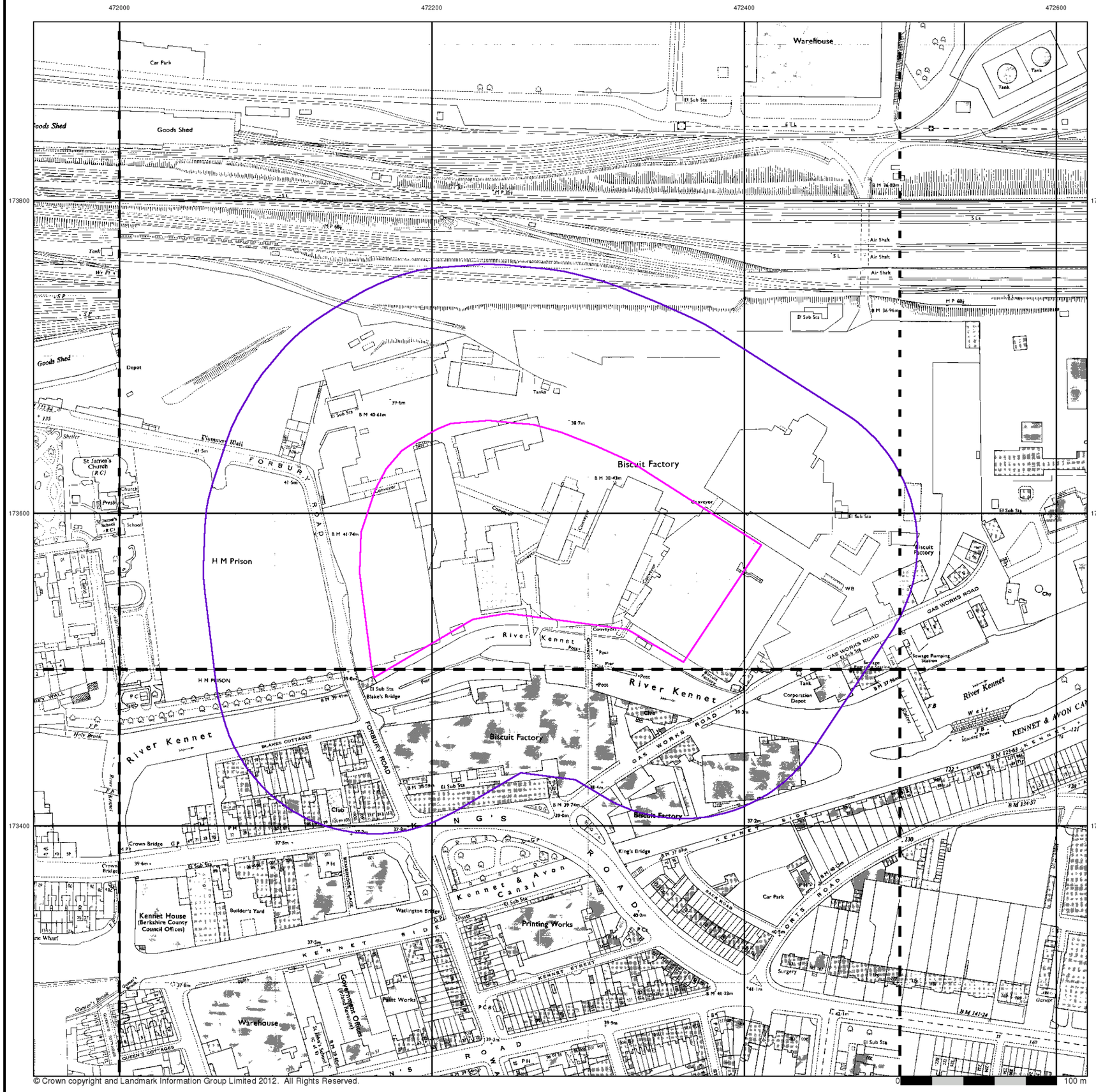
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Ordnance Survey Plan

Published 1962 - 1973

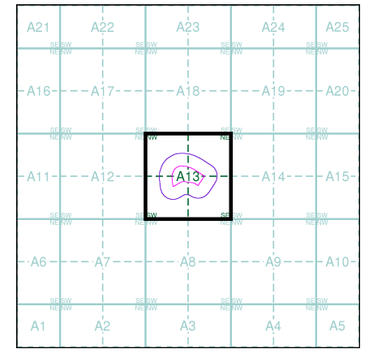
Source map scale - 1:1,250

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)

SU7173NE 1962 1:1,250	SU7273NW 1973 1:1,250	SU7273NE 1972 1:1,250
SU7173SE 1962 1:1,250	SU7273SW 1971 1:1,250	SU7273SE 1966 1:1,250

Historical Map - Segment A13



Order Details

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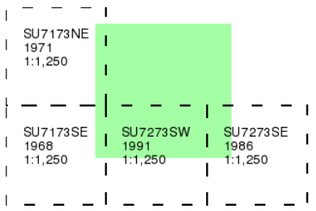
Ordnance Survey Plan

Published 1968 - 1991

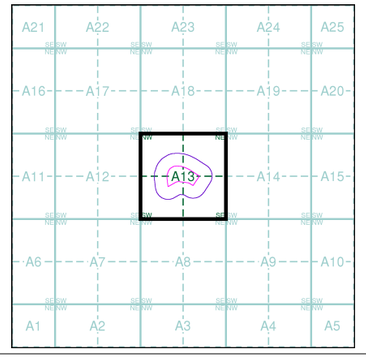
Source map scale - 1:1,250

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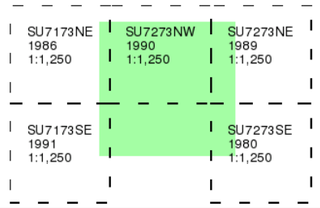
Additional SIMs

Published 1980 - 1991

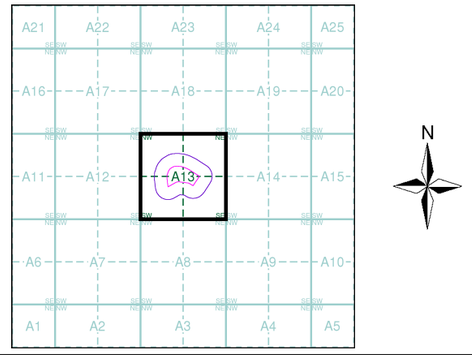
Source map scale - 1:1,250

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Map Name(s) and Date(s)



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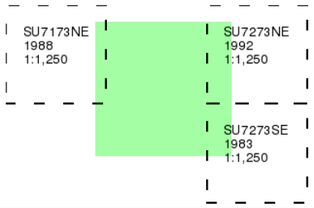
Additional SIMs

Published 1983 - 1992

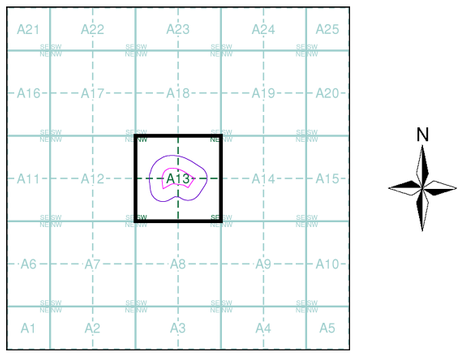
Source map scale - 1:1,250

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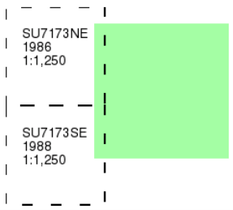
Ordnance Survey Plan

Published 1986 - 1988

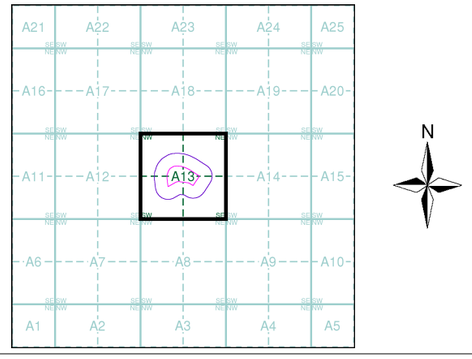
Source map scale - 1:1,250

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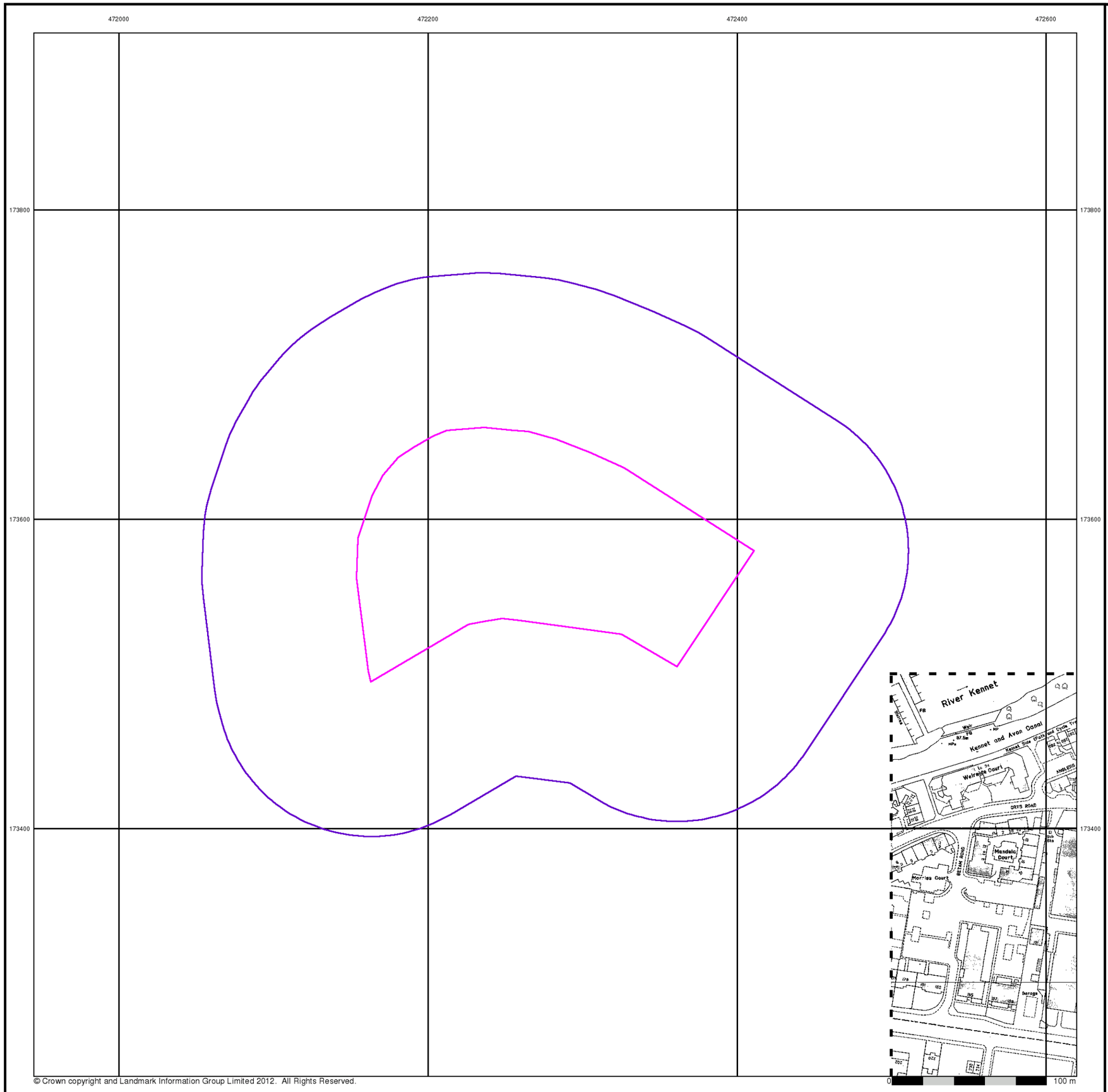
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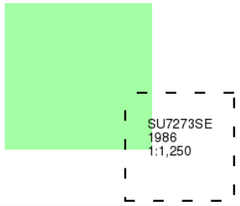
Additional SIMs

Published 1986

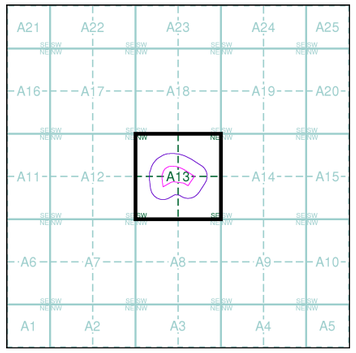
Source map scale - 1:1,250

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Map Name(s) and Date(s)



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Large-Scale National Grid Data

Published 1993

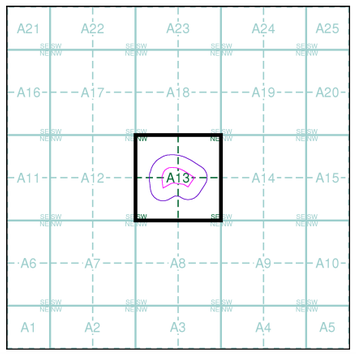
Source map scale - 1:1,250

'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)

SU7173NE 1993 1:1,250	SU7273NW 1993 1:1,250	SU7273NE 1993 1:1,250
SU7173SE 1993 1:1,250	SU7273SW 1993 1:1,250	SU7273SE 1993 1:1,250

Historical Map - Segment A13



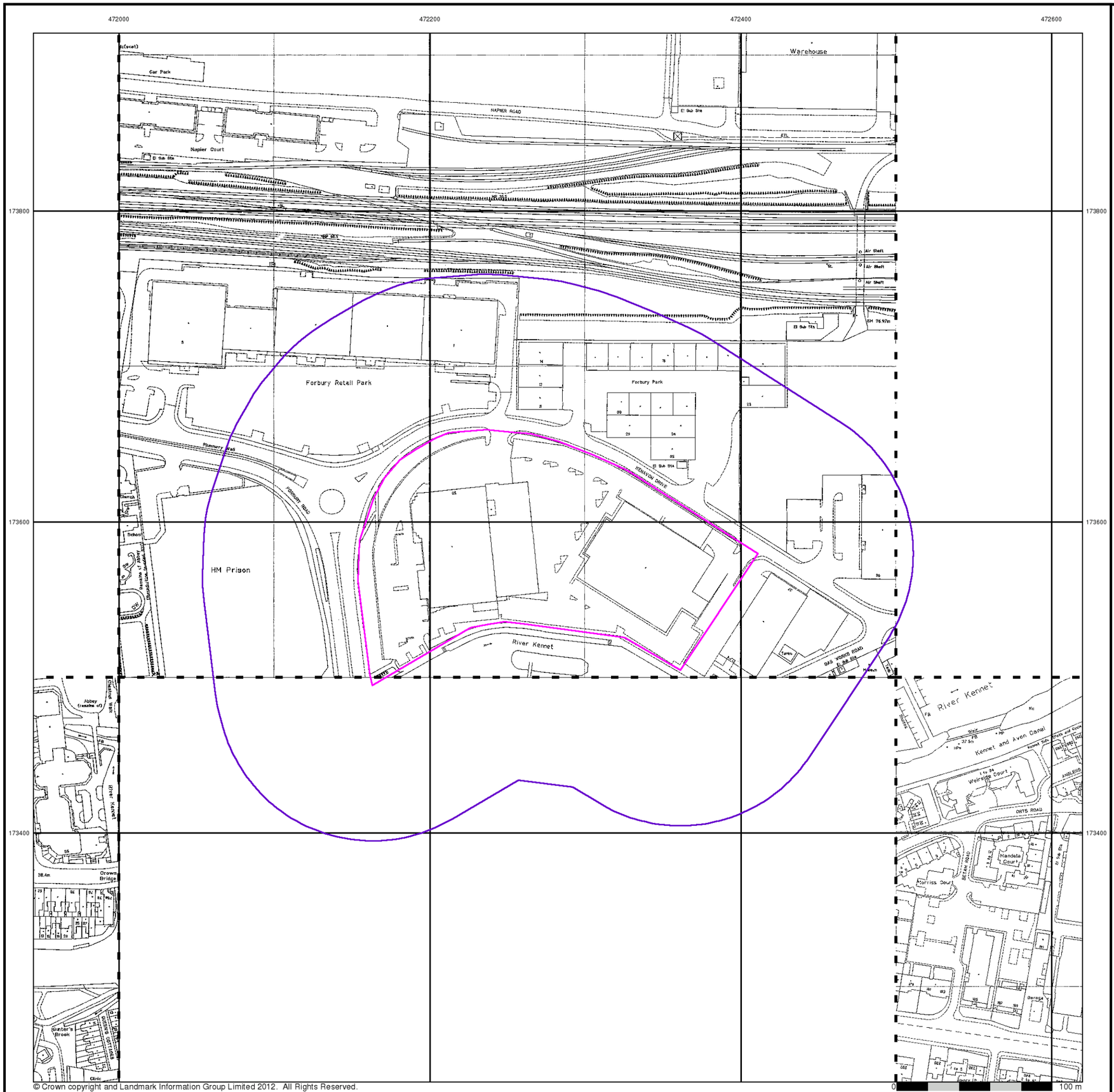
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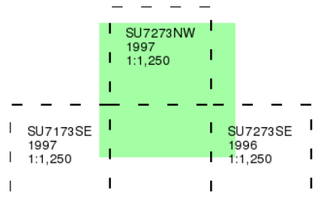
Large-Scale National Grid Data

Published 1996 - 1997

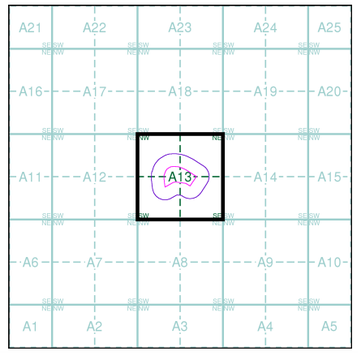
Source map scale - 1:1,250

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Historical Map - Segment A13



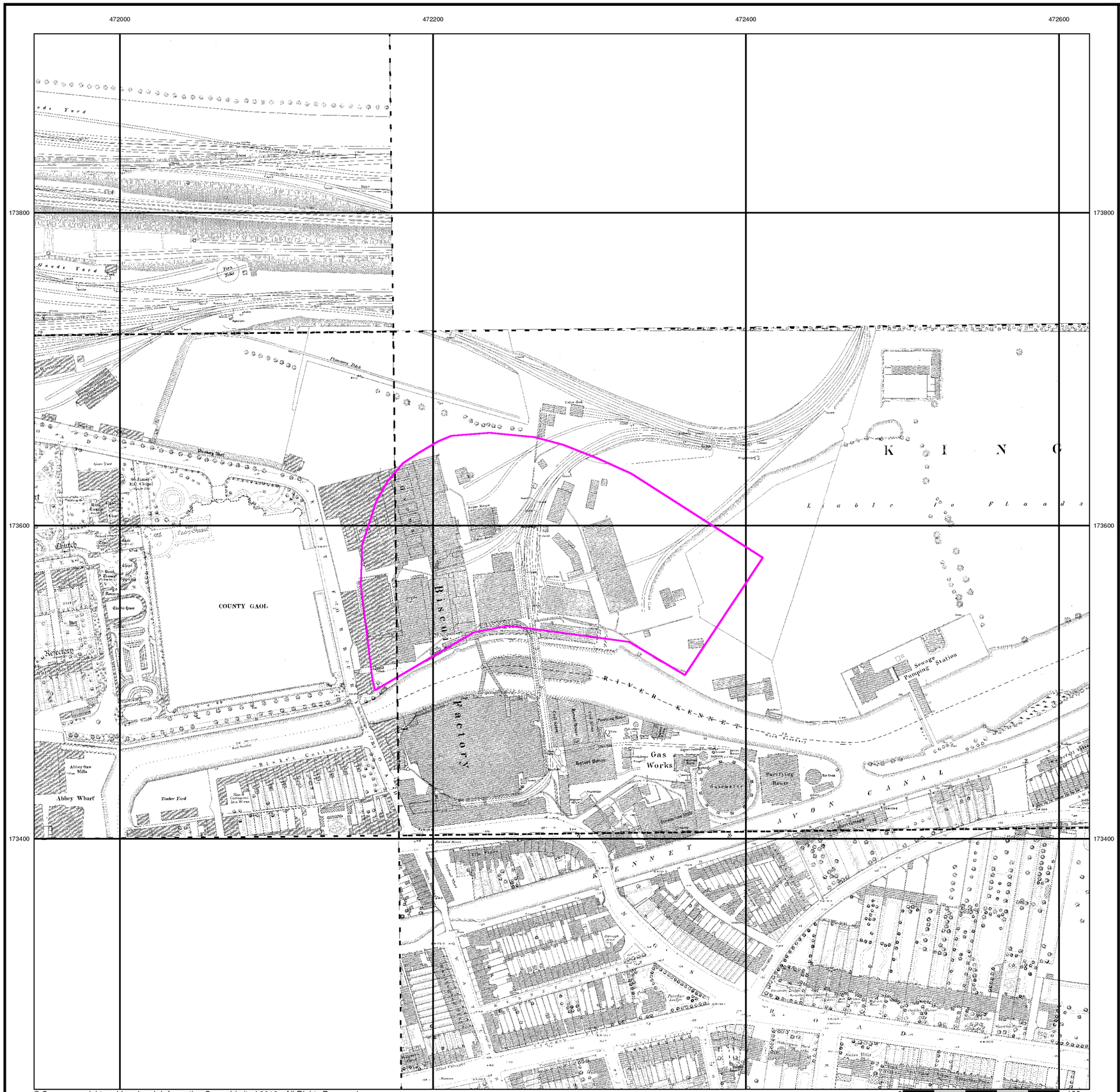
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Berkshire

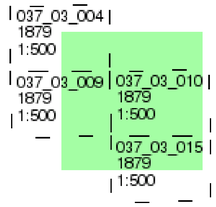
Published 1879

Source map scale - 1:500

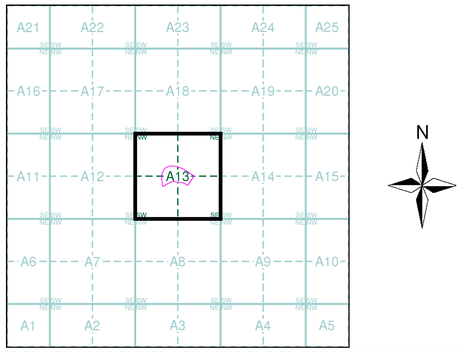
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



Order Details

Order Number:	47025573_1_1
Customer Ref:	DS18848
National Grid Reference:	472270, 173570
Slice:	A
Site Area (Ha):	2.74
Search Buffer (m):	0

Site Details

Forbury Retail Park, Kenavon Drive, Reading, RG1 3DH

Landmark Information Group
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Appendix III

Delta-Simons Environmental Consultants Ltd
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delta-simons environmental consultants

Project:	Project No:	Hole ID:
Forbury Retail Park, Reading.	**13-0258.01**	**DS101**
DYNAMIC SAMPLER LOG	Date: 05/06/2013	Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details: TYPE	Sample Details: REF	Sample Details: Depth	Test Results: SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				*39.80* 0.20					
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Occasional boulders of concrete.				(0.30) *39.50* 0.50					
Borehole refused at 0.50 m bgl due to impenetrable ground.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.50m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.962611 N: 51.456018 Level: 40	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS101A**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				*39.80* 0.20					
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Occasional boulders of concrete.				(0.30)					
Borehole refused at 0.50 m bgl due to impenetrable ground.				*39.50* 0.50					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.50m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.962634 N: 51.456017 Level: 40	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS102**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*40.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				*40.80* 0.20	ES	1	0.20 - 0.30		
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare boulders of cooncrete. Manmade material including steel and glass.				(0.30)					
Borehole refused at 0.50 m bgl due to inpenetrable ground.				*40.50* 0.50					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.50m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1
Plant Used: Dando Terrier 2002 series	Coordinates / Level (mAOD): E: -0.962481 N: 51.456654 Level: 41	Logged By: WC / Checked By: WC	Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS102A**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*40.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				*40.80* 0.20					
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare boulders of concrete. Manmade material including steel and glass.				(0.30)					
Borehole refused at 0.50 m bgl due to impenetrable ground.				*40.50* 0.50					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.50m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.96251 N: 51.456654 Level: 41	WC	WC	CR

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delta-simons environmental consultants

Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS103**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*40.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				*40.80* 0.20	ES	1	0.20 - 0.30		
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Occasional cobbles of brick and concrete. Rare boulders of concrete. Manmade material including steel and glass.				(0.30)					
Borehole refused at 0.50 m bgl due to impenetrable ground.				*40.50* 0.50					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.50m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.962553 N: 51.456904 Level: 41	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS105**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				(0.40)					
				39.50 0.50	ES	1	0.50 - 0.80		
MADE GROUND: Stiff dark brown black sandy slightly gravelly clay. Gravel is subrounded to subangular fine to coarse and of mixed lithologies including brick, flint and chalk. Sand is fine to coarse. Occasional cobbles of brick and concrete. Ash throughout.				(0.80)					
				38.70 1.30					
MADE GROUND: Creamy-white subangular fine to coare chalk and flint gravel.					ES	2	1.50 - 1.70		
				(1.10)					
				37.60 2.40					
MADE GROUND: Stiff dark brown black sandy slightly gravelly clay. Gravel is subrounded to subangular fine to coarse and of mixed lithologies including brick, flint and chalk. Sand is fine to coarse. Occasional cobbles of brick and concrete. Ash throughout.				*37.40* 2.60					
MADE GROUND: Creamy-white subangular fine to coare chalk and flint gravel.				*37.20* 2.80					
MADE GROUND: Light brown clayey gravelly fine to coarse sand. Gravel is subrounded to subangular fine to coarse of mixed lihtologies including brick, flint and chalk. Sand is fine to coarse.				(1.20)					
					ES	3	3.70 - 4.00		
				36.00 4.00					
Borehole complete at 4.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Installed with a 63 mm HDPE standpipe to 3.5 m bgl.

CHISELLING

Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS

Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated

5m/page Scale: 1:31.25

Coordinates to Local Grid
Ground Level to Ordnance Datum

Plant Used: Dando Terrier 2002 series

Coordinates / Level (mAOD): E: -0.961424 N: 51.457042 Level: 40

Logged By: WC

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS106**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUB-BASE)				(0.40)	ES	1	0.20 - 0.50		
MADE GROUND: Stiff dark brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including chalk, brick and concrete. Sand is fine to coarse. Occasional cobbles of brick and concrete.				*39.50* 0.50 (2.20)	ES	2	1.80 - 2.00		
Soft grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular fine to medium flint and chalk. Shell fragments no greater than 5mm and relict organic matter throughout. (POSSIBLE ALLUVIAL DEPOSITS)				*37.30* 2.70 (1.30)					
Borehole complete at 4.00 m bgl.				*36.00* 4.00					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated | 5m/page Scale: 1:31.25 | Coordinates to Local Grid, Ground Level to Ordnance Datum | Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.960945 N: 51.457156 Level: 40	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS107**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel.Sand is fine to coarse. (SUB-BASE)				*39.80* 0.20	ES	1	0.20 - 0.50		
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional brick and concrete cobbles. Rare cinders.				(0.50)					
				39.30 0.70					
MADE GROUND: Yellow fine sand.				(1.20)	ES	2	1.50 - 1.80		
				38.10 1.90					
MADE GROUND: Brown slightly sandy slightly gravelly clay. Gravel is subangular fine to medium flint and chalk. Sand is fine to coarse.				(2.10)					
				36.00 4.00					
Borehole complete at 4.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING

Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS

Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated | 5m/page Scale: 1:31.25 | Coordinates to Local Grid, Ground Level to Ordnance Datum | Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.961004 N: 51.456926 Level: 40	WC	WC	CR

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Project:	Project No:	Hole ID:
Forbury Retail Park, Reading.	**13-0258.01**	**DS108**

	Date:	Client:
DYNAMIC SAMPLER LOG	05/06/2013	**Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				0.10					
MADE GROUND: Brown sandy subrounded coarse gravel.Sand is fine to coarse. (SUB-BASE)				(0.60) 0.70	ES	1	0.70 - 0.90		
MADE GROUND: Firm dark brown gravelly sandy clay. Gravel is subangular to subrounded fine to coarse and of mixed lithologies including flint, brick and sandstone. Sand is fine to coarse. Rare timber fragments. Possible ash and rare subangular fine coal gravel.				0.90					
MADE GROUND: Firm yellow brown sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including flint, brick and concrete. Sand is fine to coarse. Rare timber fragments.				(0.80) 1.70	ES	2	1.70 - 1.90		
MADE GROUND: Firm dark brown black sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including flint, brick and concrete. Sand is fine to coarse. Rare timber fragments.				(0.50) 2.20					
MADE GROUND: Yellow sandy subangular medium to coarse flint gravel. Rare organic staining.				(0.30) 2.50					
Soft grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular fine to medium flint and chalk. Shell fragments no greater than 5mm and relict organic matter throughout. (POSSIBLE ALLUVIAL DEPOSITS)				(1.50) 4.00	ES	3	2.70 - 3.00		
Borehole complete at 4.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid No Datum Information Available	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.960423 N: 51.456928	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS109**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*37.90* 0.10					
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional brick and concrete cobbles. Ash in top 500mm of strata.				(1.10)	ES	1	0.30 - 0.50		
MADE GROUND: Stiff brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Rare brick and concrete cobbles.				*36.80* 1.20 (1.20)					
Soft blue grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium flint and chalk. Sand is coarse. Occasional shell fragments no greater than 5mm and relict organic matter throughout. (POSSIBLE ALLUVIAL DEPOSITS)				*35.60* 2.40 (1.60)	ES	2	2.60 - 2.80		
Borehole complete at 4.00 m bgl.				*34.00* 4.00					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.960014 N: 51.456849 Level: 38	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS110**

DYNAMIC SAMPLER LOG

Date: 07/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL*/ DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Reinforced concrete.				(0.26) *37.74* 0.26					
Borehole terminated at 0.26 m bgl due to very high resistance to penetration assumed concrete boulder.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.26m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.959596 N: 51.45647 Level: 38	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS111**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL* / DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*36.90* 0.10	ES	1	0.20 - 0.50		
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional brick and concrete cobbles.				(0.40)					
				36.50 0.50					
MADE GROUND: Stiff orange black sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including occasional brick, flint and rare concrete. Sand is fine to coarse. Occasional brick and concrete cobbles. Ash throughout.				(0.70)					
				35.80 1.20					
MADE GROUND: Stiff dark brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional brick and concrete cobbles. Abundant ash throughout.				(0.40)	ES	2	1.50 - 1.50		
				35.40 1.60					
MADE GROUND: Firm brown sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse and of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional ash throughout. Rare organic staining.				(0.30)					
				35.10 1.90					
Soft light brown with orange mottling slightly sandy slightly gravelly silty CLAY. Gravel is subangular fine flint. Sand is fine. Shell fragments no greater than 5mm and relict organic matter throughout. (POSSIBLE ALLUVIAL DEPOSITS)				(0.75)					
				34.35 2.65					
Soft blue grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular to subrounded fine to medium flint. Sand is fine. Shell fragments no greater than 5mm and relict organic matter throughout. (POSSIBLE ALLUVIAL DEPOSITS)				(1.35)	ES	3	2.80 - 3.00		
				33.00 4.00					
Borehole complete at 4.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Installed with a 63 mm HDPE standpipe to 2.00 m bgl.

CHISELLING

Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS

Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated

5m/page Scale: 1:31.25

Coordinates to Local Grid
Ground Level to Ordnance Datum

Plant Used: Dando Terrier 2002 series

Coordinates / Level (mAOD): E: -0.96005 N: 51.45609 Level: 37

Logged By: WC

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS112**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL* / DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*37.90* 0.10					
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, flint and concrete. Sand is fine to coarse. Occasional brick and concrete cobbles. Occasional ash.				(1.70)	ES	1	1.60 - 1.60		
Firm light brown slightly sandy gravelly silty CLAY. Gravel is subangular fine flint. Sand is fine to coarse. Shell fragments no greater than 5mm and relict organic matter throughout. Rare organic staining. (SUSPECTED ALLUVIAL DEPOSITS).				*36.20* 1.80 (0.90) *35.30* 2.70					
Stiff light brown with orange mottling sandy gravelly silty CLAY. Gravel is subangular fine to coarse flint. Sand is fine. Shell fragments no greater than 5mm and relict organic matter throughout. Rare organic staining. (SUSPECTED ALLUVIAL DEPOSITS).				(1.25)	ES	2	3.20 - 3.50		
Soft blue grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular to subrounded fine to medium flint. Sand is fine. Shell fragments no greater than 5mm and relict organic matter (POSSIBLE ALLUVIAL DEPOSITS).				*34.05* 3.95 *34.00* 4.00					
Borehole complete at 4.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated | 5m/page Scale: 1:31.25 | Coordinates to Local Grid, Ground Level to Ordnance Datum | Page 1 of 1

Plant Used: Dando Terrier 2002 series

Coordinates / Level (mAOD): E: -0.960267 N: 51.45612 Level: 38

Logged By: WC

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS113**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*38.90* 0.10					
MADE GROUND: Stiff light brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, chalk and flint. Sand is fine to coarse. Ash throughout.				(2.00)	ES	1	0.80 - 1.00		
CHALK: Extremely weak greyish white mottled orange CHALK. recovered as a subangular medium to coarse chalk and flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)				*36.90* 2.10 (1.90)	ES	2	2.30 - 2.50		
Borehole complete at 4.00 m bgl.				*35.00* 4.00					

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 1.00m 102mm to 2.00m 76 mm to 3.00m 51 mm to 4.00m		

All measurements in metres unless otherwise stated | 5m/page Scale: 1:31.25 | Coordinates to Local Grid, Ground Level to Ordnance Datum | Page 1 of 1

Plant Used: Dando Terrier 2002 series

Coordinates / Level (mAOD): E: -0.96112 N: 51.456354 Level: 39

Logged By: WC

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS114**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam				*39.90* 0.10					
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse is of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare concrete boulders.				(0.26) *39.64* 0.36					
Borehole teminated at 0.36 m bgl due to impenetrable ground.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING

Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS

Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
399mm to 0.36m		

All measurements in metres unless otherwise stated

5m/page Scale: 1:31.25

Coordinates to Local Grid
Ground Level to Ordnance Datum

Plant Used: Dando Terrier 2002 series

Coordinates / Level (mAOD): E: -0.961533 N: 51.456309 Level: 40

Logged By: WC

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS115**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Stiff brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse is of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare concrete boulders.				(0.80)	ES	1	0.50 - 0.80		
				39.20 0.80					
Borehole complete at 0.80 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.80m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.961822 N: 51.456276 Level: 40	WC	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **DS116**

DYNAMIC SAMPLER LOG

Date: 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Tarmacadam				0.10	ES	1	0.10 - 0.30		
MADE GROUND: Stiff light brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Manmade materials throughout including wire and glass.				(0.60)					
				0.70					
Borehole terminated at 0.70 m bgl due to impenetrable ground.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING		
Depth From	Depth To	Time Taken
NO CHISELLING UNDERTAKEN:		

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
300mm to 0.70m		

All measurements in metres unless otherwise stated	5m/page Scale: 1:31.25	Coordinates to Local Grid No Datum Information Available	Page 1 of 1

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando Terrier 2002 series	E: -0.962064 N: 51.456155	WC	WC	CR

Appendix **IV**

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP101**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 13/06/2013 - 14/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*40.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUBBASE)				*40.70* 0.30	D	1	0.40		
					B	2	0.60 - 0.80		
MADE GROUND: Stiff light brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare boulders of concrete.			(200mm)	(1.80)	D	3	1.20		
					B	4	1.50 - 1.95 1.50 - 1.95	CPT N=50/95mm (6,19/70mm/36,14/20mm)	
				38.90 2.10					
MADE GROUND: Concrete. (Suspected slab)				*38.70* 2.30	D	5	2.20		
MADE GROUND: Stiff light brown sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Abundant brick cobbles.				*38.60* 2.40	U	6	2.50 - 2.95	U=53/338mm	
			3.00		D	7	3.00		
					B	8	3.00 - 3.30		
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)		1			D	9	3.50 - 3.95 3.50 - 3.95	SPT N=8 1,2/2,2,2,2	
					D	10	4.50 - 4.95 4.50 - 4.95	SPT N=13 1,2/3,4,3,3	
					D	11	6.00 - 6.45	SPT N=14	
					B	12	6.00 - 6.45	2,5/4,3,4,3	
					D	13	7.50 - 7.95 7.50 - 7.95	SPT N=26 3,5/5,6,8,7	
					D	14	9.00 - 9.45	SPT N=31	
					B	15	9.00 - 9.45	10,13/7,8,8,8	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 7.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
22.10	22.10	00:30
0.00	1.20	01:15
2.10	2.30	00:30

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	13-06-13		3.80	3.58	3.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 22.10m	150mm to 22.10m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid, Ground Level to Ordnance Datum |

Plant Used: Dando 2000

Coordinates / Level (mAOD): E: -0.962687 N: 51.456349 Level: 41

Logged By: GB

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP101**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 13/06/2013 - 14/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			(150mm)	(19.70)	D	16	10.50 - 10.95 10.50 - 10.95	SPT N=35 3,6/8,9,8,10	
					D B	17 18	12.00 - 12.45 12.00 - 12.45	SPT N=39 5,8/9,9,10,11	
					D	19	13.50 - 13.95 13.50 - 13.95	SPT N=50/265mm (4,8/13,13,15,9/40mm)	
					D B	20 21	15.00 - 15.45 15.00 - 15.45	SPT N=36 6,7/7,8,10,11	
					D	22	16.50 - 16.95 16.50 - 16.95	SPT N=40 4,6/9,9,10,12	
					D B	23 24	18.00 - 18.45 18.00 - 18.45	SPT N=45 5,9/10,10,13,12	
					D	25	19.50 - 19.95 19.50 - 19.95	SPT N=41 5,7/8,10,12,11	
					D	26	20.00 - 21.45		

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 7.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
22.10	22.10	00:30
0.00	1.20	01:15
2.10	2.30	00:30

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	13-06-13		3.80	3.58	3.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 22.10m	150mm to 22.10m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum |

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.962687 N: 51.456349 Level: 41	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP101**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 13/06/2013 - 14/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*					B	27	21.00 - 21.45	SPT N=47 7,9/11,11,12,13	
			22.10	*18.90* 22.10 *18.80* 22.20	B	28	22.20		
Grey angular to subrounded fine to coarse flint GRAVEL with occasional flint cobbles. (SEAFORD CHALK AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)									
Borehole complete at 22.20 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 7.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
22.10	22.10	00:30
0.00	1.20	01:15
2.10	2.30	00:30

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	13-06-13		3.80	3.58	3.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 22.10m	150mm to 22.10m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid, Ground Level to Ordnance Datum | Page 3 of 3

Plant Used: Dando 2000

Coordinates / Level (mAOD): E: -0.962687 N: 51.456349 Level: 41

Logged By: GB

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP102**

CABLE PERCUSSION BOREHOLE LOG

Date: 12/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*39.90* 0.10					
MADE GROUND: Brown sandy subrounded coarse gravel. Sand is fine to coarse. (SUBBASE)				*39.70* 0.30	D	1	0.40		
					B	2	0.60 - 0.80		
MADE GROUND: Very stiff light brown sandy gravelly clay. Gravel is angular to subrounded fine to coarse of mixed lithologies including brick concrete and flint. Sand is fine to coarse. Abundant cobbles of brick and concrete. Rare boulders of concrete.				(1.30)	D	3	1.20		
					B	4	1.50 - 1.95		
				38.40 1.60			1.50 - 1.95	CPT N=25/30mm (4,18/25/30mm)	
MADE GROUND: Concrete boulders.				*38.20* 1.80	D	5	2.00		
MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is angular to subrounded fine to coarse and of mixed lithologies including brick, concrete and flint. Abundant brick and concrete cobbles.				*37.90* 2.10					
				37.60 2.40					
			(200mm)		B	6	2.50 - 2.95		
							2.50 - 2.95	CPT N=50 15,10/60mm/12,16,22	
MADE GROUND: Concrete. (Suspected slab)				(1.40)					
MADE GROUND: Stiff light brown slightly sandy gravelly clay. gravel is angular to subrounded fine to coarse and of mixed lithologies including brick, concrete and flint. Abundant brick and concrete cobbles.					B	7	3.50 - 3.95		
				36.20 3.80			3.50 - 3.95	CPT N=7 8,5/3,2,1,1	
					D	8	4.00		
Very soft grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular fine flint. Occasional shell fragments no greater than 5mm diameter. Rare relict organic matter. (POSSIBLE ALLUVIAL DEPOSITS)				(1.10)	B	9	4.50 - 4.95		
							4.50 - 4.95	CPT N=14 1,2/2,3,4,5	
				35.10 4.90					
			5.00		D	10	5.20		
Very soft grey slightly sandy slightly gravelly clayey SILT. Gravel is subangular to subrounded fine to medium flint and chalk gravel. Sand is fine. Occasional shell fragments no greater than 5mm diameter. Rare relict organic matter. (POSSIBLE ALLUVIAL DEPOSITS)				(0.60)					
				34.50 5.50					
		1			U	11	6.00 - 6.45	U=22/0mm	
		1			B	12	6.00		
Extremely weak to weak creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)					D	13	7.00 - 7.95		
					D	14	7.50 - 9.45		
							7.50 - 7.95	SPT N=10 1,3/2,3,3,2	
					D	15	9.00 - 9.45		
					B	16	9.00 - 10.95		
							9.00 - 9.45	SPT N=19 4,5/3,5,5,6	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 6.00 m bgl.
4. Installed with a 63 mm HDPE standpipe to 12.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
0.00	1.20	01:30
1.60	1.80	01:30
2.10	2.40	01:30

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	12-06-13		6.00	5.62	6.00

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 5.00 m 150mm to 19.50m	150mm to 19.50m 200mm to 5.00 m	Sealed at 5.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid, Ground Level to Ordnance Datum |

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.962318 N: 51.457103 Level: 40	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP102**

CABLE PERCUSSION BOREHOLE LOG

Date: 12/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*					D	17	10.50 - 12.45 10.50 - 10.95	SPT N=19 2,3/4,5,5,5	
			(150mm)	(14.00)	D B	18 19	12.00 - 12.45 12.00 - 12.95 12.00 - 12.45	SPT N=28 3,6/6,6,7,9	
					D	20	13.50 - 13.95 13.50 - 13.95	SPT N=45 3,6/8,16,10,11	
					D B	21 22	15.00 - 15.45 15.00 - 15.45	SPT N=30 4,6/6,7,9,8	
					D	23	16.50 - 16.95 16.50 - 16.95	SPT N=38 5,6/8,8,12,10	
					D B	24 25	18.00 - 18.45 18.00 - 18.45	SPT N=46 5,9/10,12,11,13	
			19.50	*20.50* 19.50	D	26	19.50 - 19.95 19.50 - 19.95	SPT N=40 3,5/9,10,10,11	
Borehole complete at 19.50 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 6.00 m bgl.
4. Installed with a 63 mm HDPE standpipe to 12.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
0.00	1.20	01:30
1.60	1.80	01:30
2.10	2.40	01:30

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	12-06-13		6.00	5.62	6.00

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 5.00 m 150mm to 19.50m	150mm to 19.50m 200mm to 5.00 m	Sealed at 5.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum | Page 2 of 2

Plant Used: Dando 2000

Coordinates / Level (mAOD): E: -0.962318 N: 51.457103 Level: 40

Logged By: GB

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP103**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 07/06/2013 - 11/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL* / DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*39.80* 0.20					
MADE GROUND: Red orange subangular fine to coarse brick gravel. Sand is fine to coarse. Occasional brick cobbles.				*39.50* 0.50	D	1	0.40		
					D	2	0.80		
MADE GROUND: Stiff light brown sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and chalk. Sand is fine to coarse. Occasional brick and concrete cobbles. Rare timber fragments.			(200mm)	(1.00) *38.50* 1.50	B	3	1.20 - 1.70 1.20 - 1.65	CPT N=23 2,2/3,5,6,9	
MADE GROUND: Red orange sandy angular to subangular fine to coarse brick and concrete gravel. Sand is fine to coarse. Abundant brick and concrete cobbles.				(0.80) *37.70* 2.30	B D	4	2.00 - 2.50 2.00 2.00 - 2.45	CPT N=5 20,20/25mm/5	
MADE GROUND: Stiff light brown sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and chalk. Sand is fine to coarse. Occasional brick and concrete cobbles. Rare timber fragments.			3.00	*37.30* 2.70	B	5	2.70 - 3.00		
					U	6	3.00 - 3.50	U=16/250mm	
					B	7	3.50 - 3.80		
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)					D	8	4.00 - 4.45 4.00 - 4.45	SPT N=4 4,3/2,1,0,1	
					D	9	5.00 - 5.45 5.00 - 5.45	SPT N=5 5,3/2,1,1,1	
					D	10	6.00 - 6.45 6.00 - 6.45	SPT N=9 8,8/4,2,2,1	
					B	11	6.50 - 6.80		
					D	12	7.50 - 7.95 7.50 - 7.95	SPT N=5 1,0/1,1,1,2	
					D	13	9.00 - 9.45 9.00 - 9.45	SPT N=16 1,1/2,3,6,5	
					B	14	9.50 - 9.80		

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 6.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken		Date	Time	Water Strike	Standing Level	Casing Depth
23.20	23.50	00:30	1	10-06-13		3.80	3.14	3.60
13.90	14.30	00:45						

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 26.00m	150mm to 26.00m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 3

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.961216 N: 51.456613 Level: 40	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP103**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 07/06/2013 - 11/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			(150mm)	(26.80)	D	15	10.50 - 10.95 10.50 - 10.95	SPT N=19 1,3/5,4,5,5	
					D	16	12.00 - 12.45 12.00 - 12.45	SPT N=36 2,6/7,8,10,11	
					B	17	12.50 - 12.80		
					D	18	13.50 - 13.95 13.50 - 13.95	SPT N=42 4,9/8,8,9,17	
					D	19	15.00 - 15.45 15.00 - 15.45	SPT N=26 4,6/7,6,7,6	
					B	20	15.50 - 15.80		
					D	21	16.50 - 16.95 16.50 - 16.95	SPT N=30 5,6/6,7,8,9	
					D	22	18.00 - 18.45 18.00 - 18.45	SPT N=44 5,11/10,10,11,13	
					D	23	19.50 - 19.95 19.50 - 19.95	SPT N=40 5,7/8,10,11,11	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 6.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
23.20	23.50	00:30
13.90	14.30	00:45

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	10-06-13		3.80	3.14	3.60

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 26.00m	150mm to 26.00m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum |

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.961216 N: 51.456613 Level: 40	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP103**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 07/06/2013 - 11/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details: TYPE	Sample Details: REF	Sample Details: Depth	Test Results: SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			26.00						
				10.50 29.50					
Borehole complete at 29.50 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 3.80 m bgl.
4. Installed with a 63 mm HDPE standpipe to 6.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING		
Depth From	Depth To	Time Taken
23.20	23.50	00:30
13.90	14.30	00:45

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
1	10-06-13		3.80	3.14	3.60

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 3.00 m 150mm to 26.00m	150mm to 26.00m 200mm to 3.00 m	Sealed at 3.00m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid, Ground Level to Ordnance Datum |

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.961216 N: 51.456613 Level: 40	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP104**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 05/06/2013 - 06/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL* / DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*37.80* 0.20	D	1	0.40		
MADE GROUND: Red orange subangular fine to coarse brick gravel. Sand is fine to coarse. Occasional brick cobbles.				*37.40* 0.60	D	2	0.80		
MADE GROUND: Stiff light brown sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and chalk. Sand is fine to coarse. Occasional brick and concrete cobbles. Rare timber fragments.				(2.20)	B	3	1.20 - 1.70 1.20 - 1.65	CPT N=5 1,0/1,1,2,1	
					D B	4 5	2.00 2.00 - 2.50 2.00 - 2.45	CPT N=4 1,1/1,1,1,1	
				35.20 2.80					
MADE GROUND: Red orange subangular fine to coarse brick gravel. Sand is fine to coarse. Occasional brick cobbles.				*34.80* 3.20	D U B D	6 7 9 8	3.00 3.00 - 3.50 3.20 - 3.60 3.50	U=18/450mm	
Soft yellow light brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular fine flint and challk. Sand is fine. (POSSIBLE ALLUVIAL DEPOSITS)		1 ▽	(200mm)	(1.30)	D	10	4.00 - 4.50 4.00 - 4.45	SPT N=2 1,0/1,0,0,1	
				33.50 4.50	B	11	4.50 - 5.00		
Soft grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular fine flint and chalk. Sand is fine. Occasional shell fragments no greater than 5 mm diameter. Rare relict organic matter. Rare organic staining. (POSSIBLE ALLUVIAL DEPOSITS)		1 ▼		(1.10)	D	12	5.00 - 5.50 5.00 - 5.45	SPT N=5 1,1/1,2,1,1	
				32.40 5.60	B	13	5.60 - 6.00		
Medium dense light grey slightly sandy angular to subangular fine to medium flint and chalk GRAVEL. Sand is coarse. (RIVER TERRACE DEPOSITS)				(1.10)	B	14	6.50 - 7.00 6.50 - 6.95	CPT N=11 2,3/2,3,3,3	
				31.30 6.70					
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)			7.50		D B	15 16	8.00 - 8.50 8.00 - 8.45	SPT N=14 2,2/3,3,4,4	
					D	17	9.50 - 10.00 9.50 - 9.95	SPT N=17 2,3/3,4,5,5	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 5.50 m bgl.
4. Installed with a 63 mm HDPE standpipe to 12.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
16.70	17.30	01:00

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	05-06-13		5.50	3.60	4.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 7.50 m 150mm to 21.00m	150mm to 21.00m 200mm to 7.50 m	Sealed at 7.50m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum |

Plant Used: Dando 2000

Coordinates / Level (mAOD): E: -0.959443 N: 51.456622 Level: 38

Logged By: GB

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP104**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 05/06/2013 - 06/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			(150mm)	(18.30)	D	18	11.00 - 11.50 11.00 - 11.45	SPT N=35 5,6/8,8,9,10	
					D B	19 20	12.50 - 13.00 12.50 - 12.95	SPT N=29 3,6/6,7,8,8	
					D	21	14.00 - 14.50 14.00 - 14.45	SPT N=23 4,4/5,6,6,6	
					D	22	15.50 - 16.00 15.50 - 15.95	SPT N=37 6,7/8,8,9,12	
					D	23	17.50 - 18.00 17.50 - 17.95	SPT N=30 5,6/6,7,8,9	
					D	24	19.00 - 19.50 19.00 - 19.45	SPT N=43 7,8/8,10,12,13	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 5.50 m bgl.
4. Installed with a 63 mm HDPE standpipe to 12.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING Depth From	Depth To	Time Taken
16.70	17.30	01:00

WATER LEVEL OBSERVATIONS		Date	Time	Water Strike	Standing Level	Casing Depth
	1	05-06-13		5.50	3.60	4.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 7.50 m 150mm to 21.00m	150mm to 21.00m 200mm to 7.50 m	Sealed at 7.50m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum |

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.959443 N: 51.456622 Level: 38	GB	WC	CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP104**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 05/06/2013 - 06/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	Sample Details REF	Sample Details Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			21.00		D	25	20.50 - 21.00 20.50 - 20.95	SPT N=46 8,10/10,11,12,13	
					D	26	22.00 - 22.50 22.00 - 22.45	SPT N=50 7,13/14,15,17,4	
					D	27	23.50 - 24.00 23.50 - 23.95	SPT N=50+/100mm (12,13/25mm)	
				13.00 25.00	D	28	25.00		
Borehole complete at 25.00 m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 5.50 m bgl.
4. Installed with a 63 mm HDPE standpipe to 12.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING

Depth From	Depth To	Time Taken
16.70	17.30	01:00

WATER LEVEL OBSERVATIONS

	Date	Time	Water Strike	Standing Level	Casing Depth
1	05-06-13		5.50	3.60	4.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 7.50 m 150mm to 21.00m	150mm to 21.00m 200mm to 7.50 m	Sealed at 7.50m

All measurements in metres unless otherwise stated | 10m/page Scale: 1:62.50 | Coordinates to Local Grid
Ground Level to Ordnance Datum | Page 3 of 3

Plant Used: Dando 2000

Coordinates / Level (mAOD): E: -0.959443 N: 51.456622 Level: 38

Logged By: GB

Checked By: WC

Approved By: CR

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Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP105**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 04/06/2013 - 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
MADE GROUND: Tarmacadam.				*38.80* 0.20					
MADE GROUND: Firm brown gravelly sandy clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies concrete, brick and flint. Sand is fine to coarse. Rare rootlets.				(1.30)	D	1	0.50		
					D	2	1.00		
					B	3	1.20 - 1.70 1.20 - 1.65	CPT N=6 1,1/2,1,1,2	
				37.50 1.50					
MADE GROUND: Firm brown gravelly sandy clay. Gravel is subangular to subrounded fine to coarse of mixed lithologies including brick, concrete and flint. Sand is fine to coarse. Occasional manmade material including plastic and glass. Rare timber fragments.				(1.90)	D	4	2.00		
					B	5	2.00 - 2.50 2.00 - 2.45	CPT N=6 1,0/1,1,2,2	
					D	6	3.00		
					B	7	3.00 - 3.50 3.00 - 3.45	CPT N=4 2,1/1,1,1,1	
		1		*35.60* 3.40	D	8	3.50		
MADE GROUND: Soft grey slightly gravelly clay. Gravel is subangular coarse flint. High organic content. Occasional organiic staining.			(200mm)	(1.10)	U	9	4.00 - 4.50	U=11/450mm	
		1		*34.50* 4.50	D	9a	4.50		
Medium dense grey slightly sandy angular to subangular fine to medium flint GRAVEL. Sand is coarse. (RIVER TERRACE DEPOSITS)				(1.00)	D	10	5.00		
					B	11	5.00 - 5.50 5.00 - 5.45	CPT N=20 4,5/4,5,5,6	
				33.50 5.50					
Medium dense light grey slightly sandy angular to subangular fine to coarse flint and chalk GRAVEL. Sand is coarse. (RIVER TERRACE DEPOSITS)					D	12	6.00		
				(1.70)	B	13	6.50 - 7.00 6.50 - 6.95	CPT N=18 3,4/4,4,5,5	
				31.80 7.20					
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)			7.50		D	14 15	8.00 - 8.50 8.00 - 8.45	SPT N=19 7,6/5,5,4,5	
					D	16	9.50 - 10.00 9.50 - 9.95	SPT N=35 7,7/8,8,9,10	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 4.50 m bgl.
4. Installed with a 63 mm HDPE standpipe to 11.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING		
Depth From	Depth To	Time Taken
8.50	8.80	01:00

WATER LEVEL OBSERVATIONS					
	Date	Time	Water Strike	Standing Level	Casing Depth
1	04-06-13		4.70	3.45	4.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 7.50 m 150mm to 17.50m	200mm to 7.50 m 150mm to 17.50m	Sealed at 7.50m

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 1 of 2

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.960704 N: 51.456236 Level: 39	GB	WC	CR

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delta-simons environmental consultants

Project: **Forbury Retail Park, Reading.**

Project No: **13-0258.01**

Hole ID: **CP105**

CABLE PERCUSSION BOREHOLE LOG

Date From / To: 04/06/2013 - 05/06/2013

Client: **Old Mutual Property Fund.**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	*REDUCED LEVEL/* DEPTH (Thickness)	Sample Details TYPE	REF	Depth	Test Results SPT N Value/Drive mm	Backfill Details
Extremely weak to weak completely weathered creamy white CHALK. Recovered as very clayey chalk gravel with widely spaced bands of angular to subrounded fine to coarse flint gravel. (SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION UNDIFFERENTIATED)*(BH Continued)*			(150mm)	(12.30)	D	17	11.00 - 11.50 11.00 - 11.45	SPT N=48 7,8/10,14,12,12	
					D	18	12.50 - 13.00 12.50 - 12.95	SPT N=31 4,5/7,7,8,9	
					D	19	14.00 - 14.50 14.00 - 14.45	SPT N=28 3,4/5,7,8,8	
					D	20	15.50 - 16.00 15.50 - 15.95	SPT N=29 7,6/7,6,8,8	
					D	21	17.00 - 17.50 17.00 - 17.45	SPT N=38 8,10/8,8,10,12	
			17.50						
					D	22	18.50 - 19.00 18.50 - 18.95	SPT N=50/265mm (7,8/10,13,16,11/40mm)	
				19.50 19.50					
Borehole complete at 19.50 m bgl.					D	23	20.00		

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Hand pit to 1.20 m bgl.
3. Groundwater encountered at 4.50 m bgl.
4. Installed with a 63 mm HDPE standpipe to 11.00 m bgl.
5. Coordinates and depths (mAOD) approx.

CHISELLING		
Depth From	Depth To	Time Taken
8.50	8.80	01:00

WATER LEVEL OBSERVATIONS				
	Date	Time	Water Strike	Standing Level	Casing Depth
1	04-06-13		4.70	3.45	4.50

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
200mm to 7.50 m 150mm to 17.50m	200mm to 7.50 m 150mm to 17.50m	Sealed at 7.50m

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to Local Grid Ground Level to Ordnance Datum	Page 2 of 2

Plant Used:	Coordinates / Level (mAOD):	Logged By:	Checked By:	Approved By:
Dando 2000	E: -0.960704 N: 51.456236 Level: 39	GB	WC	CR

Appendix V

delta-simons
environmental consultants

Collation of uman ealth S s and Soil Screening alues

ersion anuar

Environment Agenc EA Soil uideline alues S s and Delta Simons uman ealth eneric Screening alues S s calculated ithin C EA

Environment Agenc EA Soil uideline alues S s for dio ins, furans and dio in li e PC s calculated ithin C EA

CIE eneric Assessment Criteria AC nd Edition and Delta Simons AC derived using C EA

EIC A S C AIRE Soil eneric Assessment Criteria for uman ealth Ris Assessment derived using C EA

ithdra n S s derived using C EA K eta ersion

Dutch Intervention alues

SEPA PR s

References C EA K eta odelling and Old uidance

References C EA odelling

business solutions to environmental problems
www.deltasimons.com

Inogen® Environmental Alliance

Environment Agenc EA Soil uideline alues S s and Delta Simons uman ealth eneric Screening alues S s calculated ithin C EA Commercial mg g dr eight soil

Compound	Pu lished EA S SO	DS S SO	DS S SO
Organic compounds			
Benzene	95	28	57
Toluene	4,400 *	870 *	2,300 *
Ethylbenzene	2,800 *	520 *	1,500 *
Xylene – m	3,500 *	630 *	1,800 *
Xylene – o	2,600 *	480 *	1,300 *
Xylene – p	3,200 *	580 *	1,600 *
Phenol	3,200 (38,000)	3,200 (31,000)	3,200 (36,000)
etals			
Elemental mercury Hg	26 *	4.3 *	13 *
Inorganic mercury Hg^{2+}	3,600	3,600	3,600
Methyl mercury Hg^{4+}	410	73 *	400
Selenium	13,000	13,000	13,000
Inorganic Arsenic	640	640	640
Nickel	1,800	1,800	1,800
Cadmium	230	230	230

otes
* Soil or vapour Saturation limit
3200 (38,000) – Based on a threshold protective of direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustration only).

Environment Agenc EA Soil uideline alues S s and Delta Simons uman ealth eneric Screening alues S s calculated ithin C EA Residential Assumes Plant pta e mg g dr eight soil

Compound	Pu lished EA S SO	DS S SO	DS S SO
Organic compounds			
Benzene	0.33	0.18	0.27
Toluene	610	120	320
Ethylbenzene	350	65	180
Xylene – m	240	44	120
Xylene – o	250	45	130
Xylene – p	230	42	120
Phenol	420	180	320
etals			
Elemental mercury Hg	1.0	0.17	0.5
Inorganic mercury Hg^{2+}	170	170	170
Methyl mercury Hg^{4+}	11	7.4	10
Selenium	350	350	350
Inorganic Arsenic	32	32	32
Nickel	130	130	130
Cadmium	10	10	10

Environment Agenc EA Soil uideline alues S s and Delta Simons uman ealth eneric Screening alues S s calculated ithin C EA Residential ithout Plant pta e mg g dr eight soil

Compound	DS S SO	DS S SO	DS S SO
Organic compounds			
Benzene	1.0	0.27	0.56
Toluene	2,700	610	1,500
Ethylbenzene	840	170	450
Xylene – m	300	55	160
Xylene – o	320	60	170
Xylene – p	290	53	150
Phenol	520	310	440
etals			
Elemental mercury Hg	1.0	0.17	0.51
Inorganic mercury Hg^{2+}	240	240	240
Methyl mercury Hg^{4+}	14	8.4	12
Selenium	600	600	600
Inorganic Arsenic	35	35	35
Nickel	130	130	130
Cadmium	84	84	84

Environment Agenc EA Soil uideline alues S s calculated ithin C EA for Sum of PCDDs, PCD s and dio in li e PC s g g dr eight soil

and se	Residential	Allotment	Commercial
Sum of PCDDs, PCDFs and dioxin-like PCBs	8	8	240

otes
Based on a sandy loam soil and 6 per cent SOM.

CIE eneric Assessment Criteria AC and Delta Simons eneric Assessment Criteria DS AC

Commercial mg g dr eight soil

Compound	Pu lished AC SO	DS AC SO	DS AC SO
etals			
Beryllium	420	420	420
Boron	192,000	192,000	192,000
Chromium (III)	30,400	30,400	30,400
Chromium (VI)	35	35	35
Copper	71,700	71,700	71,700
Vanadium	3,160	3,160	3,160
Zinc	665,000	665,000	665,000
Petroleum drocar ons	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Aliphatic EC5-EC6	13,000 (1,150) *	3,400 (304) *	6,200 (558) *
Aliphatic >EC6-EC8	42,000 (736) *	8,300 (144) *	18,000 (322) *
Aliphatic >EC8-EC10	12,000 (451) *	2,100 (78) *	5,100 (190) *
Aliphatic >EC10-EC12	49,000 (283) *	10,000 (48) *	24,000 (118) *
Aliphatic >EC12-EC16	91,000 (142) *	6,100 (24) *	83,000 (59) *
Aliphatic >EC16-EC35	1,800,000	1,600,000	1,800,000
Aliphatic >EC35-EC44	1,800,000	1,600,000	1,800,000
Aromatic >EC5-EC7	90,000 (4,710) *	28,000 (1,220) *	49,000 (2,260) *
Aromatic >EC7-EC8	190,000 (4,360) *	59,000 (869) *	110,000 (1,920) *
Aromatic >EC8-EC10	18,000 (3,580) *	3,700 (613) *	8,600 (1,500) *
Aromatic >EC10-EC12	34,500 (2,150) *	17,000 (364) *	29,000 (899) *
Aromatic >EC12-EC16	37,800	36,000 (169) *	37,000
Aromatic >EC16-EC21	28,000	28,000	28,000
Aromatic >EC21-EC35	28,000	28,000	28,000
Aromatic >EC35-EC44	28,000	28,000	28,000
Aromatic and Aliphatic >EC44-EC70	28,000	28,000	28,000
PA s	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Acenaphthene	100,000	85,000 (57) *	141
Acenaphthylene	100,000	84,000 (86) *	212
Anthracene	540,000	530,000	540,000

Benz[a]anthracene	97	90	95
Benzo[a]pyrene	14	14	14
Benzo[b]fluoranthene	100	100	100
Benzo[ghi]perylene	660	650	660
Benzo[k]fluoranthene	140	140	140
Chrysene	140	140	140
Dibenz[ah]anthracene	13	13	13
Fluoranthene	23,000	23,000	23,000
Fluorene	71,000	64,000 (31) *	69,000
Indeno[123-cd]pyrene	62	60	61
Naphthalene	1,100 (432) *	200 (76) *	480 (183) *
Phenanthrene	23,000	22,000	22,000
Pyrene	54,000	54,000	54,000
Chloroal anes and al enes	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Vinyl Chloride (Chloroethene)	0.12	0.063	0.081
Trichloromethane	370	110	190
1,2-Dichloroethane	1.8	0.71	1.0
Trichloroethene	55	12	25
1,1,1-Trichloroethane	3,100	700	1,400
Tetrachloroethene	660	130	290
1,1,1,2-Tetrachloroethane	590	120	260
1,1,2,2-Tetrachloroethane	1,200	290	580
Tetrachloromethane	15	3.0	6.6
E plosives	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
TNT	1,100	1,000	1,000
RDX	6,400	6,400	6,400
HMX	110,000	110,000	110,000
Pesticides	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Aldrin	54	54	54
Dieldrin	92	90	91
Atrazine	880	880	870
Dichlorvos	893	842	872
Endosulfan (alpha)	3,390	2,310 (0.003) *	2,990 (0.007) *

Endosulfan (beta)	3,480	2,580 (0.00007) *	3,160 (0.0002) *
Hexachlorocyclohexane (alpha)	14,900	14,000	14,600
Hexachlorocyclohexane (beta)	1,130	1,120	1,130
Hexachlorocyclohexane (gamma)	552	532	546
Chloro en enes	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Chlorobenzene	310	59	130
1,2-Dichlorobenzene	12,000 (3,240) *	2,100 (571) *	5,100 (1,370) *
1,3-Dichlorobenzene	180	32	77
1,4-Dichlorobenzene	22,000 (1,280) *	4,500 (224) *	10,000 (540) *
1,2,3-Trichlorobenzene	620	110	270
1,2,4-Trichlorobenzene	1,300	230	560
1,3,5-Trichlorobenzene	140	24	57.8
1,2,3,4-Tetrachlorobenzene	4,500 (728) *	1,800 (122) *	3,200 (304) *
1,2,3,5-Tetrachlorobenzene	250 (235) *	52 (39.4) *	120 (98.1) *
1,2,4,5-Tetrachlorobenzene	97	44 (19.7) *	73 (49.1) *
Pentachlorobenzene	830	650 (43.0) *	770 (107) *
Hexachlorobenzene	55	48 (0.20) *	53
Chlorophenols	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Chlorophenols (except Pentachlorophenol)	4,200	3,500	4,000
Pentachlorophenol	1,400	1,200	1,300
Other	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Carbon Disulphide	50	12	23
Hexachlorobutadiene	120	32	69

otes

* Soil or vapour Saturation limit, presented in brackets

CIE eneric Assessment Criteria AC and Delta Simons eneric Assessment Criteria DS AC

Residential Assumes Plant pta e mg g dr eight soil

Compound	Pu lished AC SO	DS AC SO	DS AC SO
etals			
Beryllium	51	51	51
Boron	291	290	290
Chromium (III)	3,000	3,000	3,000
Chromium (VI)	4.3	4.3	4.3
Copper	2,330	2,330	2,330
Vanadium	75	74	74
Zinc	3,750	3,750	3,750
Petroleum drocar ons	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Aliphatic EC5-EC6	110	30	55
Aliphatic >EC6-EC8	370	73	160
Aliphatic >EC8-EC10	110	19	46
Aliphatic >EC10-EC12	540 (283) *	93 (48) *	230 (118) *
Aliphatic >EC12-EC16	3,000 (142) *	740 (24) *	1,700 (59) *
Aliphatic >EC16-EC35	76,000	45,000 (8.48) *	64,000 (21) *
Aliphatic >EC35-EC44	76,000	45,000 (8.48) *	64,000 (21) *
Aromatic >EC5-EC7	280	65	130
Aromatic >EC7-EC8	611	120	270
Aromatic >EC8-EC10	151	27	65
Aromatic >EC10-EC12	346	69	160
Aromatic >EC12-EC16	593	140	310
Aromatic >EC16-EC21	770	250	480
Aromatic >EC21-EC35	1,230	890	1,100
Aromatic >EC35-EC44	1,230	890	1,100
Aromatic and Aliphatic >EC44-EC70	1,300	1,200	1,300
PA s	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Acenaphthene	1,000	210	480
Acenaphthylene	850	170	400
Anthracene	9,200	2,300	4,900

Benz[a]anthracene	5.9	3.1	4.7
Benzo[a]pyrene	1.0	0.83	0.94
Benzo[b]fluoranthene	7.0	5.6	6.5
Benzo[ghi]perylene	47	44	46
Benzo[k]fluoranthene	10	8.5	9.6
Chrysene	9.3	6.0	8.0
Dibenz[ah]anthracene	0.90	0.76	0.86
Fluoranthene	670	260	460
Fluorene	780	160	380
Indeno[123-cd]pyrene	4.2	3.2	3.9
Naphthalene	8.7	1.5	3.7
Phenanthrene	380	92	200
Pyrene	1,600	560	1,000
Chloroal anes and al enes	**Pu lished SO** **AC**	**Pu lished SO** **AC**	**Pu lished SO** **AC**
Vinyl Chloride (Chloroethene)	0.00099	0.00047	0.00064
Trichloromethane	2.7	0.75	1.3
1,2-Dichloroethane	0.014	0.0054	0.0080
Trichloroethene	0.49	0.11	0.22
1,1,1-Trichloroethane	28	6.2	13
Tetrachloroethene	4.8	0.94	2.1
1,1,1,2-Tetrachloroethane	4.8	0.90	2.1
1,1,2,2-Tetrachloroethane	6.3	1.4	2.9
Tetrachloromethane	0.089	0.018	0.039
E plosives	**Pu lished SO** **AC**	**Pu lished SO** **AC**	**Pu lished SO** **AC**
TNT	8.0	1.6	3.7
RDX	16	3.5	7.4
HMX	26	5.7	13
Pesticides	**Pu lished SO** **AC**	**Pu lished SO** **AC**	**Pu lished SO** **AC**
Aldrin	2.1	1.7	2.0
Dieldrin	2.2	0.69	1.4
Atrazine	1.3	0.24	0.56
Dichlorvos	1.3	0.29	0.6
Endosulfan (alpha)	16	2.9	7.0

Endosulfan (beta)	15	2.8	6.6
Hexachlorocyclohexane (alpha)	100	19	46
Hexachlorocyclohexane (beta)	8.5	1.7	3.9
Hexachlorocyclohexane (gamma)	3.0	0.58	1.4
Chloro en enes	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Chlorobenzene	1.7	0.33	0.73
1,2-Dichlorobenzene	91	16	39
1,3-Dichlorobenzene	1.7	0.29	0.7
1,4-Dichlorobenzene	167	30	72
1,2,3-Trichlorobenzene	6.1	1.0	2.6
1,2,4-Trichlorobenzene	11	1.8	4.5
1,3,5-Trichlorobenzene	1.3	0.23	0.57
1,2,3,4-Tetrachlorobenzene	62	12	29
1,2,3,5-Tetrachlorobenzene	2.8	0.49	1.2
1,2,4,5-Tetrachlorobenzene	1.4	0.3	0.68
Pentachlorobenzene	17	5.2	10
Hexachlorobenzene	1.4	0.59 (0.20) *	1.0 (0.50) *
Chlorophenols	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Chlorophenols (except Pentachlorophenol)	4.4	0.87	2.0
Pentachlorophenol	2.96	0.55	1.3
Other	**Pu lished AC SO**	**Pu lished AC SO**	**Pu lished AC SO**
Carbon Disulphide	0.44	0.10	0.20
Hexachlorobutadiene	1.2	0.21	0.51

otes
* Soil or vapour Saturation limit presented in brackets

Delta Simons eneric Assessment Criteria DS AC Residential ithout Plant pta e mg g dr eight soil

Compound	DS AC SO	DS AC SO	DS AC SO
etals			
Beryllium	51	51	51
Boron	10,000	10,000	10,000
Chromium (III)	3,010	3,010	3,010
Chromium (VI)	4.3	4.3	4.3
Copper	6,200	6,200	6,200
Vanadium	190	190	190
Zinc	40,400	40,400	40,400
Petroleum drocar ons	**DS AC SO**	**DS AC SO**	**DS AC SO**
Aliphatic EC5-EC6	110	30	55
Aliphatic >EC6-EC8	370	73	160
Aliphatic >EC8-EC10	110	19	46
Aliphatic >EC10-EC12	540 (283) *	93 (48) *	230 (118) *
Aliphatic >EC12-EC16	3,000 (142) *	750 (24) *	1,700 (59) *
Aliphatic >EC16-EC35	77,000	45,000 (8.5) *	64,000 (21) *
Aliphatic >EC35-EC44	77,000	45,000 (8.5) *	64,000 (21) *
Aromatic >EC5-EC7	980	260	480
Aromatic >EC7-EC8	2,700	610	1,300
Aromatic >EC8-EC10	190	33	81
Aromatic >EC10-EC12	870	180	420
Aromatic >EC12-EC16	1,710	1,300 (169) *	1,600 (419) *
Aromatic >EC16-EC21	1,300	1,300	1,300
Aromatic >EC21-EC35	1,300	1,300	1,300
Aromatic >EC35-EC44	1,300	1,300	1,300
Aromatic and Aliphatic >EC44-EC70	1,300	1,300	1,300
PA s	**DS AC SO**	**DS AC SO**	**DS AC SO**
Acenaphthene	3,900 (336) *	2,000 (57) *	3,100 (140) *
Acenaphthylene	3,900 (506) *	1,950 (86) *	3,000 (212) *
Anthracene	23,000	20,000 (1.2) *	22,000
Benz[a]anthracene	6.2	3.7	5.2

Benzo[a]pyrene	1.0	1.0	1.0
Benzo[b]fluoranthene	7.4	7.0	7.3
Benzo[ghi]perylene	48	47	47
Benzo[k]fluoranthene	10	10	10
Chrysene	10	8.8	9.7
Dibenz[ah]anthracene	0.93	0.87	0.9
Fluoranthene	1,000	970	990
Fluorene	2,900 (183) *	1,850 (31) *	2,500 (77) *
Indeno[123-cd]pyrene	4.4	4.2	4.4
Naphthalene	9.2	1.6	3.9
Phenanthrene	970	840 (36) *	930
Pyrene	2,400	2,400	2,400
Chloroal anes and al enes	**DS AC SO**	**DS AC SO**	**DS AC SO**
Vinyl Chloride (Chloroethene)	0.0011	0.00054	0.0007
Trichloromethane	3.22	0.92	1.6
1,2-Dichloroethane	0.016	0.0065	0.0093
Trichloroethene	0.51	0.11	0.23
1,1,1-Trichloroethane	28	6.3	13
Tetrachloroethene	5.3	1.0	2.3
1,1,1,2-Tetrachloroethane	5.7	1.1	2.4
1,1,2,2-Tetrachloroethane	12	2.7	5.5
Tetrachloromethane	0.090	0.018	0.040
E plosives	**DS AC SO**	**DS AC SO**	**DS AC SO**
TNT	58	57	57
RDX	370	370	370
HMX	6,500	6,500	6,500
Pesticides	**DS AC SO**	**DS AC SO**	**DS AC SO**
Aldrin	2.2	2.1	2.1
Dieldrin	3.9	3.5	3.8
Atrazine	32	31	32
Dichlorvos	37	25	32
Endosulfan (alpha)	110 (0.016) *	44 (0.0029) *	78 (0.00069) *
Endosulfan (beta)	120 (0.00038) *	53 (0.000067) *	89 (0.00016) *

Hexachlorocyclohexane (alpha)	650	17	42
Hexachlorocyclohexane (beta)	52	50	52
Hexachlorocyclohexane (gamma)	23	19	22
Chloro en enes	**DS AC SO**	**DS AC SO**	**DS AC SO**
Chlorobenzene	1.7	0.33	0.74
1,2-Dichlorobenzene	94	17	40
1,3-Dichlorobenzene	1.7	0.31	0.74
1,4-Dichlorobenzene	230	42	100
1,2,3-Trichlorobenzene	6.2	1.1	2.6
1,2,4-Trichlorobenzene	11	1.8	4.5
1,3,5-Trichlorobenzene	1.4	0.23	0.57
1,2,3,4-Tetrachlorobenzene	84	17	39
1,2,3,5-Tetrachlorobenzene	3.0	0.53	1.3
1,2,4,5-Tetrachlorobenzene	2.6	0.52	1.2
Pentachlorobenzene	27	14	21
Hexachlorobenzene	1.7	1.2 (0.2) *	1.5 (0.5) *
Chlorophenols	**DS AC SO**	**DS AC SO**	**DS AC SO**
Chlorophenols (except Pentachlorophenol)	110	58	85
Pentachlorophenol	35	22	31
Other	**DS AC SO**	**DS AC SO**	**DS AC SO**
Carbon Disulphide	0.44	0.10	0.20
Hexachlorobutadiene	1.3	0.22	0.55

otes
* Soil or vapour Saturation limit presented in brackets

EIC A S C AIRE eneric Assessment Criteria Commercial

Compound	EIC AC SO	EIC AC SO	EIC AC SO
etals			
Antimony	7,500	7,500	7,500
Barium	22,000	22,000	22,000
Molybdenum	17,000	17,000	17,000
Organics	**EIC AC SO**	**EIC AC SO**	**EIC AC SO**
1,1,2 Trichloroethane	400	94	190
1,1-Dichloroethane	850	280	450
1,1-Dichloroethene	92	26	46
1,2,4-Trimethylbenzene	220	42	99
1,2-Dichloropropane	12	3.3	5.9
2,4-Dimethylphenol	30,000 (7,240) *	16,000 (1,380) *	24,000 (3,140) *
2,4-Dinitrotoluene	3,800 (669) *	3,700 (141) *	3,700 (299) *
2,6-Dinitrotoluene	1,900 (1,400) *	1,900 (287) *	1,900 (622) *
2-Chloronaphthalene	2,200 (669) *	390 (114) *	960 (280) *
Biphenyl	48,000 (201) *	18,000 (34.4) *	33,000 (84.3) *
Bis (2-ethylhexyl)phthalate	86,000 (51.7) *	85,000 (8.68) *	86,000 (21.6) *
Bromobenzene	520	97	220
Bromodichloromethane	7.6	2.1	3.7
Bromoform	3,100	760	1500
Butyl benzyl phthalate	950,000 (154) *	940,000 (26.3) *	940,000 (64.7) *
Chloroethane	2,100	960	1,300
Chloromethane	1.6	1	1.2
Cis 1,2-Dichloroethene	47	14	24
Dichloromethane	560	270	360
Diethyl phthalate	290,000 (65) *	150,000 (13.7) *	220,000 (29.1) *
Di-*n*-butyl phthalate	15,000 (27.3) *	15,000 (4.65) *	15,000 (11.4) *
Di-*n*-octyl phthalate	89,000 (196) *	89,000 (32.6) *	89,000 (81.5) *
Hexachloroethane	120 (48.1) *	22 (8.17) *	53 (20.1) *
Iso-propylbenzene	7,700 (2,250) *	1,400 (390) *	3,300 (950) *
Methyl *tert*-butyl ether	24,000	7,900	13,000
Propylbenzene	21,000 (2,330) *	4,100 (402) *	9,700 (981) *

Styrene	11,000 (3,350) *	3,300 (626) *	6,500 (1,440) *
Total Cresols (2-, 3- and 4-methylphenol)	180,000 (73,300) *	160,000 (15,000) *	180,000 (32,500) *
Trans 1,2-dichloroethene	81	22	40
Tributyl tin oxide	200 (241) *	130 (41.3) *	180 (101) *

otes

* GAC exceed soil saturation concentration (given in brackets). Soil concentrations above the soil saturation may indicate that NAPL is present. Risks from NAPL may need to be considered separately.

EIC A S C AIRE eneric Assessment Criteria Residential ithout consumption of homegro n produce

Compound	EIC AC SO	EIC AC SO	EIC AC SO
etals			
Antimony	550	550	550
Barium	1,300	1,300	1,300
Molybdenum	670	670	670
Organics	**EIC AC SO**	**EIC AC SO**	**EIC AC SO**
1,1,2 Trichloroethane	3.9	0.88	1.8
1,1-Dichloroethane	7.7	2.5	4.1
1,1-Dichloroethene	0.82	0.23	0.41
1,2,4-Trimethylbenzene	2.3	0.41	0.99
1,2-Dichloropropane	0.085	0.024	0.042
2,4-Dimethylphenol	730	210	410
2,4-Dinitrotoluene	170	170 (141) *	170
2,6-Dinitrotoluene	87	78	84
2-Chloronaphthalene	22	3.8	9.3
Biphenyl	980 (201) *	220 (34.4) *	500 (84.3) *
Bis (2-ethylhexyl)phthalate	2,800 (51.7) *	2,700 (8.68) *	2,800 (21.6) *
Bromobenzene	4.9	0.91	2.1
Bromodichloromethane	23	5.2	11
Bromoform	0.070	0.019	0.034
Butyl benzyl phthalate	44,000 (154) *	42,000 (26.3) *	44,000 (64.7) *
Chloroethane	18	8.4	11
Chloromethane	0.013	0.0085	0.0099
Cis 1,2-Dichloroethene	0.39	0.12	0.2
Dichloromethane	4.5	2.1	2.8
Diethyl phthalate	6,300 (65) *	1,800 (13.7) *	3,500 (29.1) *
Di-*n*-butyl phthalate	450 (27.3) *	450 (4.65) *	450 (11.4) *
Di-*n*-octyl phthalate	3,400 (196) *	3,400 (32.6) *	3,400 (81.5) *
Hexachloroethane	1.3	0.22	0.54
Iso-propylbenzene	67	12	28
Methyl *tert*-butyl ether	220	73	120

Propylbenzene	230	40	97
Styrene	170	35	78
Total Cresols (2-, 3- and 4-methylphenol)	6,900	3,700	5,400
Trans 1,2-dichloroethene	0.71	0.19	0.35
Tributyl tin oxide	5.7	1.4	3.1

otes

* GAC exceed soil saturation concentration (given in brackets). Soil concentrations above the soil saturation may indicate that NAPL is present. Risks from NAPL may need to be considered separately.

EIC A S C AIRE eneric Assessment Criteria Residential ith consumption of homegro n produce

Compound	EIC AC SO	EIC AC SO	EIC AC SO
etals			
Antimony	ND	ND	ND
Barium	ND	ND	ND
Molybdenum	ND	ND	ND
Organics	**EIC AC SO**	**EIC AC SO**	**EIC AC SO**
1,1,2 Trichloroethane	2.7	0.6	1.2
1,1-Dichloroethane	7.4	2.4	3.9
1,1-Dichloroethene	0.82	0.23	0.40
1,2,4-Trimethylbenzene	2.0	0.35	0.85
1,2-Dichloropropane	0.084	0.024	0.042
2,4-Dimethylphenol	97	19	43
2,4-Dinitrotoluene	7.2	1.5	3.2
2,6-Dinitrotoluene	3.9	0.78	1.7
2-Chloronaphthalene	22	3.7	9.2
Biphenyl	360	66 (34.4) *	160
Bis (2-ethylhexyl)phthalate	1,100 (51.7) *	280 (8.68) *	610 (21.6) *
Bromobenzene	4.7	0.87	2
Bromodichloromethane	0.061	0.016	0.030
Bromoform	13	2.8	5.9
Butyl benzyl phthalate	7,200 (154) *	1,400 (26.3) *	3,300 (64.7) *
Chloroethane	18	8.3	11
Chloromethane	0.013	0.0083	0.0098
Cis 1,2-Dichloroethene	0.37	0.11	0.19
Dichloromethane	1.7	0.58	0.98
Diethyl phthalate	570 (65) *	120 (13.7) *	260 (29.1) *
Di-*n*-butyl phthalate	67 (27.3) *	13 (4.65) *	31 (11.4) *
Di-*n*-octyl phthalate	3,100 (196) *	2,300 (32.6) *	2,800 (81.5) *
Hexachloroethane	1.1	0.2	0.48
Iso-propylbenzene	64	11	27
Methyl *tert*-butyl ether	160	49	84

Propylbenzene	190	34	82
Styrene	43	8.1	19
Total Cresols (2-, 3- and 4-methylphenol)	400	80	180
Trans 1,2-dichloroethene	0.7	0.19	0.34
Tributyl tin oxide	1.3	0.25	0.59

otes

* GAC exceed soil saturation concentration (given in brackets). Soil concentrations above the soil saturation may indicate that NAPL is present. Risks from NAPL may need to be considered separately.

ND – Not derived. It was considered beyond the scope of the project to collate and review plant concentration factors for the metals and therefore GAC have only been produced for land-uses that do not involve plant uptake.

ithdra n C EA Soil uideline alues S s derived using C EA K eta

Compound	Residential ith plant upta e mg g dr eight soil	Residential ithout plant upta e mg g dr eight soil	Allotments mg g dr eight soil	Commercial Industrial mg g dr eight soil
Inorganic compounds				
Arsenic	20	20	20	500
Cadmium	(pH6) 1 (pH7) 2 (pH8) 8	30	(pH6) 1 (pH7) 2 (pH8) 8	1,400
Chromium	130	200	130	5,000
Lead	450	450	450	750
Mercury	8	15	8	480
Nickel	50	75	50	5,000
Selenium	35	35	35	8,000
Organic compounds				
Ethylbenzene	9#	16#	18#	48,000#
Toluene	3#	3#	31#	150#
Phenol	78#	21,900#	80#	21,900#

otes

Based on 1 % soil organic matter, which is the most conservative scenario of those presented within the appropriate SGV document.

Ethylbenzene Residential without Plant Uptake SGV updated April 2005.

ICRC alues for Copper and inc use CIE ACs for uman ealth

Compound	ICRC mg g
Copper	130
Zinc	300

otes

It is noted that at elevated copper and zinc concentrations, phytotoxicity might start to limit vegetable growth and may become a major cause of concern. In these circumstances the ICRCL limit of 130 mg/kg for copper, and the ICRCL Tentative 'Trigger concentration' of 300 mg/kg for zinc might need to be considered as suitable generic assessment criterias in order to be protective of plant growth.

Dutch Intervention alues

Compound	Dutch Intervention alue mg g dr matter
Cobalt	240
Free cyanide	20
Complex cyanide	(pH <5) 650 (pH >5) 50

otes

The soil remediation Intervention Values indicate when the functional properties of the soil for humans, plant and animal life, is seriously impaired or threatened. They are representative of the level of contamination above which there is a serious case of soil contamination (Dutch Circular). Values for soil/sediment have been expressed as the concentration in a standard soil assumed to be 10% organic matter and 25 % clay.

SEPA PR s

Compound	Residential Soil mg g	Industrial Soil mg g
Manganese and compounds	1,800	19,000
Ammonium sulphate	12,000	100,000

otes
The USEPA Preliminary Remediation Goals are guideline values to be used for Site screening. Ammonium sulphamate has been used by Delta-Simons as a proxy for Ammonium.

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Arsenic	0.01	0.05	0.025	0.05	0.05 or 0.1 see Table 7	0.01	0.06	
Boron	1	2	7	2		0.5		
Cadmium	0.005	0.005	0.005 Estuary 0.0025 Marine	0.005	0.005	0.003	0.006	
Chromium	0.05	0.005 to 0.25 (see table 10)	0.015	0.05	0.05 (Total Cr)	0.05	0.03	
Copper	2	0.001 to 0.028 (see table 10)	0.005	3	0.05	2	0.075	
Cyanide	0.05				0.05	0.07	1.5	
Nickel	0.02	0.05 to 0.2 (see table 10)	0.03	0.05		0.02	0.075	
Zinc		0.008 to 0.125 (see table 10)	0.04	5	3		0.8	
Selenium	0.01			0.01	0.01	0.01		
Lead	0.025 until 2013	0.004 to 0.25 (see table 10)	0.025	0.05	0.05	0.01	0.075	
Mercury	0.001	0.001	0.0005 Estuary 0.0003 Marine	0.001	0.001	0.001	0.0003	
Ammonium	0.5 indicator parameter not requirement	0.015 (ammonia NH_3 as N)	0.021 (ammonia NH_3 as N)	0.5 (NH_3 and NH_4 ions)	1.5 or 4 see Table 7	Not of health concern at levels in drinking water		
Tetrachloroethene	0.01	0.01	0.01	0.01		0.04	0.04	
Vinyl Chloride	0.0005					0.0003	0.005	
Sulphate	250 Indicator parameter not requirement	400	250	250	250	Not of health concern at levels in drinking water		
Benzene (and aromatics C6-C7)	0.001	0.03	0.03			0.01	0.03	
Ethylbenzene						0.3	0.150	

a le ater ualit Standards for Common Contaminants of Concern

Contaminants of Concern	ater Suppl Regs amended [A] mg l	E S resh ater mg l	Coastal and Estuarine E S mg l	ater Suppl ater ualit Regs mg l	Surface aters Regs mg l	O uidelines for drin ing ater qualit mg l	DI mg l	SEPA PR ap ater mg l
Toluene (and aromatics >C7-C8)		0.05	0.04			0.7	1	
Xylene (s)						0.5	0.07	
Xylene – o		0.03	0.03					
Xylene –m/p		0.03	0.03					
MTBE							9.2 [a]	0.011
Dissolved/ emulsified hydrocarbons				0.01~	0.05 if DW1* 0.2 if DW2 1 if DW3			
Polycyclic aromatic hydrocarbons	0.0001^			0.0002 @	0.0002 if DW1 0.0002 if DW2 0.001 if DW3			
Mineral Oil							0.6[D]	
Naphthalene		0.01	0.005				0.07	
Phenanthrene							0.005	
Anthracene							0.005	
Fluoranthene							0.001	
Benz(a)anthracene							0.0005	
Chrysene							0.0002	
Benzo(ghi)perylene							0.00005	
Benzo(k)fluoranthene							0.00005	
Benzo(a)pyrene	0.00001					0.0007	0.0005	
Indeno(123cd)pyrene							0.00005	
Trichloromethane		0.012	0.012			0.2	0.4	
1,1,1-Trichloroethane		0.1	0.1				0.3	
Carbon Tetrachloride		0.012	0.012					
Trichloroethene		0.01	0.01			0.07	0.5	
1,2-Dichloroethane		0.01	0.01			0.03	0.4	
Phenol (s)		0.03	0.03	0.0005	0.001		2	
PCBs							0.00001	
Pesticides	0.0001(			0.0001)	0.001[p]		Various Listed	

a le ater ualit Standards for Common Contaminants of Concern

Contaminants of Concern	ater Suppl Regs amended [A] mg l	E S resh ater mg l	Coastal and Estuarine E S mg l	ater Suppl ater ualit Regs mg l	Surface aters Regs mg l	O uidelines for drin ing ater qualit mg l	Dl mg l	SEPA PR ap ater mg l
Dibenzofuran								0.012

RE ERE CES

[A] The Water Supply (Water Quality) Regulations 2000, which were amended by the Water Supply (Water Quality) (Amendment) Regulations 2001 and which apply in England. The values are also those of The Water Supply (Water Quality) Regulations 2001 (Wales), which applies in Wales.

The Water Supply (Water Quality) Regulations 2000, The Water Supply (Water Quality) (Amendment) Regulations 2001, The Water Supply (Water Quality) Regulations 2001 (Wales), The Water Supply (Water Quality) Regulations 1989 and The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 can be accessed via:
http://www.dwi.gov.uk/regs/regulations.shtm

DIV – Circular on Target Values and Intervention Values for Soil Remediation. DBO/199226863, Ministry of Housing, Spatial Planning and Environment Directorate –General for Environmental Protection. Published in the Netherlands Government Gazette no. 39 on 4th February 2000. [a] Dutch Intervention Value for MTBE is the Dutch Indicative level for Serious Groundwater Contamination

http://international.vrom.nl/pagina.html?id=7445

USEPA PRG Region 9 October 2004
http://www.epa.gov/region09/waste/sfund/prg/files/04prgtable.pdf

EA – Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA 1990. No. 07-02, V.2. May 2002.
EQS freshwater, Estuary and Marine are from the Environment Agency Web Site 9 Feb 2005:
http://www.environment-agency.gov.uk/yourenv/eff/water/213902/290690/290939/?version=1&lang=_e

WHO Guidelines for drinking water quality, 3rd Edition, 2004
http://www.who.int/water_sanitation_health/dwq/gdwq3/en/

^ The Water Supply (Water Quality) Regulations 2000. The parametric Value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process. The specified compounds are benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.
(Pesticides. Aldrin, Dieldrin, Heptachlor and Heptachlor epoxide are 0.00003 mg/l each. Other pesticides are 0.0001. Total pesticides are 0.0005 mg/l.

~The Water Supply (Water Quality) Regulations 1989 value for dissolved/ emulsified hydrocarbons (after extraction with petroleum ether); mineral oils
@ Water Supply Regulations 1989 value for polycyclic aromatic hydrocarbons. The sum of the detected concentrations of fluoranthene, benzo (b)fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, benzo (g,h,I) perylene and indeno(1,2,3-cd-pyrene)

[)] Pesticides. Water Supply Regs 1989 for individual pesticides. Is 0.0005 mg/l for total pesticides.

[P] The Surface Waters (Abstraction for Drinking Water) (Classification Regulations) 1996 for total pesticides (parathion, hexachloro-cyclohexane, dieldrin).

[D] DIV. Mineral Oil is the sum of all alkanes (both straight and branch-chain). When contamination is due to mixtures (eg petrol or heating oil), then the content of aromatic and/or polycyclic aromatic hydrocarbons must also be determined.

*DW1= Surface water of Category A1, to be treated by simple physical treatment and disinfection e.g. rapid filatration and disinfection, in order to be transformed into drinking water.
DW2= Surface water of Category A2, to be treated by Normal physical treatment, chemical treatment and disinfection, e.g. pre-chlorination, coagulation, flocculation, decantation, filtration, disinfection (final chlorination)in order to be transformed into drinking water.
DW3= Surface water of Category A3, to be treated by Intensive physical and chemical treatment, extended treatment and disinfection e.g. chlorination to break-point, coagulation, flocculation, decantation, filtration, adsorption (activated carbon), disinfection (ozone, final chlorination) in order to be transformed into drinking water.
Information on A1, A2, A3 from http://rod.eionet.eu.int/show.jsv?id=202&mode=S

a le ater Suppl ater ualit Regulations a le Chemical Parameters Part I Directive requirements

Parameters	Concentration or alue ma imum	nits of measurement
Acrylamide	0.1	µg/l
Antimony	5.0	µg Sb/l
Arsenic	10	µg As/l
Benzene	1.0	µg/l
Benzo(a)pyrene	0.010	µg/l
Boron	1000	µg B/l
Bromate	10	µgBrO_3/l
Cadmium	5.0	µg Cd/l
Chromium	50	µg Cr/l
Copper	2000	µg Cu/l
Cyanide	50	µgCN/l
1,2-dichloroethane	3	µg/l
Epichlorohydrin	0.1	µg/l
Fluoride	1500	µg F/l
Lead – from 25th Dec 2003 to 25th Dec 2013	25	µg Pb/l
Lead – on and after 25th Dec 2013	10	µg Pb/l
Mercury	1.0	µg Hg/l
Nickel	20	µg Ni/l
Nitrate	50,000	µg NO_3/l
Nitrite	500	µg NO_2/l
Pesticides		
Aldrin	0.03	µg/l
Dieldrin	0.03	µg/l
Heptachlor	0.03	µg/l
Heptachlor epoxide	0.03	µg/l
Other pesticides	0.1	µg/l
Pesticides: Total (i)	0.5	µg/l
Polycyclic aromatic hydrocarbons (ii)	0.1	µg/l
Selenium	10	µg Se/l
Tetrachloroethene and Trichloroethene(iii)	10	µg/l
Trihalomethanes: Total(iv)	100	µg/l
Vinyl Chloride	0.5	µg/l

(i) Pesticides: Total means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.

(ii) The specified compounds are;benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene. The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

(iii) The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

(iv) The specified compounds are:chloroform, bromoform, dibromomethane, bromodichloromethane. The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

a le ater Suppl ater ualit Regulations a le Chemical Parameters Part II ational requirements

Parameters	**Concentration or alue ma imum unless other ise stated**	**nits of measurement**
Aluminium	200	μg Al/l
Colour	20	mg/l Pt/Co
Hydrogen ion	10 6.5 (minimum)	pH value
Iron	200	μg Fe/l
Manganese	50	μg Mn/l
Odour	3 at 25 °C	Dilution number
Sodium	200	mg Na/l
Taste	3 at 25 °C	Dilution number
Tetrachloromethane	3	μg/l
Turbidity	4	NTU

a le ater Suppl ater ualit Regulations as amended and ith references amended to refer to the consolidation Act Prescri ed Concentrations or alues a le A

Parameters	Concentration or alue ma imum unless other ise stated	nits of measurement
Colour	20	mg/l Pt/Co scale
Turbidity (including suspended solids)	4	Formazin turbidity units
Odour (including hydrogen sulphide)	3 at 25 °C	Dilution number
Taste	3 at 25 °C	Dilution number
Temperature	25	°C
Hydrogen ion	9.5 5.5 (minimum)	pH value
Sulphate	250	mg SO_4/l
Magnesium	50	mg M/l
Sodium	150	mg Na/l
Potassium	12	mg K/l
Dry residues	1500 (after drying at 180°C	mg/l
Nitrate	50	mg NO_3/l
Nitrite	0.1	mg NO_2/l
Ammonium (ammonia and ammonium ions)	0.5	mg NH_4/l
Kjeldahl nitrogen	1	mg N/l
Oxidizability (permanganate value)	5	mg/O_2/l
Total organic carbon	No significant increase over that normally observed	mg C/l
Dissolved or emulsified hydrocarbons (after extraction with petroleum ether); mineral oils	10	μg/l
Phenols	0.5	μg C_6H_5OH/l
Surfectants	200	μg/l (as lauryl sulphate)
Aluminium	200	μg Al/l
Iron	200	μg Fe/l
Manganese	50	μg Mn/l
Copper	3000	μg Cu/l
Zinc	5000	μg Zn/l
Phosphorus	2200	μg P/l
Fluoride	1500	μg F/l
Silver	10	μg Ag/l

a le ater Suppl ater ualit Regulations as amended and ith references amended to refer to the consolidation Act Prescri ed Concentrations or alues a le

Parameters	Concentration or alue ma imum unless other ise stated	nits of measurement
Arsenic	50	µg Asl/l
Cadmium	5	µg Cd/l
Cyanide	50	µg CN/l
Chromium	50	µg Cr/l
Mercury	1	µg Hg/l
Nickel	50	µg Ni/l
Lead	50	µg Pb/l
Antimony	10	µg Sb/l
Selenium	10	µg Se/l
Pesticides and related products: (a) individual substances (b) total substances (i)	 0.1 0.5	 µg/l µg/l
Polycyclic aromatic hydrocarbons (ii)	0.2	µg/l

(i) The sum of the detected concentrations of individual substances

(ii) The sum of the detected concentrations of fluoranthene, benzo (b)fluoranthene, benzo(k)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.

a le ater Suppl ater ualit Regulations as amended and ith references amended to refer to the consolidation Act Prescri ed Concentrations or alues a le D

Parameters	Concentration or alue ma imum unless other ise stated	nits of measurement
Conductivity	1500 at 20°C	µS/cm
Chloride	400	mg Cl/l
Calcium	250	mg Ca/l
Substances extractable in chloroform	1	mg/l dry residue
Boron	2000	µg B/l
Barium	1000	µg Ba/l
Benzo 3,4 pyrene	10	ng/l
Tetrachloromethane	3	µg/l
Trichloroethene	30	µg/l
Tetrachloroethene	10	µg/l

a le he Surface aters A straction for Drin ing ater Classification Regulations Criteria for Classification of aters he limits set out elo are ma ima

Parameters	nits	imits		
		D	D	D
Coloration (after simple filtration)	mg/l Pt Scale	20	100	200
Temperature	°C	25	25	25
Nitrates	mg/l NO_3	50	50	50
Fluorides	mg/l F	1.5		
Dissolved iron	mg/l Fe	0.3	2	
Copper	mg/l Cu	0.05		
Zinc	mg/l Zn	3	5	5
Arsenic	mg/l As	0.05	0.05	0.1
Cadmium	mg/l Cd	0.005	0.005	0.005
Total chromium	mg/l Cr	0.05	0.05	0.05
Lead	mg/l Pb	0.05	0.05	0.05
Selenium	mg/l Se	0.01	0.01	0.01
Mercury	mg/l Hg	0.001	0.001	0.001
Barium	mg/l Ba	0.1	1	1
Cyanide	mg/l CN	0.05	0.05	0.05
Sulphates	mg/l SO_4	250	250	250
Phenols (phenol index) paranitraniline 4-aminoantipyrine	mg/l C_6H_5OH	0.001	0.005	0.1
Dissolved or emulsified hydrocarbons	mg/l	0.05	0.2	1
Polycyclic aromatic hydrocarbons	mg/l	0.0002	0.0002	0.001
Total pesticides (parathion, hexachloro-cyclohexane, dieldrin)	mg/l	0.001	0.0025	0.005
Ammonium	mg/l NH_4		1.5	4

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DW3= Surface water of Category A3, to be treated by Intensive physical and chemical treatment, extended treatment and disinfection e.g. chlorination to break-point, coagulation, flocculation, decantation, filtration, adsorption (activated carbon), disinfection (ozone, final chlorination) in order to be transformed into drinking water.

Information on A1, A2, A3 from http://rod.eionet.eu.int/show.jsv?id=202&mode=S

a le Dangerous Su stances a le Environmental ualit Standards E S for ist dangerous su stances, EC Dangerous Su stances Directive EEC

Su stance	Sediment	E S annual average, µg l All total, e cept D dissolved		
		resh ater	Estuar	arine
Mercury	Standstill (no deterioration)	1	0.5 (D)	0.3 (D)
Cadmium	Standstill (no deterioration)	5	5 (D)	2.5 (D)
Hexachlorocyclohexane	Standstill (no deterioration)	0.1	0.02	0.02
Carbon tetrachloride	Standstill (no deterioration)	12	12	12
Total DDT	Standstill (no deterioration)	0.025	0.025	0.025
pp DDT	Standstill (no deterioration)	0.01	0.01	0.01
Pentachlorophenol	Standstill (no deterioration)	2	2	2
Dieldrin	Standstill (no deterioration)	0.01	0.01	0.01
Isodrin	Standstill (no deterioration)	0.005	0.005	0.005
Aldrin	Standstill (no deterioration)	0.01	0.01	0.01
Endrin	Standstill (no deterioration)	0.005	0.005	0.005
Total ‘Drins	Standstill (no deterioration)	0.03	0.03	0.03
Hexachlorobenzene	Standstill (no deterioration)	0.03	0.03	0.03
Hexachlorobutadiene	Standstill (no deterioration)	0.1	0.1	0.1
Chloroform	Standstill (no deterioration)	12	12	12
1,2-dichloroethane	Standstill (no deterioration)	10	10	10
Trichloroethylene	Standstill (no deterioration)	10	10	10
Perchlorethylene	Standstill (no deterioration)	10	10	10
Trichlorobenzene	Standstill (no deterioration)	0.4	0.4	0.4

a le Environmental ualit Standards E S for ist dangerous su stances, EC Dangerous Su stances Directive EEC a le a

Su stance	E S pe	All resh ater E S µg l	Coastal and Estuarine E S µg l
1,1,1-Trichloroethane	Annual average	100	100
1,1,2-Trichloroethane	Annual average	400	300
2,4-D (ester)	Annual average	1	1
2,4-D (non-ester)	Annual average	40	40
2,4-Dichlorophenol	Annual average	20	20
2-Chlorophenol	Annual average	50	50
4-Chloro-3-methyl-phenol	Annual average	40	40
Arsenic (dissolved)	Annual average	50	25
Atrazine & Simazine	Annual average	2	2
Azinphos-methyl	Annual average	0.01	0.01
Bentazone	Annual average	500	500
Benzene	Annual average	30	30
Biphenyl	Annual average	25	25
Boron (dissolved)	Annual average	2000	7000
Chloronitrotoluenes	Annual average	10	10
Chromium (dissolved)	Annual average	Hardness related	15
Copper (dissolved)	Annual average	Hardness related	5
Cyfluthrin	95th percentile	0.001	0.001
Demeton	Annual average	0.5	0.5
Dichlorvos	Annual average	0.001	0.04
Dichlorvos	Maximum concentration	-	0.6
Dimethoate	Annual average	1	1
Endosulphan	Annual average	0.003	0.003
Fenitrothion	Annual average	0.01	0.01
Flucofuron	95th percentile	1	1
Iron (dissolved)	Annual average	1000	1000
Lead (dissolved)	Annual average	Hardness related	25
Linuron	Annual average	2	2
Malathion	Annual average	0.01	0.02
Mecoprop	Annual average	20	20
Mevinphos	Maximum concentration	0.02	-
Naphthalene	Annual average	10	5
Nickel (dissolved)	Annual average	Hardness related	30
Omethoate	Annual average	0.01	-
PCSDs	95th percentile	0.05	0.05
Permethrin	95th percentile	0.01	0.01
pH	95th percentile	6-9	6-8.5
Sulcofuron	95th percentile	25	25
Toluene	Annual average	50	40
Triazaphos	Annual average	0.005	0.005
Tributyltin	Maximum concentration	0.02	0.002
Trifluralin	Annual average	0.1	0.1
Triphenyltin	Maximum concentration	0.02	0.008
Vanadium (dissolved)	Annual average	Hardness related	100
Xyelene (m and p, o)	Annual average	30	30
Zinc (total)	Annual average	Hardness related	40

a le Dangerous Su stances a le Environmental ualit Standards E S for hardness related ist dangerous su stances, EC Dangerous Su stances Directive EEC

Su stance	E S t pe	E S µg l for ardness ands mg l CaCO					
Freshwaters, suitable for all fishlife							
Copper (dissolved)	Annual average	1	6	10	10	10	28
Copper (dissolved)	95th percentile	5	22	40	40	40	112
Nickel (dissolved)	Annual average	50	100	150	150	200	200
Vanadium (dissolved)	Annual average	20	20	20	20	60	60
Freshwaters, suitable for Salmonid (game) fish							
Chromium (dissolved)	Annual average	5	10	20	20	50	50
Lead (dissolved)	Annual average	4	10	10	20	20	20
Zinc (total)	Annual average	8	50	75	75	75	125
Zinc (total)	95th percentile	30	200	300	300	300	500
Freshwaters, suitable for Cyprinid (coarse) fish							
Chromium (dissolved)	Annual average	150	175	200	200	250	250
Lead (dissolved)	Annual average	20	125	125	250	250	250
Zinc (total)	Annual average	75	175	250	250	250	500
Zinc (total)	95th percentile	300	700	1000	1000	1000	200

a le orld ealth Organisation uidelines for Drin ing ater qualit , rd Edition uideline values for chemicals that are of health significance in drin ing ater

Chemical	uideline value mg litre	Remar s
Acrylamide	0.0005[b]	
Alachlor	0.02[b]	
Aldicarb	0.01	Applies to aldicarb sulfoxide and aldicarb sulfone
Aldrin and dieldrin	0.00003	For combined aldrin plus dieldrin
Antimony	0.02	
Arsenic	0.01(P)	
Atrazine	0.002	
Barium	0.7	
Benzene	0.01[b]	
Benzo(a)pyrene	0.0007[b]	
Boron	0.5 (T)	
Bromate	0.01[b] (A, T)	
Bromodichloromethane	0.06[b]	
Bromoform	0.1	
Cadmium	0.003	
Carbofuran	0.007	
Carbon tetrachloride	0.004	
Chloral hydrate (trichloroacetaldehyde)	0.01 (P)	
Chlorate	0.7 (D)	
Chlordane	0.0002	
Chlorine	5 (C)	For residual disinfection, there should be a residual concentration of free chlorine of ≥0.5 mg/litre after at least 30 min contact time at pH <8.0
Chlorite	0.7 (D)	
Chloroform	0.2	
Chlorotoluron	0.03	
Chlorpyrifos	0.03	
Chromium	0.05 (P)	For total chromium
Copper	2	Staining of laundry and sanitary ware may occur below guideline value
Cyanazine	0.0006	
Cyanide	0.07	
Cyanogen chloride	0.07	For cyanide as total cyanogenic compounds
2,4-D (2,4-dichlorophenoxyacetic acid)	0.03	Applies to free acid
2,4-DB	0.09	
DDT and metabolites	0.001	
Di(2-ethylhexyl)phthalate	0.008	
Dibromoacetonitrile	0.07	
Dibromochloromethane	0.1	
1,2-Dibromo-3-chloropropane	0.001[b]	
1,2-Dibromoethane	0.0004[b] (P)	
Dichloroacetate	0.05 (T,D)	
Dichloroacetonitrile	0.02 (P)	
Dichlorobenzene, 1,2-	1 (C)	

a le orld ealth Organisation uidelines for Drin ing ater qualit , rd Edition uideline values for chemicals that are of health significance in drin ing ater

Chemical	uideline value mg litre	Remar s
Dichlorobenzene,1,4-	0.3 (C)	
Dichloroethane,1,2-	0.03[b]	
Dichloroethene, 1,1-	0.03	
Dichloroethene, 1,2-	0.05	
Dichloromethane	0.02	
1,2-Dichloropropane (1,2-DCP)	0.04 (P)	
1,3-Dichloropropene	0.02[b]	
Dichloroprop	0.1	
Dimethoate	0.006	
Edetic acid (EDTA)	0.6	Applies to the free acid
Endrin	0.0006	
Epichlorohydrin	0.0004 (P)	
Ethylbenzene	0.3 (C)	
Fenoprop	0.009	
Fluoride	1.5	Volume of water consumed and intake from other sources should be considered when setting national standards
Formaldehyde	0.9	
Hexachlorobutadiene	0.0006	
Isoproturon	0.009	
Lead	0.01	
Lindane	0.002	
Manganese	0.4 (C)	
MCPA	0.002	
Mecoprop	0.01	
Mercury	0.001	For total mercury (inorganic plus organic)
Methoxychlor	0.02	
Metolachlor	0.01	
Microcystin-LR	0.001 (P)	For total microcystin-LR (free plus cell-bound)
Molinate	0.006	
Molybdenum	0.07	
Monochloramine	3	
Monochloracetate	0.02	
Nickel	0.02 (P)	
Nitrate (as NO_3^-)	50	Short-term exposure
Nitrilotriacetic acid (NTA)	0.2	
Nitrite (as NO_2^-)	3 0.2 (P)	Short-term exposure Long-term exposure
Pendimethalin	0.02	
Pentachlorophenol	0.009[b] (P)	
Pyriproxyfen	0.3	
Selenium	0.01	
Simazine	0.002	
Styrene	0.02 (C)	
2,4,5-T	0.009	
Terbuthylazine	0.007	
Tetrachloroethene	0.04	
Toluene	0.7 (C)	

a le orld ealth Organisation uidelines for Drin ing ater qualit , rd Edition uideline values for chemicals that are of health significance in drin ing ater

Chemical	uideline value mg litre	Remar s
Trichloroacetate	0.2	
Trichloroethene	0.07 (P)	
Trichlorophenol,2,4,6-	0.2[b] (C)	
Trifluralin	0.02	
Trihalomethanes		The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1
Uranium	0.015 (P,T)	Only chemical aspects of uranium addressed
Vinyl chloride	0.0003[b]	
Xylenes	0.5 (C)	

[a] P = provisional guideline value, as there is evidence of a hazard, but the available information on health effects is limited; T= provisional guideline value because calculated guideline value is below the level that can be achieved through practical treatment methods, source protection, etc.; A= provisional guideline value because calculated guideline value is below the achievable quantification level; D= provisional guideline value because disinfection is likely to result in the guideline value being exceeded; C= concentrations of the substance at or below the health-based guideline value may affect the appearance, taste or odour of the water, leading to consumer complaints.

[b] For substances that are considered to be carcinogenic, the guideline value is the concentration in drinking-water associated with an upper-bound excess lifetime cancer risk of 10^{-5} (one additional cancer per 100 000 of the population ingesting drinking-water containing the substance at the guideline value for 70 years). Concentrations associated with upper-bound estimated excess lifetime cancer risks of 10^{-4} and 10^{-6} can be calculated by multiplying and dividing, respectively, the guideline value by 10.

a le Dutch Intervention alues for round ater

Su stance	Intervention alue µg l in solution
etals	
Antimony	20
Arsenic	60
Barium	625
Cadmium	6
Chromium	30
Cobalt	100
Copper	75
Mercury	0.3
lead	75
Molybdenum	300
Nickel	75
Zinc	800
Inorganic Compounds	
Cyanides – free	1500
Cyanides – complex (pH <5)	1500
Cyanides – complex (pH ≥ 5)	1500
Thiocyanates (sum)	1500
Aromatic Compounds	
Benzene	30
Ethylbenzene	150
Toluene	1000
Xylenes	70
Styrene (vinyl benzene)	300
phenol	2000
Cresols (sum)	200
Catechol(o-dihydroxybenzene)	1250
Resorcinol(m-dihydroxybenzene)	600
Hydroquinone(p-dihydroxybenzene)	800
Pol c clic Aromatic drocar ons PA	
Naphthalene	70
Anthracene	5
Phenanthrene	5
Fluoranthene	1
Benzo(a)anthracene	0.5
Chrysene	0.2
Benzo(a)pyrene	0.05
Benzo(ghi)perylene	0.05
Benzo(k)fluoranthene	0.05
Indeno(1,2,3-cd)pyrene	0.05
Chlorinated drocar ons	
Vinyl Chloride	5
Dichloromethane	1000
1,1-dichloroethane	900
1,2-dichloroethane	400
1,1-dichloroethene	10
1,2-dichloroethene (cis and trans)	20
Dichloropropane	80
Trichloromethane (chloroform)	400
1,1,1-trichloroethane	300
1,1,2-trichloroethane	130
Trichloroethene (Tri)	500
Tetrachloromethane (Tetra)	10

Su stance	Intervention alue μg l in solution
Tetrachloroethene (per)	40
Monochlorobenzene	180
Dichlorobenzenes	50
Trichlorobenzenes	10
Tetrachlorobenzenes	2.5
Pentachlorobenzene	1
Hexachlorobenzene	0.5
Monochlorophenols (sum)	100
Dichlorophenols	30
Trichlorophenols	10
Tetrachlorophenols	10
Pentachlorophenol	3
Chloronaphthalene	6
Monochloroaniline	30
Polychlorobiphenyls (sum 7)[1]	0.01
Pesticides	
DDT,DDE andDDD (sum)	0.01
Drins (sum of aldrin, dieldrin and endrin)	0.1
HCH-compounds (sum of a-HCHs)	1
Atrazine	150
Carbaryl	50
Carbofuran	100
Chlorodane	0.2
Endosulfan	5
Heptachloro	0.3
Heptachloro-epoxide	3
Maneb	0.1
MCPA	50
Organotin compounds [2]	0.7
Other contaminants	
Cyclohexanone	15000
Phthalates (sum) [3]	5
Mineral oil [4]	600
Pyridine	30
Tetrahydrofuran	300
Tetrahydrothiophene	5000
Tribromomethane	630

1 'polychlorobiphenyls (sum 7)' means the total of PCB 28, 52, 101, 118, 138, 153 and 180.
2 The value applies to the sum of the concentrations of organotin compounds encountered.
3 'Phthalates (sum)' means the total of all phthalates.
4 'Mineral oil' is defined in the analysis standard. Where the contamination is due to mixtures (e.g. gasoline or domestic heating oil), then not only the alkane content but also the content of aromatic and/or polycyclic aromatic hydrocarbons must be determined. This aggregate parameter has been adopted for practical reasons. Further toxicological and chemical disaggregation is under study.

delta-simons
environmental consultants

uman ealth eneric Screening alues S s for round ater derived using R CA

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April

Inogen® Environmental Alliance

a le a uman ealth eneric Screening values S s for round ater derived using R CA

Compound	Carcinogenic Compound or	Applica le Residential S mg l	Applica le Commercial Industral S mg l
E			
Benzene	Y	0.27	2.3
Ethylbenzene	N	45	>170
Toluene	N	20	170
Xylene (-*m*)	N	18	150
Xylene (-*o*)	N	24	>180
Xylene (*mixed isomer*)	N	25	>200
s P			
Aliphatics >C5-C6	N	4.4	>36
Aliphatics >C6-C8	N	2.9	>5.4
Aliphatics >C8-C10	N	0.098	>0.43
Aliphatics >C10-C12	N	>0.034	>0.034
Aliphatics >C12–C16	N	$>7.6x10^{-4}$	$>7.6x10^{-4}$
Aliphatics >C16 – C21	N	NC	NC
Aliphatics >C21 – C35	N	NC	NC
Aromatics >C5-C7 (as benzene)	Y	0.26	2.3
Aromatics >C7-C8 (as toluene)	N	19	160
Aromatics >C8–C10	N	3.2	27
Aromatics >C10-C12	N	11	>25
Aromatics >C12 – C16	N	>5.8	>5.8
Aromatics >C16 – C21	N	NC	NC
Aromatics >C21 – C35	N	NC	NC

a le a uman ealth eneric Screening alues S s for round ater derived using R CA, cont d

Compound	Carcinogenic Compound or	Applica le Residential S mg l	Applica le Commercial Industrial S mg l
PA			
Naphthalene	N	4.2	>31
Acenaphthylene	N	NC	NC
Acenaphthene	N	NC	NC
Fluorene	N	NC	NC
Phenanthrene	N	NC	NC
Anthracene	N	NC	NC
Fluoranthene	N	NC	NC
Pyrene	N	NC	NC
Benzo[*a*]anthracene	Y	$>5.7x10^{-3}$	$>5.7x10^{-3}$
Chrysene	Y	$>1.8x10^{-3}$	$>1.8x10^{-3}$
Benzo[*b*]fluoranthene	Y	>0.015	>0.015
Benzo[*k*]fluoranthene	Y	$>4.3x10^{-3}$	$>4.3x10^{-3}$
Benzo[*a*]pyrene	Y	$>1.6x10^{-3}$	$>1.6x10^{-3}$
Indeno[*1,2,3-cd*]pyrene	N	>0.062	>0.062
Dibenzo[*a,h*]anthracene	Y	$>5.0x10^{-4}$	$>5.0x10^{-4}$
Benzo[*g,h,I*]perylene	N	NC	NC
PC s and Dio ins			
PCBs	Y	NC	NC
Dioxin (2,3,7,8-tcdd)	Y	NC	NC

a le a uman ealth eneric Screening alues S s for round ater derived using R CA, cont d

Compound	Carcinogenic Compound or	Applica le Residential S mg l	Applica le Commercial Industral S mg l
OCs			
Isopropyl benzene (cumene)	N	5.8	48
Methyl-*t*-butyl ether	N	1,500	13,000
Methylethylketone MEK	N	1,300	11,000
Chlorinated Compounds			
Vinyl Chloride	Y	0.013	0.11
Trichloroethene (TCE)	Y	0.83	7.1
1,1,2,2-Tetrachloroethane	Y	32	280
Tetrachloroethene (PCE)	Y	7.5	63
1,1,1-Trichloroethane	N	59	500
cis-1,2-dichloroethene	N	NC	NC
trans-1,2-dichloroethene	N	NC	NC
1,1 - Dichloroethane	N	0.33	2.8
1,2 – Dichloroethane	Y	0.19	1.7
1,2,4-Trichlorobenzene	N	>30	>30
1,1,2-Trichloroethane	Y	91	780
1,2-Dichlorobenzene	N	8.5	72
1,3-Dichlorobenzene	N	1.1	9.3
1,4-Dichlorobenzene	Y	>150	>150
Chloroform	Y	0.028	0.071
Carbon tetrachloride (tetrachloromethane)	Y	0.14	1.2

">" indicates that the HH-GSV exceeds the constituent solubility value (groundwater). The predicted volatilisation within RBCA model is carried out using the Johnson and Ettinger equation, which is only valid for dissolved phase concentrations of contaminants. Where the HH-GSV is indicated to exceed the constituent solubility value, this means that even if free product were encountered it would not cause adverse effects via that particular exposure pathway, (this is confirmed by the Fact Sheet for the RBCA Tool Kit for Chemical Releases by the Environment Agency, FS-02, February 2003).

NC - HH-GSVs for the heavy end aliphatic and aromatic hydrocarbons in the range >C16-C35, for some of the Pah's, PCBs and dioxins are not calculated by the RBCA method. Given the low volatility, there is also no inhalation reference concentration within the RBCA Toolkit for these compounds and they are not considered to be of concern via the inhalation exposure pathway. HH-GSVs for the dichloroethenes are not calculated as no inhalation reference dose has been sourced to date.

Carcinogenicity data from RBCA, DEFRA, USEPA and IARC.
The HH-GSVs are based upon the indoor inhalation pathway in order to maintain a conservative approach.

Constituents of Concern Input Parameters

The Constituents of Concern input parameters have been updated from the default values within RBCA, in order to reflect the CLEA methodology. Where possible, toxicological information was taken from the DEFRA TOX reports.

For carcinogenic compounds, the Oral Index dose (ID oral) from the DEFRA TOX reports was input into the model as the Oral Reference Dose (RfD oral). The inhalation Index Dose (ID inhal) was also input into the model, as the Inhalation Reference Concentration (RfC inhal). In order to convert the ID inhal to the correct units, it was necessary to perform the following calculation;

Inhalation Index Dose (mg/kg/day) x Average Weight (kg) / Average Inhaled Concentration per day (m^3/day) = Value input (mg/m^3)

i.e. Value input = ID inhal x (70/20)

The Average Weight of 70 kg was taken from CLR 9 Para. 3.19.
The Average inhaled concentration of 20 m^3/day was taken from CLR 9 Table 3.1.

For non-Carcinogenic compounds for which there is a DEFRA TOX report, the Oral Tolerable Daily Soil Intake (TDSI) and Inhalation TDSI could be input into the model in place of the RfD oral and the RfC inhal, respectively.

For non-carcinogenic compounds for which there is no DEFRA TOX report, the Oral and Inhalation TDSIs were calculated from the RBCA RfD oral (TDI equivalent) and RfC inhal (TDI equivalent), with consideration of the Mean Daily Intake (MDI), as detailed in CLR 9 Para. 3.26.

In summary:
Where the MDI < 80% TDI, then the TDSI = TDI - MDI
Where the MDI ≥ 80% TDI or if the MDI was unknown, then the TDSI = 0.2 x TDI

The Henry's Law Concentration was corrected for an average annual temperature of 10 ºC, on the basis that the ambient soil temperature at UK sites is 283 K from CLEA Briefing Note 2 Version 1.1, Table 3. The correction was performed using the USEPA on-line Tools for Site Assessment Calculations http://www.epa.gov/athens/learn2model/part-two/onsite/esthenry.htm. The calculation was performed for benzene, toluene, ethylbenzene, xylenes (as o-xylene), naphthalene, vinyl chloride, 1,1,1-trichloroethane, 1,2-Dichloroethane, aromatic C5-C7 (as benzene), aromatics >C7-C8 (as toluene), chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, benzo(a)anthracene, benzo(a)pyrene, trichloroethene, fluorine, fluoranthene, acenaphthene, anthracene, pyrene, indeno(1,2,3,c,d)pyrene, Methyl t-butyl ether, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,1,2-trichloroethane, 1,2,4-trichlorobenzene, 1,1-dichloroethane, 1,2-trans-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, 1,1,2,2-tetrachloroethane and carbon tetrachloride.

E posure Parameters

EA C R Parameters used ithin the R CA ool it

Parameter	Residential			Commercial Industrial	Source
Human receptor	Female Adult Age 16-70	Female Child Age 0-6	Female Child Age 0-16	Female Adult age 16-59	
Exposure duration (years)	54	6	16	43	CLR 10, Table 3.2.
Exposure frequency (days/yr)	365	365	365	230	CLR 10 Table 4.8, Table 4.9 and Table 4.13
Body weight (kg)	46.4	14.8	39.0	46.4	CLR 10 Table 5.6
Skin surface area, soil contact (cm^2).	274	-	253	274	CLR 10, Table 5.8

Soil Parameters

Soil Parameters used within the RBCA Tool kit

Parameter	Residential	Commercial Industrial	Source
Depth to Water- bearing Unit	1 m	1 m	Assumed
Total porosity	0.46	0.46	CLEA Briefing Note 2 : Version 1.1 Table 3 Sandy Soil
Volumetric water content	0.15	0.15	CLEA Briefing Note 2 : Version 1.1 Table 3 Sandy Soil
Volumetric air content	0.31	0.31	CLEA Briefing Note 2 : Version 1.1 Table 3 Sandy Soil
Dry Bulk Density	1.6 g/cm^3	1.6 g/cm^3	CLEA Briefing Note 2 : Version 1.1 Table 3 Sandy Soil
Vertical Hydraulic conductivity	860 cm/d	860 cm/d	RBCA Default for sand
Vapour permeability	1.0×10^{-12} m^2	1.0×10^{-12} m^2	RBCA Default for sand
Capillary zone thickness	0.05 m	0.05 m	RBCA Default for sand
Fraction of organic carbon	0.01	0.01	Assumed
Soil/water pH	6.8	6.8	RBCA default for sand

round ater Parameters

round ater Parameters used ithin the R CA ool it

Parameter	Residential	Commercial Industrial	Source
Groundwater plume width at source	10 m	10 m	Assumed

Outdoor Air Parameters

Outdoor Air Parameters used ithin the R CA ool it

Parameter	Residential	Commercial Industrial	Source
Air mixing zone height	1.623 m	1.623 m	Adult body height CLR 10 Table 5.7
Ambient air velocity in mixing zone	3 m/s	3 m/s	Conservative assumption based on met office data

Indoor Air Parameters

Indoor Air Parameters used ithin the R CA ool it

Parameter	Residential	Commercial Industrial	Source
Building Volume/area ratio	2.4 m	9.6 m	CLEA Briefing Note 3: Version 1.0 (March 2004)
Foundation area	70 m^2	600 m^2	CLEA Briefing Note 3: Version 1.0 (March 2004)
Foundation perimeter	33.6 m	98 m	Calculated from CLEA Briefing Note 3: Version 1.0 (March 2004)

Building air exchange rate	1.4 x 10^{-4} /s	2.8 x 10^{-4} /s	Calculated from CLEA Briefing Note 3: Version 1.0 (March 2004)
Depth to bottom of foundation slab	0.15 m	0.15 m	CLEA Briefing Note 3: Version 1.0 (March 2004)
Foundation thickness	0.15 m	0.15 m	CLEA Briefing Note 3: Version 1.0 (March 2004)
Foundation crack fraction	0.001	0.001	CLEA Briefing Note 3: Version 1.0 (March 2004)
Volumetric water content of cracks	0.12	0.12	RBCA Default
Volumetric air content of cracks	0.26	0.26	RBCA Default
Indoor/outdoor differential pressure	2.5 Pa	4.5 Pa	CLEA Briefing Note 3: Version 1.0 (March 2004) Table 5.

The Building parameters were taken for a commercial office building and for a residential bungalow.

References

CLEA Briefing Note 2: Update on Estimating Vapour Intrusion Into Buildings. Version 1.1 (July 2004)

CLEA Briefing Note 3: Update of Supporting Values and Assumptions Describing UK Building Stock Version 1.0 (March 2004)

CLR 9 - Contaminants in Soil: Collation of Toxicological Data and Intake Values for Humans. Department for Environment, Food and Rural Affairs and The Environment Agency, Various contaminants covered in DEFRA TOX reports (March 2002)

CLR10 The Contaminated Land Exposure Assessment (CLEA) Model: Technical Basis and Algorithms. Department for Environment, Food and Rural Affairs and The Environment Agency, R&D Publication CLR1 (Jan 2002)

a le Dutch Indicative levels for Serious round ater Contamination

Su stance	Indicative level Serious Contamination µg l in solution
etals	
Beryllium	15
Selenium	160
Tellurium	70
Thallium	7
Tin	50
Vanadium	70
Silver	40
Aromatic Compounds	
Dodecylbenzene	0.02
Aromatic solvents[1]	150
Chlorinated drocar ons	
Dichloroaniline	100
Trichloroaniline	10
Tetrachloroaniline	10
Pentachloroaniline	1
4-chloromethylphenols	350
Dioxin[2]	0.001 ng/l
Pesticides	
Azinphos-methyl	2
Other Contaminants	
Acrylonitrile	5
Butanol	5600
1,2-butylacetate	6300
Ethylacetate	15000
Diethylene glycol	13000
Ethylene glycol	5500
Formaldehyde	50
Isopropanol	31000
Methanol	24000
Methyl-tert-butyl ether (MTBE)	9200
Methylethylketone	6000

1 Aromatic Solvents are defined as a standard mixture of substances referred to as 'C9-aromatic naptha' as defined by the International Research and Development Corporation: o-xylene 3.2%, I-isopropylbenzene 2.74%, n-propylbenzene 3.97%, 1-methyl-4 ethyk benzene 7.05%, 1-methyl-3-ethyl benzene 15.1%, 1-methyl-2-ethyl benzene 5.44%, 1,3,5-trimethylbenzene 8.37%, 1,2,4-trimethylbenzene 40.5%, 1,2,3-trimethylbenzene 6.18% and alkylbenzenes 6.19%.

2 The indicative level is expressed on the basis of toxicity equivalents based on the most toxic compound.

Appendix **VI**

2531

ANALYTICAL TEST REPORT

Contract no:	48316
Contract name:	Forbury Retail Park, Kenavon Drive, Reading
Client reference:	13-0258.01
Clients name:	Delta Simons
Clients address:	The Lawn Union Road Lincoln LN1 3BL
Samples received:	10 June 2013 & 12 June 2013
Analysis started:	12 June 2013
Analysis completed	19 June 2013
Report issued:	19 June 2013

Notes:

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, withour prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:

U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by:

K Campbell

Karan Campbell
Director

John Campbell
Director

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are exclusive of stones.

Lab ref	Sample id	Depth (m)	Soil description passing 2mm sieve	Description of material retained on 2mm sieve	% Retained on 2mm sieve	Moisture (%)
48316-1	CP 103	0.50	Sand	Stones, Slag & Gravel	66.5	10.6
48316-2	DS 102	0.20-0.30	Sand	Stones & Gravel	64.6	6.2
48316-3	DS 103	0.20-0.30	Sand	Stones & Gravel	65.6	5.4
48316-4	DS 105	0.50-0.80	Sandy Clay	Stones & Gravel	68.2	<0.1
48316-5	DS 105	1.50-1.70	Silty Clay	Stones & Gravel	31.3	15.9
48316-6	DS105	3.70-4.00	Sandy Clay	Stones, Slag & Gravel	75.5	19.3
48316-7	DS106	0.20-0.50	Sandy Clay	Stones & Gravel	60.2	10.6
48316-8	DS 106	1.80-2.00	Sandy Loamy Clay	Gravel	44.7	15.1
48316-9	DS 107	0.20-0.50	Sand	Stones, Slag & Gravel	66.2	8.6
48316-10	DS 107	1.50-1.80	Sand	N/A	<1	13.8
48316-11	DS 108	0.70-0.90	Sand	Stones, Slag & Gravel	67.1	12.6
48316-12	DS 108	1.70-1.90	Sand	Slag, Gravel & Wood	53.2	17.6
48316-13	DS 108	2.70-3.00	Sandy Clay	Stones & Gravel	52.9	17.4
48316-14	DS 109	0.30-0.50	Sandy Loamy Clay	Stones & Gravel	50.7	11.9
48316-15	DS 109	2.60-2.80	Sandy Clay	N/A	<1	27.6
48316-16	DS 111	0.20-0.50	Sandy Clay	Stones & Gravel	54.0	10.8
48316-17	DS 111	1.50	Silty Sandy Clay	N/A	<1	22.6
48316-18	DS 111	2.80-3.00	Sand	Stones, Slag & Gravel	60.7	16.4
48316-19	DS 112	1.60	Silty Sandy Clay	N/A	<1	26.1
48316-20	DS 112	3.20-3.50	Silty Sandy Clay	Gravel	19.5	20.8
48316-21	DS 113	0.80-1.00	Sand	Stones, Slag & Gravel	64.0	13.8
48316-22	DS 113	2.30-2.50	Sandy Clay	Stones & Gravel	57.1	11.6
48316-23	DS 115	0.50-0.80	Sand	Stones & Gravel	48.5	8.5
48316-24	DS 116	0.10-0.30	Sand	Stones & Gravel	75.5	6.5

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SOILS

Lab number			48316-1	48316-2	48316-3	48316-4	48316-5	48316-6
Sample id			CP 103	DS 102	DS 103	DS 105	DS 105	DS105
Depth (m)			0.50	0.20-0.30	0.20-0.30	0.50-0.80	1.50-1.70	3.70-4.00
Date sampled			10/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Arsenic (total)	CE054 M	mg/kg As	17	6.9	3.5	16	-	-
Boron (water soluble)	CE063 M	mg/kg B	1.3	0.9	0.9	1.1	-	-
Cadmium (total)	CE054 M	mg/kg Cd	0.4	<0.2	<0.2	0.6	-	-
Chromium (total)	CE054 M	mg/kg Cr	18	9.3	6.1	16	-	-
Chromium (VI)	CE050	mg/kg CrVI	<1	<1	<1	<1	-	-
Copper (total)	CE054 M	mg/kg Cu	40	10	8.3	75	-	-
Lead (total)	CE054 M	mg/kg Pb	124	27	19	78	-	-
Mercury (total)	CE054	mg/kg Hg	1.1	0.7	0.7	1.2	-	-
Nickel (total)	CE054 M	mg/kg Ni	30	11	7.3	45	-	-
Selenium (total)	CE054 M	mg/kg Se	<0.3	<0.3	<0.3	<0.3	-	-
Zinc (total)	CE054 M	mg/kg Zn	226	31	28	115	-	-
pH	CE004 M	units	10.1	11.2	10.9	8.1	8.4	7.7
Organic matter content (OMC)	CE005 M	% w/w	2.27	1.63	-	-	-	-
Estimate of TOC (calculated from OMC)	CE005 M	% w/w C	1.32	0.95	-	-	-	-
Loss On Ignition at 440°C	CE006 U	% w/w	5.65	3.94	-	-	-	-
PAH								
Naphthalene	CE087	mg/kg	-	<0.1	<0.1	<0.1	-	-
Acenaphthylene	CE087	mg/kg	-	<0.1	<0.1	<0.1	-	-
Acenaphthene	CE087	mg/kg	-	<0.1	<0.1	<0.1	-	-
Fluorene	CE087	mg/kg	-	<0.1	<0.1	<0.1	-	-
Phenanthrene	CE087	mg/kg	-	0.3	0.2	<0.1	-	-
Anthracene	CE087	mg/kg	-	<0.1	<0.1	<0.1	-	-
Fluoranthene	CE087	mg/kg	-	0.7	0.6	1.0	-	-
Pyrene	CE087	mg/kg	-	0.7	0.8	0.1	-	-
Benzo(a)anthracene	CE087	mg/kg	-	0.5	0.5	<0.1	-	-
Chrysene	CE087	mg/kg	-	0.5	0.5	<0.1	-	-
Benzo(b)fluoranthene	CE087	mg/kg	-	0.8	0.8	0.1	-	-
Benzo(k)fluoranthene	CE087	mg/kg	-	0.3	0.3	<0.1	-	-
Benzo(a)pyrene	CE087	mg/kg	-	0.5	0.5	<0.1	-	-
Indeno(123cd)pyrene	CE087	mg/kg	-	0.6	0.6	0.1	-	-
Dibenz(ah)anthracene	CE087	mg/kg	-	0.2	0.2	<0.1	-	-
Benzo(ghi)perylene	CE087	mg/kg	-	0.6	0.5	0.2	-	-
PAH (total)	CE087	mg/kg	-	5.7	5.5	<5	-	-
TPH								
TPH Aromatic EC5-EC7	CE068	mg/kg	-	<0.01	-	-	-	-
TPH Aromatic EC7-EC8	CE068	mg/kg	-	<0.01	-	-	-	-
TPH Aromatic EC8-EC10	CE068	mg/kg	-	0.01	-	-	-	-
TPH Aromatic EC10-EC12	CE068	mg/kg	-	<1	-	-	-	-
TPH Aromatic EC12-EC16	CE068	mg/kg	-	<1	-	-	-	-
TPH Aromatic EC16-EC21	CE068	mg/kg	-	2	-	-	-	-
TPH Aromatic EC21-EC35	CE068	mg/kg	-	3	-	-	-	-

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SOILS

Lab number			48316-1	48316-2	48316-3	48316-4	48316-5	48316-6
Sample id			CP 103	DS 102	DS 103	DS 105	DS 105	DS105
Depth (m)			0.50	0.20-0.30	0.20-0.30	0.50-0.80	1.50-1.70	3.70-4.00
Date sampled			10/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
TPH Aromatic EC35-EC44	CE068	mg/kg	-	<1	-	-	-	-
TPH Aliphatic EC5-EC6	CE068	mg/kg	-	<0.1	-	-	-	-
TPH Aliphatic EC6-EC8	CE068	mg/kg	-	<0.1	-	-	-	-
TPH Aliphatic EC8-EC10	CE068	mg/kg	-	0.2	-	-	-	-
TPH Aliphatic EC10-EC12	CE068	mg/kg	-	8	-	-	-	-
TPH Aliphatic EC12-EC16	CE068	mg/kg	-	22	-	-	-	-
TPH Aliphatic EC16-EC35	CE068	mg/kg	-	367	-	-	-	-
TPH Aliphatic EC35-EC44	CE068	mg/kg	-	289	-	-	-	-
TPH (C10-C40)	CE033 [U]	mg/kg	-	-	618	125	-	518
Volatiles								
Dichlorodifluoromethane	CE066	mg/kg	-	<0.01	-	-	-	-
Chloromethane	CE066	mg/kg	-	<0.01	-	-	-	-
Vinyl chloride	CE066	mg/kg	-	<0.01	-	-	-	-
Bromomethane	CE066	mg/kg	-	<0.01	-	-	-	-
Chloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Trichlorofluoromethane	CE066	mg/kg	-	<0.01	-	-	-	-
1,1-Dichloroethene	CE066	mg/kg	-	<0.01	-	-	-	-
Cis-1,2-Dichloroethene	CE066	mg/kg	-	<0.01	-	-	-	-
1,1-Dichloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Trans-1,2-Dichloroethene	CE066	mg/kg	-	<0.01	-	-	-	-
Chloroform	CE066	mg/kg	-	<0.01	-	-	-	-
1,1,1-Trichloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
1,2-Dichloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Carbon tetrachloride	CE066	mg/kg	-	<0.01	-	-	-	-
Trichloroethene	CE066	mg/kg	-	<0.01	-	-	-	-
1,3-Dichloropropane	CE066	mg/kg	-	<0.01	-	-	-	-
Dibromomethane	CE066	mg/kg	-	<0.01	-	-	-	-
Bromodichloromethane	CE066	mg/kg	-	<0.01	-	-	-	-
1,1-Dichloro-1-propene	CE066	mg/kg	-	<0.01	-	-	-	-
1,3-Dichloropropene	CE066	mg/kg	-	<0.01	-	-	-	-
1,1,2-Trichloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Dibromochloromethane	CE066	mg/kg	-	<0.01	-	-	-	-
Tetrachloroethene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2-Dibromoethane	CE066	mg/kg	-	<0.01	-	-	-	-
Chlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,1,1,2-Tetrachloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Styrene	CE066	mg/kg	-	<0.01	-	-	-	-
Tribromomethane	CE066	mg/kg	-	<0.01	-	-	-	-
1,1,2,2-Tetrachloroethane	CE066	mg/kg	-	<0.01	-	-	-	-
Isopropylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2,3-Trichloropropane	CE066	mg/kg	-	<0.01	-	-	-	-

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SOILS

Lab number			48316-1	48316-2	48316-3	48316-4	48316-5	48316-6
Sample id			CP 103	DS 102	DS 103	DS 105	DS 105	DS105
Depth (m)			0.50	0.20-0.30	0.20-0.30	0.50-0.80	1.50-1.70	3.70-4.00
Date sampled			10/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Bromobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
2-Chlorotoluene	CE066	mg/kg	-	<0.01	-	-	-	-
Propylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
4-Chlorotoluene	CE066	mg/kg	-	<0.01	-	-	-	-
1,3,5-Trimethylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
tert-Butylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2,4-Trimethylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,3-Dichlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
sec-Butylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,4-Dichlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
4-Isopropyltoluene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2-Dichlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
Butylbenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2-Dibromo-3-chloropropane	CE066	mg/kg	-	<0.01	-	-	-	-
1,2,4-Trichlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
1,2,3-Trichlorobenzene	CE066	mg/kg	-	<0.01	-	-	-	-
Hexachloro-1,3-butadiene	CE066	mg/kg	-	<0.01	-	-	-	-
Semi-volatiles								
N-Nitrosodimethylamine	CE065	mg/kg	-	-	-	-	-	-
Phenol	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroethyl)ether	CE065	mg/kg	-	-	-	-	-	-
2-Chlorophenol	CE065	mg/kg	-	-	-	-	-	-
1,3-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
1,4-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
2-Methylphenol	CE065	mg/kg	-	-	-	-	-	-
1,2-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroisopropyl)ether	CE065	mg/kg	-	-	-	-	-	-
4-Methylphenol	CE065	mg/kg	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	CE065	mg/kg	-	-	-	-	-	-
Hexachloroethane	CE065	mg/kg	-	-	-	-	-	-
Nitrobenzene	CE065	mg/kg	-	-	-	-	-	-
Isophorone	CE065	mg/kg	-	-	-	-	-	-
2,4-Dimethylphenol	CE065	mg/kg	-	-	-	-	-	-
2-Nitrophenol	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	CE065	mg/kg	-	-	-	-	-	-
2,4-Dichlorophenol	CE065	mg/kg	-	-	-	-	-	-
1,2,4-Trichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
4-Chloroaniline	CE065	mg/kg	-	-	-	-	-	-
Hexachlorobutadiene	CE065	mg/kg	-	-	-	-	-	-
4-Chloro-3-methylphenol	CE065	mg/kg	-	-	-	-	-	-
2-Methylnaphthalene	CE065	mg/kg	-	-	-	-	-	-

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SOILS

Lab number			48316-1	48316-2	48316-3	48316-4	48316-5	48316-6
Sample id			CP 103	DS 102	DS 103	DS 105	DS 105	DS105
Depth (m)			0.50	0.20-0.30	0.20-0.30	0.50-0.80	1.50-1.70	3.70-4.00
Date sampled			10/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Hexachlorocyclopentadiene	CE065	mg/kg	-	-	-	-	-	-
2,4,6-Trichlorophenol	CE065	mg/kg	-	-	-	-	-	-
2,4,5-Trichlorophenol	CE065	mg/kg	-	-	-	-	-	-
2-Chloronaphthalene	CE065	mg/kg	-	-	-	-	-	-
2-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
Dimethyl phthalate	CE065	mg/kg	-	-	-	-	-	-
2,6-Dinitrotoluene	CE065	mg/kg	-	-	-	-	-	-
3-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
2,4-Dinitrophenol	CE065	mg/kg	-	-	-	-	-	-
4-Nitrophenol	CE065	mg/kg	-	-	-	-	-	-
2,4-Dinitrotoluene	CE065	mg/kg	-	-	-	-	-	-
Dibenzofuran	CE065	mg/kg	-	-	-	-	-	-
Diethyl phthalate	CE065	mg/kg	-	-	-	-	-	-
4-Chlorophenylphenyl ether	CE065	mg/kg	-	-	-	-	-	-
4-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
2-Methyl-4,6-dinitrophenol	CE065	mg/kg	-	-	-	-	-	-
Azobenzene	CE065	mg/kg	-	-	-	-	-	-
4-Bromophenylphenyl ether	CE065	mg/kg	-	-	-	-	-	-
Hexachlorobenzene	CE065	mg/kg	-	-	-	-	-	-
Pentachlorophenol	CE065	mg/kg	-	-	-	-	-	-
Carbazole	CE065	mg/kg	-	-	-	-	-	-
Di-n-butyl phthalate	CE065	mg/kg	-	-	-	-	-	-
Butylbenzyl phthalate	CE065	mg/kg	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	CE065	mg/kg	-	-	-	-	-	-
Di-n-octyl phthalate	CE065	mg/kg	-	-	-	-	-	-
PCB								
PCB Congener 28	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 52	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 101	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 118	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 138	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 153	CE070	mg/kg	-	-	-	-	<0.01	-
PCB Congener 180	CE070	mg/kg	-	-	-	-	<0.01	-
PCB (total)	CE070	mg/kg	-	-	-	-	<0.01	-
Subcontracted analysis								
Asbestos	$	-	NAD	-	NAD	-	NAD	-

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SOILS

Lab number			48316-7	48316-8	48316-9	48316-10	48316-11	48316-12
Sample id			DS106	DS 106	DS 107	DS 107	DS 108	DS 108
Depth (m)			0.20-0.50	1.80-2.00	0.20-0.50	1.50-1.80	0.70-0.90	1.70-1.90
Date sampled			07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Arsenic (total)	CE054 M	mg/kg As	17	-	8.9	-	21	-
Boron (water soluble)	CE063 M	mg/kg B	1.1	-	1.8	-	1.2	-
Cadmium (total)	CE054 M	mg/kg Cd	<0.2	-	<0.2	-	0.4	-
Chromium (total)	CE054 M	mg/kg Cr	21	-	13	-	22	-
Chromium (VI)	CE050	mg/kg CrVI	<1	-	<1	-	<1	-
Copper (total)	CE054 M	mg/kg Cu	82	-	15	-	90	-
Lead (total)	CE054 M	mg/kg Pb	214	-	47	-	62	-
Mercury (total)	CE054	mg/kg Hg	1.4	-	0.8	-	0.8	-
Nickel (total)	CE054 M	mg/kg Ni	33	-	13	-	60	-
Selenium (total)	CE054 M	mg/kg Se	<0.3	-	<0.3	-	<0.3	-
Zinc (total)	CE054 M	mg/kg Zn	112	-	45	-	96	-
pH	CE004 M	units	7.9	8.0	10.2	7.2	7.7	7.6
Organic matter content (OMC)	CE005 M	% w/w	-	-	-	-	7.68	-
Estimate of TOC (calculated from OMC)	CE005 M	% w/w C	-	-	-	-	4.45	-
Loss On Ignition at 440°C	CE006 U	% w/w	-	-	-	-	11.87	-
PAH								
Naphthalene	CE087	mg/kg	<0.1	-	<0.1	-	<0.1	<0.1
Acenaphthylene	CE087	mg/kg	0.2	-	<0.1	-	<0.1	<0.1
Acenaphthene	CE087	mg/kg	0.2	-	<0.1	-	<0.1	<0.1
Fluorene	CE087	mg/kg	0.3	-	<0.1	-	<0.1	<0.1
Phenanthrene	CE087	mg/kg	3.5	-	<0.1	-	0.1	0.9
Anthracene	CE087	mg/kg	1.0	-	<0.1	-	<0.1	0.2
Fluoranthene	CE087	mg/kg	11.3	-	0.2	-	0.3	2.1
Pyrene	CE087	mg/kg	8.9	-	0.2	-	0.3	1.4
Benzo(a)anthracene	CE087	mg/kg	7.3	-	0.1	-	2.0	0.7
Chrysene	CE087	mg/kg	7.4	-	0.2	-	0.2	0.8
Benzo(b)fluoranthene	CE087	mg/kg	12.9	-	0.3	-	0.4	1.2
Benzo(k)fluoranthene	CE087	mg/kg	4.6	-	0.1	-	0.1	0.4
Benzo(a)pyrene	CE087	mg/kg	8.7	-	0.2	-	0.3	0.7
Indeno(123cd)pyrene	CE087	mg/kg	7.3	-	0.4	-	0.3	0.8
Dibenz(ah)anthracene	CE087	mg/kg	1.6	-	0.1	-	0.1	0.2
Benzo(ghi)perylene	CE087	mg/kg	6.0	-	0.4	-	0.3	0.8
PAH (total)	CE087	mg/kg	81	-	-	-	<5	-
TPH								
TPH Aromatic EC5-EC7	CE068	mg/kg	-	-	<0.01	-	<0.01	<0.01
TPH Aromatic EC7-EC8	CE068	mg/kg	-	-	<0.01	-	<0.01	<0.01
TPH Aromatic EC8-EC10	CE068	mg/kg	-	-	<0.01	-	<0.01	<0.01
TPH Aromatic EC10-EC12	CE068	mg/kg	-	-	<1	-	<1	<1
TPH Aromatic EC12-EC16	CE068	mg/kg	-	-	<1	-	<1	<1
TPH Aromatic EC16-EC21	CE068	mg/kg	-	-	<1	-	<1	5
TPH Aromatic EC21-EC35	CE068	mg/kg	-	-	1	-	3	5

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SOILS

Lab number			48316-7	48316-8	48316-9	48316-10	48316-11	48316-12
Sample id			DS106	DS 106	DS 107	DS 107	DS 108	DS 108
Depth (m)			0.20-0.50	1.80-2.00	0.20-0.50	1.50-1.80	0.70-0.90	1.70-1.90
Date sampled			07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
TPH Aromatic EC35-EC44	CE068	mg/kg	-	-	<1	-	<1	<1
TPH Aliphatic EC5-EC6	CE068	mg/kg	-	-	<0.1	-	<0.1	<0.1
TPH Aliphatic EC6-EC8	CE068	mg/kg	-	-	<0.1	-	<0.1	<0.1
TPH Aliphatic EC8-EC10	CE068	mg/kg	-	-	0.2	-	0.2	0.5
TPH Aliphatic EC10-EC12	CE068	mg/kg	-	-	9	-	6	5
TPH Aliphatic EC12-EC16	CE068	mg/kg	-	-	15	-	12	15
TPH Aliphatic EC16-EC35	CE068	mg/kg	-	-	705	-	210	108
TPH Aliphatic EC35-EC44	CE068	mg/kg	-	-	1195	-	222	26
TPH (C10-C40)	CE033 [U]	mg/kg	1111	543	-	19	-	-
Volatiles								
Dichlorodifluoromethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Chloromethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Vinyl chloride	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Bromomethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Chloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Trichlorofluoromethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1-Dichloroethene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Cis-1,2-Dichloroethene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1-Dichloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Trans-1,2-Dichloroethene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Chloroform	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1,1-Trichloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2-Dichloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Carbon tetrachloride	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Trichloroethene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,3-Dichloropropane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Dibromomethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Bromodichloromethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1-Dichloro-1-propene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,3-Dichloropropene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1,2-Trichloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Dibromochloromethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Tetrachloroethene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2-Dibromoethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Chlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1,1,2-Tetrachloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Styrene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Tribromomethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,1,2,2-Tetrachloroethane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Isopropylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2,3-Trichloropropane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01

SOILS

Lab number			48316-7	48316-8	48316-9	48316-10	48316-11	48316-12
Sample id			DS106	DS 106	DS 107	DS 107	DS 108	DS 108
Depth (m)			0.20-0.50	1.80-2.00	0.20-0.50	1.50-1.80	0.70-0.90	1.70-1.90
Date sampled			07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Bromobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
2-Chlorotoluene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Propylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
4-Chlorotoluene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,3,5-Trimethylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
tert-Butylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2,4-Trimethylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,3-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
sec-Butylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,4-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
4-Isopropyltoluene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Butylbenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2-Dibromo-3-chloropropane	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2,4-Trichlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
1,2,3-Trichlorobenzene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Hexachloro-1,3-butadiene	CE066	mg/kg	-	-	<0.01	<0.01	-	<0.01
Semi-volatiles								
N-Nitrosodimethylamine	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Phenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Bis(2-chloroethyl)ether	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Chlorophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
1,3-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
1,4-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Methylphenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
1,2-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Bis(2-chloroisopropyl)ether	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Methylphenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
N-Nitrosodi-n-propylamine	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Hexachloroethane	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Nitrobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Isophorone	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4-Dimethylphenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Nitrophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Bis(2-chloroethoxy)methane	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4-Dichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
1,2,4-Trichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Chloroaniline	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Hexachlorobutadiene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Chloro-3-methylphenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Methylnaphthalene	CE065	mg/kg	-	-	<0.1	-	-	<0.1

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SOILS

Lab number			48316-7	48316-8	48316-9	48316-10	48316-11	48316-12
Sample id			DS106	DS 106	DS 107	DS 107	DS 108	DS 108
Depth (m)			0.20-0.50	1.80-2.00	0.20-0.50	1.50-1.80	0.70-0.90	1.70-1.90
Date sampled			07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
Test	Method	Units						
Hexachlorocyclopentadiene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4,6-Trichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4,5-Trichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Chloronaphthalene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Dimethyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,6-Dinitrotoluene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
3-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4-Dinitrophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Nitrophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2,4-Dinitrotoluene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Dibenzofuran	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Diethyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Chlorophenylphenyl ether	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	<0.1
2-Methyl-4,6-dinitrophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Azobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
4-Bromophenylphenyl ether	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Hexachlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Pentachlorophenol	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Carbazole	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Di-n-butyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Butylbenzyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Bis(2-ethylhexyl)phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
Di-n-octyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	<0.1
PCB								
PCB Congener 28	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 52	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 101	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 118	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 138	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 153	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 180	CE070	mg/kg	-	-	-	-	-	-
PCB (total)	CE070	mg/kg	-	-	-	-	-	-
Subcontracted analysis								
Asbestos	$	-	NAD	-	-	-	-	-

SOILS

Lab number			48316-13	48316-14	48316-15	48316-16	48316-17	48316-18
Sample id			DS 108	DS 109	DS 109	DS 111	DS 111	DS 111
Depth (m)			2.70-3.00	0.30-0.50	2.60-2.80	0.20-0.50	1.50	2.80-3.00
Date sampled			07/06/2013	07/06/2013	07/06/2013	05/06/2013	05/06/2013	05/06/2013
Test	Method	Units						
Arsenic (total)	CE054 M	mg/kg As	-	16	-	9.5	-	-
Boron (water soluble)	CE063 M	mg/kg B	-	0.8	-	0.3	-	-
Cadmium (total)	CE054 M	mg/kg Cd	-	0.2	-	0.2	-	-
Chromium (total)	CE054 M	mg/kg Cr	-	22	-	20	-	-
Chromium (VI)	CE050	mg/kg CrVI	-	<1	-	<1	-	-
Copper (total)	CE054 M	mg/kg Cu	-	140	-	39	-	-
Lead (total)	CE054 M	mg/kg Pb	-	476	-	134	-	-
Mercury (total)	CE054	mg/kg Hg	-	1.4	-	1.2	-	-
Nickel (total)	CE054 M	mg/kg Ni	-	31	-	23	-	-
Selenium (total)	CE054 M	mg/kg Se	-	<0.3	-	<0.3	-	-
Zinc (total)	CE054 M	mg/kg Zn	-	146	-	96	-	-
pH	CE004 M	units	7.5	8.2	7.8	8.3	8.0	7.8
Organic matter content (OMC)	CE005 M	% w/w	-	-	-	2.33	-	9.53
Estimate of TOC (calculated from OMC)	CE005 M	% w/w C	-	-	-	1.35	-	5.53
Loss On Ignition at 440°C	CE006 U	% w/w	-	-	-	4.46	-	15.02
PAH								
Naphthalene	CE087	mg/kg	-	<0.1	-	<0.1	-	-
Acenaphthylene	CE087	mg/kg	-	<0.1	-	<0.1	-	-
Acenaphthene	CE087	mg/kg	-	<0.1	-	<0.1	-	-
Fluorene	CE087	mg/kg	-	<0.1	-	<0.1	-	-
Phenanthrene	CE087	mg/kg	-	0.3	-	0.1	-	-
Anthracene	CE087	mg/kg	-	<0.1	-	<0.1	-	-
Fluoranthene	CE087	mg/kg	-	0.7	-	0.5	-	-
Pyrene	CE087	mg/kg	-	0.7	-	0.4	-	-
Benzo(a)anthracene	CE087	mg/kg	-	0.5	-	0.4	-	-
Chrysene	CE087	mg/kg	-	0.5	-	0.4	-	-
Benzo(b)fluoranthene	CE087	mg/kg	-	1.0	-	0.6	-	-
Benzo(k)fluoranthene	CE087	mg/kg	-	0.4	-	0.2	-	-
Benzo(a)pyrene	CE087	mg/kg	-	0.7	-	0.4	-	-
Indeno(123cd)pyrene	CE087	mg/kg	-	0.8	-	0.4	-	-
Dibenz(ah)anthracene	CE087	mg/kg	-	0.2	-	0.1	-	-
Benzo(ghi)perylene	CE087	mg/kg	-	0.7	-	0.4	-	-
PAH (total)	CE087	mg/kg	-	6.5	-	<5	-	-
TPH								
TPH Aromatic EC5-EC7	CE068	mg/kg	-	-	-	<0.01	-	-
TPH Aromatic EC7-EC8	CE068	mg/kg	-	-	-	<0.01	-	-
TPH Aromatic EC8-EC10	CE068	mg/kg	-	-	-	<0.01	-	-
TPH Aromatic EC10-EC12	CE068	mg/kg	-	-	-	<1	-	-
TPH Aromatic EC12-EC16	CE068	mg/kg	-	-	-	<1	-	-
TPH Aromatic EC16-EC21	CE068	mg/kg	-	-	-	1	-	-
TPH Aromatic EC21-EC35	CE068	mg/kg	-	-	-	3	-	-

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Lab number			48316-13	48316-14	48316-15	48316-16	48316-17	48316-18
Sample id			DS 108	DS 109	DS 109	DS 111	DS 111	DS 111
Depth (m)			2.70-3.00	0.30-0.50	2.60-2.80	0.20-0.50	1.50	2.80-3.00
Date sampled			07/06/2013	07/06/2013	07/06/2013	05/06/2013	05/06/2013	05/06/2013
Test	Method	Units						
TPH Aromatic EC35-EC44	CE068	mg/kg	-	-	-	<1	-	-
TPH Aliphatic EC5-EC6	CE068	mg/kg	-	-	-	<0.1	-	-
TPH Aliphatic EC6-EC8	CE068	mg/kg	-	-	-	<0.1	-	-
TPH Aliphatic EC8-EC10	CE068	mg/kg	-	-	-	0.2	-	-
TPH Aliphatic EC10-EC12	CE068	mg/kg	-	-	-	9	-	-
TPH Aliphatic EC12-EC16	CE068	mg/kg	-	-	-	9	-	-
TPH Aliphatic EC16-EC35	CE068	mg/kg	-	-	-	83	-	-
TPH Aliphatic EC35-EC44	CE068	mg/kg	-	-	-	24	-	-
TPH (C10-C40)	CE033 [U]	mg/kg	61	462	90	-	326	62
Volatiles								
Dichlorodifluoromethane	CE066	mg/kg	-	-	-	-	-	-
Chloromethane	CE066	mg/kg	-	-	-	-	-	-
Vinyl chloride	CE066	mg/kg	-	-	-	-	-	-
Bromomethane	CE066	mg/kg	-	-	-	-	-	-
Chloroethane	CE066	mg/kg	-	-	-	-	-	-
Trichlorofluoromethane	CE066	mg/kg	-	-	-	-	-	-
1,1-Dichloroethene	CE066	mg/kg	-	-	-	-	-	-
Cis-1,2-Dichloroethene	CE066	mg/kg	-	-	-	-	-	-
1,1-Dichloroethane	CE066	mg/kg	-	-	-	-	-	-
Trans-1,2-Dichloroethene	CE066	mg/kg	-	-	-	-	-	-
Chloroform	CE066	mg/kg	-	-	-	-	-	-
1,1,1-Trichloroethane	CE066	mg/kg	-	-	-	-	-	-
1,2-Dichloroethane	CE066	mg/kg	-	-	-	-	-	-
Carbon tetrachloride	CE066	mg/kg	-	-	-	-	-	-
Trichloroethene	CE066	mg/kg	-	-	-	-	-	-
1,3-Dichloropropane	CE066	mg/kg	-	-	-	-	-	-
Dibromomethane	CE066	mg/kg	-	-	-	-	-	-
Bromodichloromethane	CE066	mg/kg	-	-	-	-	-	-
1,1-Dichloro-1-propene	CE066	mg/kg	-	-	-	-	-	-
1,3-Dichloropropene	CE066	mg/kg	-	-	-	-	-	-
1,1,2-Trichloroethane	CE066	mg/kg	-	-	-	-	-	-
Dibromochloromethane	CE066	mg/kg	-	-	-	-	-	-
Tetrachloroethene	CE066	mg/kg	-	-	-	-	-	-
1,2-Dibromoethane	CE066	mg/kg	-	-	-	-	-	-
Chlorobenzene	CE066	mg/kg	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	CE066	mg/kg	-	-	-	-	-	-
Styrene	CE066	mg/kg	-	-	-	-	-	-
Tribromomethane	CE066	mg/kg	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	CE066	mg/kg	-	-	-	-	-	-
Isopropylbenzene	CE066	mg/kg	-	-	-	-	-	-
1,2,3-Trichloropropane	CE066	mg/kg	-	-	-	-	-	-

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Lab number			48316-13	48316-14	48316-15	48316-16	48316-17	48316-18
Sample id			DS 108	DS 109	DS 109	DS 111	DS 111	DS 111
Depth (m)			2.70-3.00	0.30-0.50	2.60-2.80	0.20-0.50	1.50	2.80-3.00
Date sampled			07/06/2013	07/06/2013	07/06/2013	05/06/2013	05/06/2013	05/06/2013
Test	Method	Units						
Bromobenzene	CE066	mg/kg	-	-	-	-	-	-
2-Chlorotoluene	CE066	mg/kg	-	-	-	-	-	-
Propylbenzene	CE066	mg/kg	-	-	-	-	-	-
4-Chlorotoluene	CE066	mg/kg	-	-	-	-	-	-
1,3,5-Trimethylbenzene	CE066	mg/kg	-	-	-	-	-	-
tert-Butylbenzene	CE066	mg/kg	-	-	-	-	-	-
1,2,4-Trimethylbenzene	CE066	mg/kg	-	-	-	-	-	-
1,3-Dichlorobenzene	CE066	mg/kg	-	-	-	-	-	-
sec-Butylbenzene	CE066	mg/kg	-	-	-	-	-	-
1,4-Dichlorobenzene	CE066	mg/kg	-	-	-	-	-	-
4-Isopropyltoluene	CE066	mg/kg	-	-	-	-	-	-
1,2-Dichlorobenzene	CE066	mg/kg	-	-	-	-	-	-
Butylbenzene	CE066	mg/kg	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	CE066	mg/kg	-	-	-	-	-	-
1,2,4-Trichlorobenzene	CE066	mg/kg	-	-	-	-	-	-
1,2,3-Trichlorobenzene	CE066	mg/kg	-	-	-	-	-	-
Hexachloro-1,3-butadiene	CE066	mg/kg	-	-	-	-	-	-
Semi-volatiles								
N-Nitrosodimethylamine	CE065	mg/kg	-	-	-	-	-	-
Phenol	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroethyl)ether	CE065	mg/kg	-	-	-	-	-	-
2-Chlorophenol	CE065	mg/kg	-	-	-	-	-	-
1,3-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
1,4-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
2-Methylphenol	CE065	mg/kg	-	-	-	-	-	-
1,2-Dichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroisopropyl)ether	CE065	mg/kg	-	-	-	-	-	-
4-Methylphenol	CE065	mg/kg	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	CE065	mg/kg	-	-	-	-	-	-
Hexachloroethane	CE065	mg/kg	-	-	-	-	-	-
Nitrobenzene	CE065	mg/kg	-	-	-	-	-	-
Isophorone	CE065	mg/kg	-	-	-	-	-	-
2,4-Dimethylphenol	CE065	mg/kg	-	-	-	-	-	-
2-Nitrophenol	CE065	mg/kg	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	CE065	mg/kg	-	-	-	-	-	-
2,4-Dichlorophenol	CE065	mg/kg	-	-	-	-	-	-
1,2,4-Trichlorobenzene	CE065	mg/kg	-	-	-	-	-	-
4-Chloroaniline	CE065	mg/kg	-	-	-	-	-	-
Hexachlorobutadiene	CE065	mg/kg	-	-	-	-	-	-
4-Chloro-3-methylphenol	CE065	mg/kg	-	-	-	-	-	-
2-Methylnaphthalene	CE065	mg/kg	-	-	-	-	-	-

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SOILS

Lab number			48316-13	48316-14	48316-15	48316-16	48316-17	48316-18
Sample id			DS 108	DS 109	DS 109	DS 111	DS 111	DS 111
Depth (m)			2.70-3.00	0.30-0.50	2.60-2.80	0.20-0.50	1.50	2.80-3.00
Date sampled			07/06/2013	07/06/2013	07/06/2013	05/06/2013	05/06/2013	05/06/2013
Test	Method	Units						
Hexachlorocyclopentadiene	CE065	mg/kg	-	-	-	-	-	-
2,4,6-Trichlorophenol	CE065	mg/kg	-	-	-	-	-	-
2,4,5-Trichlorophenol	CE065	mg/kg	-	-	-	-	-	-
2-Chloronaphthalene	CE065	mg/kg	-	-	-	-	-	-
2-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
Dimethyl phthalate	CE065	mg/kg	-	-	-	-	-	-
2,6-Dinitrotoluene	CE065	mg/kg	-	-	-	-	-	-
3-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
2,4-Dinitrophenol	CE065	mg/kg	-	-	-	-	-	-
4-Nitrophenol	CE065	mg/kg	-	-	-	-	-	-
2,4-Dinitrotoluene	CE065	mg/kg	-	-	-	-	-	-
Dibenzofuran	CE065	mg/kg	-	-	-	-	-	-
Diethyl phthalate	CE065	mg/kg	-	-	-	-	-	-
4-Chlorophenylphenyl ether	CE065	mg/kg	-	-	-	-	-	-
4-Nitroaniline	CE065	mg/kg	-	-	-	-	-	-
2-Methyl-4,6-dinitrophenol	CE065	mg/kg	-	-	-	-	-	-
Azobenzene	CE065	mg/kg	-	-	-	-	-	-
4-Bromophenylphenyl ether	CE065	mg/kg	-	-	-	-	-	-
Hexachlorobenzene	CE065	mg/kg	-	-	-	-	-	-
Pentachlorophenol	CE065	mg/kg	-	-	-	-	-	-
Carbazole	CE065	mg/kg	-	-	-	-	-	-
Di-n-butyl phthalate	CE065	mg/kg	-	-	-	-	-	-
Butylbenzyl phthalate	CE065	mg/kg	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	CE065	mg/kg	-	-	-	-	-	-
Di-n-octyl phthalate	CE065	mg/kg	-	-	-	-	-	-
PCB								
PCB Congener 28	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 52	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 101	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 118	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 138	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 153	CE070	mg/kg	-	-	-	<0.01	-	-
PCB Congener 180	CE070	mg/kg	-	-	-	<0.01	-	-
PCB (total)	CE070	mg/kg	-	-	-	<0.01	-	-
Subcontracted analysis								
Asbestos	$	-	-	NAD	-	-	-	-

SOILS

Lab number			48316-19	48316-20	48316-21	48316-22	48316-23	48316-24
Sample id			DS 112	DS 112	DS 113	DS 113	DS 115	DS 116
Depth (m)			1.60	3.20-3.50	0.80-1.00	2.30-2.50	0.50-0.80	0.10-0.30
Date sampled			05/06/2013	05/06/2013	05/06/2013	05/06/2013	10/06/2013	05/06/2013
Test	Method	Units						
Arsenic (total)	CE054 M	mg/kg As	3.1	-	26	-	-	6.3
Boron (water soluble)	CE063 M	mg/kg B	0.6	-	1.5	-	-	0.6
Cadmium (total)	CE054 M	mg/kg Cd	<0.2	-	0.6	-	-	<0.2
Chromium (total)	CE054 M	mg/kg Cr	17	-	22	-	-	11
Chromium (VI)	CE050	mg/kg CrVI	<1	-	<1	-	-	<1
Copper (total)	CE054 M	mg/kg Cu	5.8	-	170	-	-	15
Lead (total)	CE054 M	mg/kg Pb	5.3	-	1760	-	-	76
Mercury (total)	CE054	mg/kg Hg	0.8	-	5.1	-	-	0.8
Nickel (total)	CE054 M	mg/kg Ni	19	-	43	-	-	10
Selenium (total)	CE054 M	mg/kg Se	<0.3	-	0.3	-	-	<0.3
Zinc (total)	CE054 M	mg/kg Zn	31	-	386	-	-	250
pH	CE004 M	units	7.3	7.9	8.4	7.2	10.0	11.8
Organic matter content (OMC)	CE005 M	% w/w	-	-	-	-	-	1.32
Estimate of TOC (calculated from OMC)	CE005 M	% w/w C	-	-	-	-	-	0.76
Loss On Ignition at 440°C	CE006 U	% w/w	-	-	-	-	-	6.31
PAH								
Naphthalene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Acenaphthylene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Acenaphthene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Fluorene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Phenanthrene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.2
Anthracene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Fluoranthene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.8
Pyrene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.8
Benzo(a)anthracene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.3
Chrysene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.4
Benzo(b)fluoranthene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.4
Benzo(k)fluoranthene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.2
Benzo(a)pyrene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.3
Indeno(123cd)pyrene	CE087	mg/kg	<0.1	-	<0.1	-	-	0.2
Dibenz(ah)anthracene	CE087	mg/kg	<0.1	-	<0.1	-	-	<0.1
Benzo(ghi)perylene	CE087	mg/kg	0.1	-	0.1	-	-	0.2
PAH (total)	CE087	mg/kg	<5	-	-	-	-	<5
TPH								
TPH Aromatic EC5-EC7	CE068	mg/kg	-	-	<0.01	-	-	-
TPH Aromatic EC7-EC8	CE068	mg/kg	-	-	<0.01	-	-	-
TPH Aromatic EC8-EC10	CE068	mg/kg	-	-	<0.01	-	-	-
TPH Aromatic EC10-EC12	CE068	mg/kg	-	-	<1	-	-	-
TPH Aromatic EC12-EC16	CE068	mg/kg	-	-	<1	-	-	-
TPH Aromatic EC16-EC21	CE068	mg/kg	-	-	<1	-	-	-
TPH Aromatic EC21-EC35	CE068	mg/kg	-	-	<1	-	-	-

SOILS

Lab number			48316-19	48316-20	48316-21	48316-22	48316-23	48316-24
Sample id			DS 112	DS 112	DS 113	DS 113	DS 115	DS 116
Depth (m)			1.60	3.20-3.50	0.80-1.00	2.30-2.50	0.50-0.80	0.10-0.30
Date sampled			05/06/2013	05/06/2013	05/06/2013	05/06/2013	10/06/2013	05/06/2013
Test	Method	Units						
TPH Aromatic EC35-EC44	CE068	mg/kg	-	-	<1	-	-	-
TPH Aliphatic EC5-EC6	CE068	mg/kg	-	-	<0.1	-	-	-
TPH Aliphatic EC6-EC8	CE068	mg/kg	-	-	<0.1	-	-	-
TPH Aliphatic EC8-EC10	CE068	mg/kg	-	-	<0.1	-	-	-
TPH Aliphatic EC10-EC12	CE068	mg/kg	-	-	7	-	-	-
TPH Aliphatic EC12-EC16	CE068	mg/kg	-	-	2	-	-	-
TPH Aliphatic EC16-EC35	CE068	mg/kg	-	-	35	-	-	-
TPH Aliphatic EC35-EC44	CE068	mg/kg	-	-	11	-	-	-
TPH (C10-C40)	CE033 [U]	mg/kg	54	243	-	97	197	444
Volatiles								
Dichlorodifluoromethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Chloromethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Vinyl chloride	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Bromomethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Chloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Trichlorofluoromethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1-Dichloroethene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Cis-1,2-Dichloroethene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1-Dichloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Trans-1,2-Dichloroethene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Chloroform	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1,1-Trichloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2-Dichloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Carbon tetrachloride	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Trichloroethene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,3-Dichloropropane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Dibromomethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Bromodichloromethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1-Dichloro-1-propene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,3-Dichloropropene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1,2-Trichloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Dibromochloromethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Tetrachloroethene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2-Dibromoethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Chlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1,1,2-Tetrachloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Styrene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Tribromomethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,1,2,2-Tetrachloroethane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Isopropylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2,3-Trichloropropane	CE066	mg/kg	-	-	<0.01	-	-	<0.01

SOILS

Lab number			48316-19	48316-20	48316-21	48316-22	48316-23	48316-24
Sample id			DS 112	DS 112	DS 113	DS 113	DS 115	DS 116
Depth (m)			1.60	3.20-3.50	0.80-1.00	2.30-2.50	0.50-0.80	0.10-0.30
Date sampled			05/06/2013	05/06/2013	05/06/2013	05/06/2013	10/06/2013	05/06/2013
Test	Method	Units						
Bromobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
2-Chlorotoluene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Propylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
4-Chlorotoluene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,3,5-Trimethylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
tert-Butylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2,4-Trimethylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,3-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
sec-Butylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,4-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
4-Isopropyltoluene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2-Dichlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Butylbenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2-Dibromo-3-chloropropane	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2,4-Trichlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
1,2,3-Trichlorobenzene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Hexachloro-1,3-butadiene	CE066	mg/kg	-	-	<0.01	-	-	<0.01
Semi-volatiles								
N-Nitrosodimethylamine	CE065	mg/kg	-	-	<0.1	-	-	-
Phenol	CE065	mg/kg	-	-	<0.1	-	-	-
Bis(2-chloroethyl)ether	CE065	mg/kg	-	-	<0.1	-	-	-
2-Chlorophenol	CE065	mg/kg	-	-	<0.1	-	-	-
1,3-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
1,4-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
2-Methylphenol	CE065	mg/kg	-	-	<0.1	-	-	-
1,2-Dichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
Bis(2-chloroisopropyl)ether	CE065	mg/kg	-	-	<0.1	-	-	-
4-Methylphenol	CE065	mg/kg	-	-	<0.1	-	-	-
N-Nitrosodi-n-propylamine	CE065	mg/kg	-	-	<0.1	-	-	-
Hexachloroethane	CE065	mg/kg	-	-	<0.1	-	-	-
Nitrobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
Isophorone	CE065	mg/kg	-	-	<0.1	-	-	-
2,4-Dimethylphenol	CE065	mg/kg	-	-	<0.1	-	-	-
2-Nitrophenol	CE065	mg/kg	-	-	<0.1	-	-	-
Bis(2-chloroethoxy)methane	CE065	mg/kg	-	-	<0.1	-	-	-
2,4-Dichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	-
1,2,4-Trichlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
4-Chloroaniline	CE065	mg/kg	-	-	<0.1	-	-	-
Hexachlorobutadiene	CE065	mg/kg	-	-	<0.1	-	-	-
4-Chloro-3-methylphenol	CE065	mg/kg	-	-	<0.1	-	-	-
2-Methylnaphthalene	CE065	mg/kg	-	-	<0.1	-	-	-

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SOILS

Lab number			48316-19	48316-20	48316-21	48316-22	48316-23	48316-24
Sample id			DS 112	DS 112	DS 113	DS 113	DS 115	DS 116
Depth (m)			1.60	3.20-3.50	0.80-1.00	2.30-2.50	0.50-0.80	0.10-0.30
Date sampled			05/06/2013	05/06/2013	05/06/2013	05/06/2013	10/06/2013	05/06/2013
Test	Method	Units						
Hexachlorocyclopentadiene	CE065	mg/kg	-	-	<0.1	-	-	-
2,4,6-Trichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	-
2,4,5-Trichlorophenol	CE065	mg/kg	-	-	<0.1	-	-	-
2-Chloronaphthalene	CE065	mg/kg	-	-	<0.1	-	-	-
2-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	-
Dimethyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
2,6-Dinitrotoluene	CE065	mg/kg	-	-	<0.1	-	-	-
3-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	-
2,4-Dinitrophenol	CE065	mg/kg	-	-	<0.1	-	-	-
4-Nitrophenol	CE065	mg/kg	-	-	<0.1	-	-	-
2,4-Dinitrotoluene	CE065	mg/kg	-	-	<0.1	-	-	-
Dibenzofuran	CE065	mg/kg	-	-	<0.1	-	-	-
Diethyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
4-Chlorophenylphenyl ether	CE065	mg/kg	-	-	<0.1	-	-	-
4-Nitroaniline	CE065	mg/kg	-	-	<0.1	-	-	-
2-Methyl-4,6-dinitrophenol	CE065	mg/kg	-	-	<0.1	-	-	-
Azobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
4-Bromophenylphenyl ether	CE065	mg/kg	-	-	<0.1	-	-	-
Hexachlorobenzene	CE065	mg/kg	-	-	<0.1	-	-	-
Pentachlorophenol	CE065	mg/kg	-	-	<0.1	-	-	-
Carbazole	CE065	mg/kg	-	-	<0.1	-	-	-
Di-n-butyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
Butylbenzyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
Bis(2-ethylhexyl)phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
Di-n-octyl phthalate	CE065	mg/kg	-	-	<0.1	-	-	-
PCB								
PCB Congener 28	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 52	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 101	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 118	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 138	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 153	CE070	mg/kg	-	-	-	-	-	-
PCB Congener 180	CE070	mg/kg	-	-	-	-	-	-
PCB (total)	CE070	mg/kg	-	-	-	-	-	-
Subcontracted analysis								
Asbestos	$	-	NAD	-	NAD	-	-	NAD

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE054	Arsenic (total)	Aqua regia digest, ICP-OES	Dry	M	1	mg/kg As
CE063	Boron (water soluble)	Hot water extract, ICP-OES	Dry	M	0.3	mg/kg B
CE054	Cadmium (total)	Aqua regia digest, ICP-OES	Dry	M	0.2	mg/kg Cd
CE054	Chromium (total)	Aqua regia digest, ICP-OES	Dry	M	1	mg/kg Cr
CE050	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE054	Copper (total)	Aqua regia digest, ICP-OES	Dry	M	1	mg/kg Cu
CE054	Lead (total)	Aqua regia digest, ICP-OES	Dry	M	1	mg/kg Pb
CE054	Mercury (total)	Aqua regia digest, ICP-OES	Dry		0.5	mg/kg Hg
CE054	Nickel (total)	Aqua regia digest, ICP-OES	Dry	M	1	mg/kg Ni
CE054	Selenium (total)	Aqua regia digest, ICP-OES	Dry	M	0.3	mg/kg Se
CE054	Zinc (total)	Aqua regia digest, ICP-OES	Dry	M	3	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	Wet	M	-	units
CE005	Organic matter content (OMC)	Based on BS 1377, Colorimetry	Dry	M	0.01	% w/w
CE005	Estimate of TOC (calculated from OMC)	TOC calculated from Organic Matter Content	Dry	M	0.01	% w/w C
CE006	Loss On Ignition at 440°C	Based on BS 1377, Gravimetry	Dry	U	0.01	% w/w
CE087	PAH (speciated)	Solvent extraction, GC-MS	Wet		0.1	mg/kg
CE087	PAH (total)	Solvent extraction, GC-MS	Wet		5	mg/kg
CE068	TPH Aliphatic/Aromatic fractions (C5-C10)	Headspace GC-FID	Wet		0.01-0.1	mg/kg
CE068	TPH Aliphatic/Aromatic fractions (C10-C44)	Solvent extraction, GC-FID	Wet		1	mg/kg
CE033	TPH (C10-C40)	Solvent extraction, GC-FID	Wet	U	10	mg/kg
CE066	Volatile Organic Compounds	Headspace GC-MS	Wet		0.01	mg/kg
CE065	Semi-volatile Organic Compounds	Solvent extraction, GC-MS	Wet		0.1	mg/kg
CE070	PCB (ICES 7)	Solvent extraction, GC-MS	Wet		0.01	mg/kg
$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

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DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
A	Sampling date not provided
B	Sampling time not provided (waters only)
C	Sample exceeded holding time(s)
D	Sample not received in appropriate containers
E	Headspace present in sample container
F	Sample not chemically fixed (where appropriate)
G	Sample not cooled
H	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
48316-1	CP 103	0.50	N	
48316-2	DS 102	0.20-0.30	N	
48316-3	DS 103	0.20-0.30	N	
48316-4	DS 105	0.50-0.80	N	
48316-5	DS 105	1.50-1.70	N	
48316-6	DS105	3.70-4.00	N	
48316-7	DS106	0.20-0.50	N	
48316-8	DS 106	1.80-2.00	N	
48316-9	DS 107	0.20-0.50	N	
48316-10	DS 107	1.50-1.80	N	
48316-11	DS 108	0.70-0.90	N	
48316-12	DS 108	1.70-1.90	N	
48316-13	DS 108	2.70-3.00	N	
48316-14	DS 109	0.30-0.50	N	
48316-15	DS 109	2.60-2.80	N	
48316-16	DS 111	0.20-0.50	N	
48316-17	DS 111	1.50	N	
48316-18	DS 111	2.80-3.00	N	
48316-19	DS 112	1.60	N	
48316-20	DS 112	3.20-3.50	N	
48316-21	DS 113	0.80-1.00	N	
48316-22	DS 113	2.30-2.50	N	
48316-23	DS 115	0.50-0.80	N	
48316-24	DS 116	0.10-0.30	N	

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ANALYTICAL TEST REPORT

Contract no:	48396
Contract name:	Forbury Retail Park, Kenavon Drive, Reading
Client reference:	13-0258.01
Clients name:	Delta Simons
Clients address:	The Lawn Union Road Lincoln LN1 3BL
Samples received:	10 & 17 June 2013
Analysis started:	19 June 2013
Analysis completed	26 June 2013
Report issued:	26 June 2013

Notes:

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

This report shall not be reproduced except in full, withour prior written approval.

Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:

U UKAS accredited test

M MCERTS & UKAS accredited test

$ Test carried out by an approved subcontractor

I/S Insufficient sample to carry out test

N/S Sample not suitable for testing

Approved by:

K Campbell

Karan Campbell
Director

John Campbell
Director

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are exclusive of stones.

Lab ref	Sample id	Depth (m)	Soil description passing 2mm sieve	Description of material retained on 2mm sieve	% Retained on 2mm sieve	Moisture (%)
48396-1	CP 101 D3	1.20	Sand	Brick, Gravel & Glass	82.4	11.1
48396-2	CP 101 D5	2.20	Concrete	Concrete	100.0	1.6
48396-3	CP 102 D3	1.20	Sand	Stones & Gravel	52.8	12.6
48396-4	CP 102 D5	2.00	Sand	Stones & Gravel	48.6	13.5
48396-5	CP 102 D8	4.00	Sandy Clay	Stones & Gravel	38.6	17.5
48396-6	CP 102 D10	5.20	Sandy Clay	Stones & Gravel	31.9	17.9
48396-7	CP 102 D13	7.00	Sandy Clay	Concrete & Gravel	70.2	10.4
48396-8	CP 103 D2	0.80	Sandy Clay	Stones & Gravel	58.8	15.4
48396-9	CP 103 D4	2.00	Sand	Stones, Brick & Gravel	57.1	13.2
48396-10	CP 103 D15	10.50-10.95	Sandy Clay	Gravel	23.4	20.0
48396-11	CP 104 D2	0.80	Sandy Clay	Gravel	41.5	15.4
48396-12	CP 104 D6	3.00	Clay	N/A	<1	28.4
48396-13	CP 104 D10	4.00-4.50	Sandy Clay	N/A	<1	19.1
48396-14	CP 104 D12	5.00-5.50	Sandy Clay	Stones & Gravel	31.5	17.3
48396-15	CP 104 D15	8.00-8.50	Sandy Clay	N/A	<1	18.2
48396-16	CP 105 D2	1.00	Sand	Stones & Gravel	62.7	9.0
48396-17	CP 105 D4	2.00	Sandy Clay	Stones & Gravel	57.7	16.5
48396-18	CP 105 D6	3.00	Sandy Clay	Stones & Gravel	36.6	22.8
48396-19	CP 105 D9A	4.50	Sandy Clay	N/A	<1	31.5
48396-20	CP 105 D18	12.50-13.00	Sandy Clay	N/A	<1	21.4

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SOILS

Lab number			48396-1	48396-2	48396-3	48396-4	48396-5	48396-6
Sample id			CP 101 D3	CP 101 D5	CP 102 D3	CP 102 D5	CP 102 D8	CP 102 D10
Depth (m)			1.20	2.20	1.20	2.00	4.00	5.20
Date sampled			10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
Test	Method	Units						
Magnesium (2:1 water soluble)	CE120	mg/l Mg	<1	<1	<1	<1	<1	<1
pH	CE004 M	units	10.6	11.4	11.0	11.3	10.3	8.5
Chloride (2:1 water soluble)	CE049 U	mg/l Cl	43	86	21	33	20	6.1
Nitrate (2:1 water soluble)	CE049 U	mg/l NO_3	4.1	19	5.6	2.0	<1	<1
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	1618	59	374	486	362	56
Sulphate (total)	CE062 M	mg/kg SO_4	13810	8614	5711	5527	1174	316
Sulphur (total)	CE119	mg/kg S	4310	2363	1734	1803	529	85

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SOILS

Lab number			48396-7	48396-8	48396-9	48396-10	48396-11	48396-12
Sample id			CP 102 D13	CP 103 D2	CP 103 D4	CP 103 D15	CP 104 D2	CP 104 D6
Depth (m)			7.00	0.80	2.00	10.50-10.95	0.80	3.00
Date sampled			10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
Test	Method	Units						
Magnesium (2:1 water soluble)	CE120	mg/l Mg	-	<1	<1	-	1.8	14
pH	CE004 M	units	-	8.5	9.1	-	8.3	7.6
Chloride (2:1 water soluble)	CE049 U	mg/l Cl	-	2.2	8.1	-	2.2	4.2
Nitrate (2:1 water soluble)	CE049 U	mg/l NO_3	-	2.2	9.1	-	2.7	<1
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	-	31	75	-	26	587
Sulphate (total)	CE062 M	mg/kg SO_4	259	812	1644	361	645	1561
Sulphur (total)	CE119	mg/kg S	-	296	619	-	298	949

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SOILS

Lab number			48396-13	48396-14	48396-15	48396-16	48396-17	48396-18
Sample id			CP 104 D10	CP 104 D12	CP 104 D15	CP 105 D2	CP 105 D4	CP 105 D6
Depth (m)			4.00-4.50	5.00-5.50	8.00-8.50	1.00	2.00	3.00
Date sampled			10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
Test	Method	Units						
Magnesium (2:1 water soluble)	CE120	mg/l Mg	2.3	6.9	-	2.1	18	22
pH	CE004 M	units	8.1	7.7	-	8.3	8.4	7.7
Chloride (2:1 water soluble)	CE049 U	mg/l Cl	6.1	3.5	-	3.7	5.2	5.4
Nitrate (2:1 water soluble)	CE049 U	mg/l NO_3	<1	<1	-	1.4	<1	<1
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	62	318	-	60	1053	1527
Sulphate (total)	CE062 M	mg/kg SO_4	439	835	368	554	2304	3673
Sulphur (total)	CE119	mg/kg S	118	2525	-	352	4247	6848

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SOILS

Lab number			48396-19	48396-20
Sample id			CP 105 D9A	CP 105 D18
Depth (m)			4.50	12.50-13.00
Date sampled			10/06/2013	10/06/2013
Test	Method	Units		
Magnesium (2:1 water soluble)	CE120	mg/l Mg	4.3	1.1
pH	CE004 M	units	7.7	8.3
Chloride (2:1 water soluble)	CE049 U	mg/l Cl	4.1	5.9
Nitrate (2:1 water soluble)	CE049 U	mg/l NO_3	<1	<1
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	179	28
Sulphate (total)	CE062 M	mg/kg SO_4	855	302
Sulphur (total)	CE119	mg/kg S	211	104

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE120	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE004	pH	Based on BS 1377, pH Meter	Wet	M	-	units
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	M	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	M	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S

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DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
A	Sampling date not provided
B	Sampling time not provided (waters only)
C	Sample exceeded holding time(s)
D	Sample not received in appropriate containers
E	Headspace present in sample container
F	Sample not chemically fixed (where appropriate)
G	Sample not cooled
H	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
48396-1	CP 101 D3	1.20	N	
48396-2	CP 101 D5	2.20	N	
48396-3	CP 102 D3	1.20	N	
48396-4	CP 102 D5	2.00	N	
48396-5	CP 102 D8	4.00	N	
48396-6	CP 102 D10	5.20	N	
48396-7	CP 102 D13	7.00	N	
48396-8	CP 103 D2	0.80	N	
48396-9	CP 103 D4	2.00	N	
48396-10	CP 103 D15	10.50-10.95	N	
48396-11	CP 104 D2	0.80	N	
48396-12	CP 104 D6	3.00	N	
48396-13	CP 104 D10	4.00-4.50	N	
48396-14	CP 104 D12	5.00-5.50	N	
48396-15	CP 104 D15	8.00-8.50	N	
48396-16	CP 105 D2	1.00	N	
48396-17	CP 105 D4	2.00	N	
48396-18	CP 105 D6	3.00	N	
48396-19	CP 105 D9A	4.50	N	
48396-20	CP 105 D18	12.50-13.00	N	

Appendix **VII**

2531

ANALYTICAL TEST REPORT

Contract no:	48415
Contract name:	Forbury Retail Park, Kenavon Drive, Reading
Client reference:	13-0258.01
Clients name:	Delta Simons
Clients address:	The Lawn Union Road Lincoln LN1 3BL
Samples received:	21 June 2013
Analysis started:	21 June 2013
Analysis completed	08 July 2013
Report issued:	08 July 2013

Notes:

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, withour prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:

U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing

Approved by: K Campbell

Karan Campbell Director
John Campbell Director

Chemtech Environmental Limited

WATERS

Lab number			48415-1	48415-2	48415-3	48415-4	48415-5
Sample id			CP 101	CP 102	CP 103	CP 104	CP 105
Depth (m)			-	-	-	-	-
Date sampled			19/06/2013	19/06/2013	19/06/2013	19/06/2013	19/06/2013
Time sampled			-	-	-	-	-
Test	Method	Units					
Arsenic (dissolved)	CE128	µg/l As	2.43	2.39	0.54	0.91	1.02
Boron (dissolved)	CE128	µg/l B	143	177	315	139	67
Cadmium (dissolved)	CE128	µg/l Cd	<0.07	<0.07	<0.07	<0.07	<0.07
Chromium (dissolved)	CE128	µg/l Cr	34.6	1.5	0.4	0.2	<0.2
Copper (dissolved)	CE128	µg/l Cu	48.3	4.9	1.5	2.0	0.8
Lead (dissolved)	CE128	µg/l Pb	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury (dissolved)	CE128	µg/l Hg	0.010	<0.008	<0.008	<0.008	<0.008
Nickel (dissolved)	CE128	µg/l Ni	5.2	17.9	9.2	5.1	2.6
Selenium (dissolved)	CE128	µg/l Se	2.41	2.49	2.28	0.11	0.21
Zinc (dissolved)	CE128	µg/l Zn	<1	<1	13	7	4
pH	CE004 U	units	10.7	9.7	7.2	7.1	7.2
Sulphate	CE049 U	mg/l SO_4	191	208	145	<10	<10
TPH							
TPH Aromatic EC5-EC7	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC7-EC8	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC8-EC10	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC10-EC12	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC12-EC16	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC16-EC21	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC21-EC35	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aromatic EC35-EC44	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC5-EC6	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC6-EC8	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC8-EC10	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC10-EC12	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC12-EC16	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC16-EC35	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
TPH Aliphatic EC35-EC44	CE068	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Volatiles							
MTBE	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Benzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
m&p-Xylene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
o-Xylene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dichlorodifluoromethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chloromethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromomethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001

WATERS

Lab number			48415-1	48415-2	48415-3	48415-4	48415-5
Sample id			CP 101	CP 102	CP 103	CP 104	CP 105
Depth (m)			-	-	-	-	-
Date sampled			19/06/2013	19/06/2013	19/06/2013	19/06/2013	19/06/2013
Time sampled			-	-	-	-	-
Test	Method	Units					
Chloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Cis-1,2-Dichloroethene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Trans-1,2-Dichloroethene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1-Trichloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Carbon tetrachloride	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dibromomethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromodichloromethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloro-1-propene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichloropropene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2-Trichloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromoethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,1,2-Tetrachloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Styrene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Tribromomethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,1,2,2-Tetrachloroethane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Isopropylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichloropropane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Bromobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorotoluene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Propylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
4-Chlorotoluene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3,5-Trimethylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
4-Isopropyltoluene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001

WATERS

Lab number			48415-1	48415-2	48415-3	48415-4	48415-5
Sample id			CP 101	CP 102	CP 103	CP 104	CP 105
Depth (m)			-	-	-	-	-
Date sampled			19/06/2013	19/06/2013	19/06/2013	19/06/2013	19/06/2013
Time sampled			-	-	-	-	-
Test	Method	Units					
Butylbenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dibromo-3-chloropropane	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trichlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,3-Trichlorobenzene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Hexachloro-1,3-butadiene	CE066	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Semi-volatiles							
Naphthalene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Acenaphthylene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Acenaphthene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fluorene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Phenanthrene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Anthracene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fluoranthene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Pyrene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Benzo(a)anthracene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Chrysene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Benzo(b)fluoranthene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Benzo(k)fluoranthene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Benzo(a)pyrene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Indeno(1,2,3-cd)pyrene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Dibenzo(a,h)anthracene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Benzo(ghi)perylene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
N-Nitrosodimethylamine	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Phenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bis(2-chloroethyl)ether	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Chlorophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1,3-Dichlorobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1,4-Dichlorobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Methylphenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1,2-Dichlorobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bis(2-chloroisopropyl)ether	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Methylphenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
N-Nitrosodi-n-propylamine	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hexachloroethane	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nitrobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Isophorone	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Nitrophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bis(2-chloroethoxy)methane	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

WATERS

Lab number			48415-1	48415-2	48415-3	48415-4	48415-5
Sample id			CP 101	CP 102	CP 103	CP 104	CP 105
Depth (m)			-	-	-	-	-
Date sampled			19/06/2013	19/06/2013	19/06/2013	19/06/2013	19/06/2013
Time sampled			-	-	-	-	-
Test	Method	Units					
2,4-Dichlorophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
1,2,4-Trichlorobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Chloroaniline	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hexachlorobutadiene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Chloro-3-methylphenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hexachlorocyclopentadiene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4,6-Trichlorophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4,5-Trichlorophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Chloronaphthalene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Nitroaniline	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Dimethyl phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,6-Dinitrotoluene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
3-Nitroaniline	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dinitrophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Nitrophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dinitrotoluene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Dibenzofuran	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Diethyl phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Chlorophenylphenyl ether	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Nitroaniline	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Methyl-4,6-dinitrophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Azobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
4-Bromophenylphenyl ether	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Hexachlorobenzene	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Pentachlorophenol	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Carbazole	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Di-n-butyl phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Butylbenzyl phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Bis(2-ethylhexyl)phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Di-n-octyl phthalate	CE065	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

Chemtech Environmental Limited

METHOD DETAILS

METHOD	WATERS	METHOD SUMMARY	STATUS	LOD	UNITS
CE128	Arsenic (dissolved)	ICP-MS		0.06	µg/l As
CE128	Boron (dissolved)	ICP-MS		6	µg/l B
CE128	Cadmium (dissolved)	ICP-MS		0.07	µg/l Cd
CE128	Chromium (dissolved)	ICP-MS		0.2	µg/l Cr
CE128	Copper (dissolved)	ICP-MS		0.4	µg/l Cu
CE128	Lead (dissolved)	ICP-MS		0.2	µg/l Pb
CE128	Mercury (dissolved)	ICP-MS		0.008	µg/l Hg
CE128	Nickel (dissolved)	ICP-MS		0.5	µg/l Ni
CE128	Selenium (dissolved)	ICP-MS		0.07	µg/l Se
CE128	Zinc (dissolved)	ICP-MS		1	µg/l Zn
CE004	pH	Based on BS 1377, pH Meter	U	-	units
CE049	Sulphate	Ion Chromatography	U	10	mg/l SO_4
CE068	TPH Aliphatic/Aromatic fractions (C5-C10)	Headspace GC-FID		0.001	mg/l
CE068	TPH Aliphatic/Aromatic fractions (C10-C44)	Solvent extraction, GC-FID		0.001	mg/l
CE066	Volatile Organic Compounds	Headspace GC-MS		0.001	mg/l
CE065	Semi-volatile Organic Compounds	Solvent extraction, GC-MS		0.0001	mg/l

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
A	Sampling date not provided
B	Sampling time not provided (waters only)
C	Sample exceeded holding time(s)
D	Sample not received in appropriate containers
E	Headspace present in sample container
F	Sample not chemically fixed (where appropriate)
G	Sample not cooled
H	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
48415-1	CP 101	-	Y	Metals(F)
48415-2	CP 102	-	Y	Metals(F)
48415-3	CP 103	-	Y	Metals(F)
48415-4	CP 104	-	Y	Metals(F)
48415-5	CP 105	-	Y	Metals(F)

Appendix **VIII**

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RO D A ER A D RO D AS O I ORI RECORD S EE

Sheet of

Project Name:	Forbury Retail Park Reading	Weather Conditions:	Overcast 23 degrees celcius
Project Number:	13-0258.01	Gas Kit Model:	Gas Kit 1
Personnel:	W Capps	Gas Kit Serial No:	

Date

LOCATION	Flow Peak (L/hr)	Flow Steady (L/hr)	CH_4 Peak (%v/v)	CH_4 Steady (%v/v)	CO_2 Peak (%v/v)	CO_2 Steady (%v/v)	O_2 Min. (%v/v)	O_2 Steady (%v/v)	Atmospheric Pressure (mb)	PID (ppm)	Well I.D. (mm)	Depth to Product (DTP) (m)	Product Thickness (m)	Depth to Water (DTW) (m)	Depth to Base (DTB) (m)	Height of Water Column (m)	NOTES
CP101	>LoD	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	20.4	1011		50			0.640	6.280	5.640	No odour/sheen
CP102	5.2	<0.1	<0.1	<0.1	<0.1	<0.1	19.7	19.7	1011		50			3.180	11.630	8.450	No odour/sheen
CP103	1.8	<0.1	<0.1	<0.1	0.2	0.2	19.5	19.5	1011		50			2.960	5.670	2.710	No odour/sheen
CP104	3.1	<0.1	<0.1	<0.1	0.2	0.2	20.0	20.0	1011		50			2.380	11.410	9.030	No odour/sheen
CP105	<0.1	<0.1	0.2	0.2	0.1	0.1	19.5	19.5	1011		50			2.500	10.860	8.360	No odour/sheen
DS105	<0.1	<0.1	<0.1	<0.1	12.3	12.3	17.0	17.0	1011		50			dry	3.040		No odour/sheen
DS108	<0.1	<0.1	<0.1	<0.1	1.2	1.0	18.5	18.7	1011		50			2.400	2.540	0.140	No odour/sheen
DS111	<0.1	<0.1	<0.1	<0.1	3.6	3.6	15.1	15.1	1011		50			dry	1.550		No odour/sheen

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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RO D A ER A D RO D AS O I ORI RECORD S EE

Sheet of

Project Name:	Forbury Retail Park Reading	Weather Conditions:	Overcast / Sunny
Project Number:	13-0258.01	Gas Kit Model:	Gas Kit 1
Personnel:	D Sattaur	Gas Kit Serial No:	

Date

LOCATION	Flow Peak (L/hr)	Flow Steady (L/hr)	CH_4 Peak (%v/v)	CH_4 Steady (%v/v)	CO_2 Peak (%v/v)	CO_2 Steady (%v/v)	O_2 Min. (%v/v)	O_2 Steady (%v/v)	Atmospheric Pressure (mb)	PID (ppm)	Well I.D. (mm)	Depth to Product (DTP) (m)	Product Thickness (m)	Depth to Water (DTW) (m)	Depth to Base (DTB) (m)	Height of Water Column (m)	NOTES
CP101	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.0	21.0	1005		50			2.970	6.070	3.100	Pipe = 0.17 m bgl
CP102	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.7	20.7	1005		50			3.270	11.430	8.160	Pipe = 0.18 m bgl
CP103	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.8	20.8	1004		50			2.960	5.530	2.570	No odour/sheen, Pipe = 0.18 m bgl
CP104	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.4	21.4	1004		50			2.380	11.400	9.020	No odour/sheen, Pipe = 0.17 m bgl
CP105	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.9	20.9	1005		50			2.500	10.830	8.330	No odour/sheen, Pipe = 0.1 m bgl
DS105	<0.1	<0.1	<0.1	<0.1	8.6	8.6	15.7	15.7	1004		50			dry	3.050		No odour/sheen, Pipe = 0.1 m bgl
DS108	<0.1	<0.1	<0.1	<0.1	1.7	1.7	17.8	17.8	1005		50			2.410	2.550	0.140	No odour/sheen, Pipe = 0.15 m bgl
DS111	<0.1	<0.1	<0.1	<0.1	5.3	5.3	13.7	13.7	1004		50			dry	1.550		No odour/sheen, Pipe = 0.15 m bgl

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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RO D A ER A D RO D AS O I ORI RECORD S EE

Sheet of

Project Name:	Forbury Retail Park Reading	Weather Conditions:	Overcast
Project Number:	13-0258.01	Gas Kit Model:	Gas Kit 1
Personnel:	D Sattaur	Gas Kit Serial No:	

Date

LOCATION	Flow Peak (L/hr)	Flow Steady (L/hr)	CH_4 Peak (%v/v)	CH_4 Steady (%v/v)	CO_2 Peak (%v/v)	CO_2 Steady (%v/v)	O_2 Min. (%v/v)	O_2 Steady (%v/v)	Atmospheric Pressure (mb)	PID (ppm)	Well I.D. (mm)	Depth to Product (DTP) (m)	Product Thickness (m)	Depth to Water (DTW) (m)	Depth to Base (DTB) (m)	Height of Water Column (m)	NOTES
CP101	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.7	20.7	1020		50			3.050	6.030	2.980	No Odour/ No Sheen
CP102	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.7	20.8	1020		50			3.240	11.430	8.190	No Odour/ No Sheen
CP103	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.8	20.9	1020		50			2.940	5.510	2.570	No Odour/ No Sheen
CP104	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	21.1	21.1	1019		50			2.350	11.390	9.040	No Odour/ No Sheen
CP105	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.8	20.9	1020		50			2.470	10.800	8.330	No Odour/ No Sheen
DS105	<0.1	<0.1	<0.1	<0.1	2.3	2.3	17.0	17.1	1019		50			dry	3.040		No Odour/ No Sheen
DS108	<0.1	<0.1	<0.1	<0.1	1.5	1.4	19.0	19.0	1019		50			2.400	2.530	0.130	No Odour/ No Sheen
DS111	<0.1	<0.1	<0.1	<0.1	5.2	3.6	13.1	16.0	1019		50			dry	1.540		No Odour/ No Sheen

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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RO D A ER A D RO D AS O I ORI RECORD S EE

Sheet
of

Project Name:	Forbury Retail Park Reading	Weather Conditions:	Overcast 20 degrees celcius
Project Number:	13-0258.01	Gas Kit Model:	GA2000
Personnel:	M Llano	Gas Kit Serial No:	

Date

LOCATION	Flow Peak (L/hr)	Flow Steady (L/hr)	CH_4 Peak (%v/v)	CH_4 Steady (%v/v)	CO_2 Peak (%v/v)	CO_2 Steady (%v/v)	O_2 Min. (%v/v)	O_2 Steady (%v/v)	Atmospheric Pressure (mb)	PID (ppm)	Well I.D. (mm)	Depth to Product (DTP) (m)	Product Thickness (m)	Depth to Water (DTW) (m)	Depth to Base (DTB) (m)	Height of Water Column (m)	NOTES
CP101	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	20.4	1008		50			3.080	6.020	2.940	No Odour/ No Sheen
CP102	0.1	0.1	<0.1	<0.1	<0.1	<0.1	20.4	20.4	1008		50			3.210	11.460	8.250	No Odour/ No Sheen
CP103	<0.1	<0.1	<0.1	<0.1	0.3	0.2	20.2	20.2	1008		50			2.930	5.970	3.040	No Odour/ No Sheen
CP104	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.6	20.6	1008		50			2.330	11.410	9.080	No Odour/ No Sheen
CP105	2.2	2.2	0.1	0.1	<0.1	<0.1	20.3	20.3	1008		50			2.480	10.920	8.440	No Odour/ No Sheen
DS105	<0.1	<0.1	<0.1	<0.1	0.4	0.4	20.0	20.0	1008		50			dry	3.060		No Odour/ No Sheen
DS108	<0.1	<0.1	<0.1	<0.1	1.1	1.1	19.1	19.1	1008		50			dry	2.540		No Odour/ No Sheen
DS111	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.6	20.6	1008		50			dry	1.550		No Odour/ No Sheen

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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APPENDIX 5: ARCHAEOLOGICAL DESK-BASED ASSESSMENT, DECEMBER 2015

CgMs CONSULTING

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

LAND SOUTH OF KENAVON DRIVE READING BERKSHIRE

December 2015

Planning • Heritage

Specialist & Independent Advisors to the Property Industry

Planning Authority:
Reading Borough Council

Site centred at:
SU 7227 7357

Author:
Chris Clarke BSc(Hons) MA MCIfA

Approved by:
Paul Chadwick BA FSA MCIfA

Report Status:
Final

Issue Date:
December 2015

CgMs Ref:
PC/20937

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2.0 Planning Background and Development Plan Framework
3.0 Geology and Topography
4.0 Archaeological and Historical Background, including Assessment of Significance
5.0 Site Conditions, the Proposed Development and Impact on Archaeological Assets
6.0 Summary and Conclusions

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Plate 3 Western Area of the site looking north

Plate 4 Southern area of the site looking east

Plate 5 View to the west of the site (Reading Prison)

EXECUTIVE SUMMARY

Land south of Kenavon Drive, Reading, Berkshire has been assessed for its archaeological interest.

There are no designated archaeological assets on the site, and the development will not have an impact on the setting of the adjacent Scheduled Monument, therefore there are no anticipated impacts to any nationally important archaeological assets.

Post-Medieval and modern (non-designated) buildings remains are within the site, although the demolition of the Huntley and Palmer's Factory and its subsequent redevelopment is likely to have removed most, if not all, archaeological potential of the site.

There is a potential for Late Prehistoric geoarchaeological deposits at depth and a low potential for all other archaeological evidence.

In short, there is no archaeological constraint to the development of this site and its modest archaeological interest can be secured by an appropriately worded planning condition.

1.0 INTRODUCTION AND SCOPE OF STUDY

1.1 This archaeological desk-based assessment has been prepared by Chris Clarke of CgMs Consulting on behalf of L & Q Group.

1.2 The subject of this Assessment comprises land south of Kenavon Drive, Reading, Berkshire. The site is irregular in shape, approximately 2.8 hectares in extent and is centred at SU 7227 7357 within Reading Borough (see Fig. 1). The site is bounded by Kenavon Drive to the north, Forbury Road to the west, the River Kennet to the south, and residential properties to the east.

1.3 In accordance with government policy on archaeology within the planning process (Section 12 of the National Planning Policy Framework) and Reading Borough LDF Core Strategy, this assessment draws together the available archaeological, topographic and land-use information in order to assess the significance of any archaeological assets on the site and to clarify the archaeological potential of the study site.

1.4 Additionally, in accordance with the 'Standard and Guidance for Heritage Environment Desk-Based Assessments' (Chartered Institute for Archaeologists (CIfA) 2014), it incorporates an examination of evidence in the Berkshire Historic Environment Record (BHER), and the Berkshire Records Office, incorporates published and unpublished material and charts historic land-use through a map regression exercise. A site inspection was undertaken in November 2015.

1.5 As a result, the assessment enables relevant parties to assess the significance of any designated and non-designated heritage assets within the site, assess the potential for any as yet to be discovered archaeological assets and enables potential impacts on assets to be identified, along with the need for design, civil engineering or archaeological solutions.

2.0 PLANNING BACKGROUND AND DEVELOPMENT PLAN FRAMEWORK

2.1 In March 2012, the government published the National Planning Policy Framework (NPPF). More recently (March 2014), Planning Practice Guidance (PPG) has been published on-line.

2.1.1 Section 12 of the NPPF, entitled *Conserving and enhancing the historic environment* provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 12 of the NPPF can be summarised as seeking the:

- Delivery of sustainable development
- Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment
- Conservation of England's heritage assets in a manner appropriate to their significance, and
- Recognition that heritage contributes to our knowledge and understanding of the past.

2.1.2 Section 12 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. Paragraph 128 states that planning decisions should be based on the significance of the heritage asset, and that level of detail supplied by an applicant should be proportionate to the importance of the asset and should be *no more than sufficient* to review the potential impact of the proposal upon the significance of that asset.

2.1.3 *Heritage Assets* are defined in Annex 2 of the NPPF as: a building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. They include designated heritage assets (as defined in the NPPF) and assets identified by the local planning authority during the process of decision-making or through the plan-making process.

2.1.4 Annex 2 also defines *Archaeological Interest* as a heritage asset which holds or potentially could hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.

2.1.5 A *Designated Heritage Asset* comprises a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area.

2.1.6 *Significance* is defined as: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.

2.1.7 In short, government policy provides a framework which:

- Protects nationally important designated Heritage Assets (which include World Heritage Sites, Scheduled Ancient Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields or Conservation Areas).
- Protects the settings of such designations.
- In appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions.
- Provides for the excavation and investigation of sites not significant enough to merit *in-situ* preservation.

2.2 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.

2.3 The Reading Borough LDF Core Strategy adopted January 2008 contains the following Policy which relates to the protection and enhancement of the historic environment.

POLICY CS33: PROTECTION AND ENHANCEMENT OF THE HISTORIC ENVIRONMENT

HISTORIC FEATURES AND AREAS OF HISTORIC IMPORTANCE AND OTHER ELEMENTS OF THE HISTORIC ENVIRONMENT, INCLUDING THEIR SETTINGS, WILL BE PROTECTED AND WHERE APPROPRIATE ENHANCED.
THIS WILL INCLUDE: -

- **LISTED BUILDINGS;**
- **CONSERVATION AREAS;**
- **OTHER FEATURES WITH LOCAL OR NATIONAL DESIGNATION, SUCH AS SITES AND FEATURES OF ARCHAEOLOGICAL IMPORTANCE, AND HISTORIC PARKS AND GARDENS.**

PLANNING PERMISSION WILL ONLY BE GRANTED WHERE DEVELOPMENT HAS NO ADVERSE IMPACT ON HISTORIC ASSETS AND THEIR SETTINGS. ALL PROPOSALS WILL BE EXPECTED TO PROTECT AND WHERE APPROPRIATE ENHANCE THE CHARACTER AND APPEARANCE OF THE AREA IN WHICH THEY ARE LOCATED.

2.3.1 The LDF Sites and Detailed Policies Document was adopted in 2012 and replaces the previous 'saved' policies. It contains a chapter on heritage assets which includes the following paragraph:

> **9.1.9 NATIONAL PLANNING POLICY PROVIDES AN APPROPRIATE FRAMEWORK FOR CONSIDERING PROPOSALS FOR DEVELOPMENT THAT AFFECTS HISTORIC ASSETS IN READING AND IT IS NOT CONSIDERED NECESSARY TO HAVE SPECIFIC DETAILED POLICIES WITHIN THIS DOCUMENT. ADDITIONALLY, THE HISTORIC ENVIRONMENT IS ADDRESSED STRATEGICALLY BY POLICY CS33 (PROTECTION AND ENHANCEMENT OF THE HISTORIC ENVIRONMENT) IN THE CORE STRATEGY.**

2.4 There are no World Heritage Sites, Historic Battlefield or Historic Wreck designations within the study site or within its immediate vicinity.

2.5 The Scheduled Monument of Reading Abbey (Clunic and Benediictine Monastery and Civil War earthwork) (DBF97, 1007932, SU 7171 7360) is located on the opposite side of Forbury Way.

2.6 This desk-based assessment aims to meet the requirements of NPPF and Core Strategy Policy CS33 in clarifying the archaeological potential of the study site and the need or otherwise for mitigation measures.

3.0 GEOLOGY AND TOPOGRAPHY

3.1 Geology

3.1.1 The British Geological Survey (2015) indicate that the solid geology of the site consists of Seaford and Newhaven Chalk Formation. Superficial deposits consist of Taplow Gravel in the western part of the site, with alluvium in the eastern part of the site.

3.1.2 Geotechnical investigations were undertaken immediately to the northeast of the site in 2005. The investigations recorded between 2m and 2.70m of Made Ground across the site. Below the Made Ground, the investigations recorded deposits of grey silty clay with varying amounts of gravel, interspersed with bands of organic material and shell. These deposits were underlain by sandy gravel at approximately 3m below ground level. Peat deposits were recorded in two of the boreholes (CgMs 2013).

3.1.3 In 2002, a programme of archaeological investigation was undertaken on the Former Bus Depot site, immediately to the southeast of the site. Underlying gravels were encountered at a depth of 4.45m below ground level, which were overlain by a horizon of alluvial deposits approximately 2m thick. The alluvial horizon was sealed by up to 2.70m of 19th and 20th century Made Ground. Assessment of the deposits overlying the gravel, were considered to be alluviation without peat formation (TVAS 2002a, 2002b).

3.1.4 No site-specific geotechnical data is currently available for the study site, although the proximity of the borehole results to the northeast and southeast suggest similar sequences are likely to be present.

3.2 Topography

3.2.1 The topography of the site is roughly level a height of 40m Above Ordnance Datum (AOD). The Post-Medieval and modern development of the site has obscured the natural topography of the site.

3.2.2 The course of the River Kennet bounds the site to the south. The course of the River Thames lies approximately 300m to the north of the site.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND, WITH ASSESSEMENT OF SIGNIFICANCE

4.1 Timescales used in this report:

Prehistoric

Palaeolithic	450,000 -	12,000	BC
Mesolithic	12,000 -	4,000	BC
Neolithic	4,000 -	1,800	BC
Bronze Age	1,800 -	600	BC
Iron Age	600 -	AD 43	

Historic

Roman	AD 43 -	410
Anglo Saxon/Early Medieval	AD 410 -	1066
Medieval	AD 1066 -	1485
Post Medieval	AD 1486 -	1749
Modern	AD 1750 -	Present

4.2 Introduction

4.2.1 This assessment comprises a review of archaeological evidence within a 400m radius of the study site, also referred to as the study area, held on the National Heritage List and the Berkshire Historic Environment Record (BHER) and shown on Figures 2a & 2b, together with a historic map regression exercise charting the development of the study area from the early 17th century onwards.

4.2.2 The Scheduled Monument of Reading Abbey (Clunic and Benediictine Monastery and Civil War earthwork) (1007932, SU 7171 7360) is located on the opposite side of Forbury Way, in part occupied by Reading Prison.

4.2.3 There have been several recent archaeological investigations in close proximity to the site. A geoarchaeological borehole survey was undertaken on land immediately to the northeast of the site which recorded a probable Paleochannel with a peat horizon dated to the Neolithic period (CgMs 2013). An excavation was conducted on the site

immediately to the southeast of the site which recorded the 19th and 20th century structural remains associated with the former Huntley and Palmers Biscuit Factory (TVAS 2002b).

4.2.4 This chapter reviews existing archaeological evidence for the site and the archaeological/historical background of the general area and, in accordance with NPPF, considers the archaeological interest of the site.

4.2.5 Chapter 5 subsequently considers the site conditions and whether the theoretical potential identified in this chapter is likely to survive.

4.3 **Palaeolithic**

4.3.1 The alluvial deposits associated with the River Kennet which underlie the site are of Holocene date. Therefore, these deposits are considered to have no potential for in-situ of Lower and Middle Palaeolithic date, any isolated artefacts would be *ex-situ* and of intrinsic interest only.

4.3.2 In the Upper Palaeolithic, hunter-gathers exploited valley floor locations. However, in view of the lack of evidence locally, a low potential for *in-situ* remains and lithics (worked and waste flint) is suggested. Even if present, any deposits would be buried at depth within and beneath alluvium.

4.3.3 No evidence for Palaeolithic activity was recorded during the excavations at the Former Bus Depot site immediately to the east of the site.

4.3.4 Accordingly, there is a low potential for Palaeolithic evidence on the site.

4.4 **Mesolithic, Neolithic, Bronze Age**

4.4.1 Within the study area, no Mesolithic finds are recorded. Here, as elsewhere in lowland Britain, sites tend to occur close to rivers or other water sources. However, the valley floor would have been avoided by settlement activity because of the risk of flooding and, as a result, a low potential for Mesolithic evidence is identified on the study site.

4.4.2 During the Neolithic and Bronze Ages, the pace of woodland clearance to create arable and pasture-based agricultural land varied regionally and locally, depending

on a wide variety of climatic, topographic, social and other factors. The trend was one of a slow, but gradually increasing pace of forest clearance. Within the Thames Valley, it is likely that the first farmers initially cleared areas along the valley floor and adjacent terraces, where lighter, gravel-based soils occur.

4.4.3 Geoarchaeological boreholes taken on the site immediately to the northeast of Kenavon Drive identified a possible north-south aligned palaeochannel, the base of which was recorded at a depth of 33m AOD. Within the palaeochannel was a horizon of peat which was radiocarbon dated to the Neolithic, with the upper horizon recorded at a depth of 33.2m AOD (QUEST 2013; MRM17508, SU 7248 7358).

4.4.4 Contemporary evidence from nearby comprises a rolled and chipped flint axe of Neolithic date found at the Gasworks approximately 400m to the east (MDR11180, SU 72900 73700), and Early Neolithic flakes and pottery and flints of late Neolithic - Bronze Age date were found at the Abbey Church approximately 200m to the west (MDR11355, MDR3901, SU 72020 73600).

4.4.5 Excavations at Crane Wharf, approximately 250m to the southwest of the site, found fragments of worked wood, with tool marks suggesting that they were Neolithic in origin (MRD7396, SU 71950 73350).

4.4.6 By the 1st millennium, i.e. 1000 BC, the Thames Valley was probably a mix of woodland, tracts of open farmland, punctuated by farmstead settlements and burial monuments, although this floodplain location may have been avoided due to seasonal flooding.

4.4.7 A small assemblage of worked flint, attributable to the Prehistoric period in general, was found during archaeological investigations at Forbury Gardens, approximately 350m west of the site (MRM15881, SU 71877 73581).

4.4.8 However, no evidence for Mesolithic, Neolithic and Bronze Age activity was recorded during the excavations at the Former Bus Depot site immediately to the east of the site.

4.4.9 In view of the limited evidence for Mesolithic, Neolithic and Bronze Age activity locally, a low potential is identified for sub-surface features, although there is a moderate potential for geoarchaeological deposits to be present.

4.5 **Iron Age-Roman**

4.5.1 The Iron Age is characterised in this region by increasing settlement stability and the large-scale organisation of the landscape, developments that began in the Late Bronze Age. Settlement evidence in the wider Thames Valley is plentiful and diverse, ranging from individual farmsteads occupied by a single household, to hillforts and enclosed settlements holding much larger communities.

4.5.2 However, within Reading Borough there is little evidence for large-scale Iron Age settlement. Within a 400m radius of the study site, the Berkshire HER records the discovery of a netting needle, associated with Roman artefacts, but of late Iron Age date found in the River Kennet/Gasworks site approximately 75m to the south of the site (MDR3890, SU 7238 7347).

4.5.3 The significance of Reading in the Roman period is dwarfed by the Roman town of Calleva at Silchester, approximately 16km to the south. Indeed, Calleva was the focus of the Roman road system in the area, but many goods must have been transported by river and it is possible that Reading could have been a port serving Calleva. Archaeological investigations within the town have recorded enclosure ditches containing quantities of Roman pottery suggesting settlement nearby.

4.5.4 Within a 400m radius of the study site the Berkshire HER also records the discovery of a burial at Crane Wharf, approximately 250m to the southwest of the site, thought to be Iron Age or Roman in date (MRD7402, SU 71950 73350). Flood defences and stakes associated with this general period were also recorded on site (MRD7399, MRD7400, SU 71950 73350).

4.5.5 Fragments of residual Iron Age pottery have also been recovered from the site at Crane Wharf (MRD15595, SU 71890 73351) and a short distance to the north within the Scheduled area (MRD11345, SU 71900 73520) of Reading Abbey.

4.5.6 A limited scatter of Roman finds have been recorded within the study area. The closest record finds relates to the discovery of Roman pottery, a 2nd century coin and antler implement during bridging works over the Kennet for the Gasworks approximately 75m to the south of the site (MDR3890, SU 7238 7347).

4.5.7 Fragments of pottery and other domestic finds have been recovered in the western part of the study area, either within, or in close proximity to the Scheduled

Monument (MRD3898, SU 72000 73600; MRM16077, SU 71895 73460; MRD15596, SU 71966 73427).

4.5.8 No evidence for Iron Age and Roman activity was recorded during the excavations at the Former Bus Depot site immediately to the southeast.

4.5.9 In view of the limited number of Iron Age and Roman sites and finds locally, a low potential is identified for settlement, although a stray artefact within a residual context is conceivable.

4.6 **Anglo-Saxon and Early Medieval**

4.6.1 In 871 the Anglo-Saxon Chronicles record that the Danes entered Wessex at Reading. Sometime after this invasion, a rampart was built on the western edge of the settlement, the side not defended by the Thames and Kennet. The HER point data locates the records approximately 250m northeast of the site (MRD3907, MRD3908, SU 72500 73700).

4.6.2 Archaeological investigations within, and immediately adjacent to Reading Abbey, have identified a small number of finds and features dating to the Anglo-Saxon period. The most significant of these discoveries relates to the excavation of 40 burials thought to be Anglo-Saxon in date (MRD1378, SU 72000 73550). Finds from this period in this area consist of a spearhead (MRD11363, SU 72000 73550) and a scatter of pottery sherds (MRD3902, SU 72020 73600; MRD11362, SU 71900 73510; MRD11364, SU 71900 73520; MRD15554, SU 72022 73598; MRD15596, SU 71966 73427; MRM15882, SU 71885 73589). This evidence is indicative of small scale Anglo-Saxon activity taking place on the site of Reading Abbey prior to its establishment following the Norman Conquest.

4.6.3 No evidence for Anglo-Saxon/Danish activity was recorded during the excavations at the Former Bus Depot site immediately to the east of the site.

4.6.4 The focus of Anglo-Saxon findspots appears to be concentrated on higher, drier, ground to the west of the site. Overall, a low potential is identified for evidence of Anglo-Saxon/Danish activity on the site.

4.7 **Medieval**

4.7.1 The Domesday survey of 1086 records two manors at Reading, one belonging to Battle Abbey and the other to the King. During this period the study site lay within the Kings estate, which included a church, 29 dwellings and 12 acres of meadows (Open Domesday 2015). In view of the study site's location on the floodplain, it is likely that at the time of the Domesday Survey the site was classed as meadow.

4.7.2 In 1121 the King founded Reading Abbey on behalf of the Clunic Order. By the mid-13th century, control of the Abbey had passed to the Benedictine Order. Within a hundred years Reading Abbey had become one of the ten wealthiest Abbey's in the country, only to ransacked and the land sold off following the Dissolution of 1539. The majority of HER records listed within the Scheduled area relate to key buildings and structural elements associated with the Abbey identified during the extensive archaeological excavations which have taken place on site, including the Chancel, Treasury, Chapter House, Infirmary, Cloisters and Church (MRD15552, SU 72002 7359; MRD15561, SU 72008 73578; MRD15556, SU 72017 73604; MRD15553, SU 72020 73598; MRD15562, SU 72003 73548; MRD15565, SU 72104 73578; MRD15560, SU 71985 73555).

4.7.3 A plan drawn up in 1901 (Fig. 3) depicts the layout of the Abbey buildings and grounds, all of which is located to the west of Forbury Road. The Abbey's precinct wall known as the 'Plummery Wall' follows the line of Forbury Road, located immediately to the west of the site boundary. The wall took its name from the Abbey's Lead Workshops known as plummeries which were built up against it (Philips 1980). Remains of the precinct wall was discovered at the junction of Kenavon Drive and Forbury Road approximately 300m (MRD1384 & ERM492, SU 72062 73649). During the late 20th century Forbury Road was widened from a single carriageway road into a dual carriageway. During these works elements of the Plummary Wall were identified retaining the eastern side of the original single carriageway road. Elements of the wall were relocated and installed along the central reservation, while the remaining elements were subsequently sealed beneath the dual carriageway extension (Paul Chadwick *pers. comm.*).

4.7.4 The original Abbey was set in a rural landscape beyond the historic core of Reading (which lay further west). The monument now lies at the heart of the urbanised town, significantly compromising its original setting. All surviving upstanding elements of

the Abbey are now obscured from the site by the imposing structures associated with 19th/20th century Reading Prison, resulting in a lack of intervisability between the site and the Scheduled Monument. The importance of the Scheduled Monument is related to the wealth of surviving below-ground and upstanding archaeological remains associated with this once monumental Medieval building.

4.7.5 Recent excavation on the north bank of the River Kennet, a short distance to the south of the Scheduled area, have revealed remains of wharfs, revetments, warehouses, buildings, and smaller discrete features thought to be associated with the Abbey complex (MRD1407, SU 71980 73450; MRD7406, SU 71950 73350; MRD7407, SU 71950 73350; MRD15577, SU 71970 73404; MRD15585, SU 71976 73447; MRD15588, SU 71970 73404).

4.7.6 The remains of a possible motte, constructed within the Abbey precinct in 1150 is thought to be present within Forbury Gardens, to the west of the Abbey remains. It is likely that the earthwork was subsequently modified during the Civil War and by later landscaping (MRD3934, SU 71900 73640).

4.7.7 Later cartographic (1611 Speed's map of Reading: Fig. 4) shows the study site located outside the Abbey precinct wall, to the east of the line of the road which will subsequently become Forbury Road. The site is located within flood meadow.

4.7.8 No evidence for Medieval activity was recorded during the excavations at the Former Bus Depot site immediately to the east of the site.

4.7.9 Accordingly, there is a moderate potential is identified for Medieval activity adjacent to the western boundary of the site. This evidence may take the form of peripheral activity taking place outside the Abbey complex, where such evidence has not been truncated by later activity. There is a low potential for Medieval activity elsewhere on the site.

4.8 **Post-Medieval and Modern (including map regression exercise)**

4.8.1 Speed's map of 1611 (Fig. 4) depicts the site within flood meadow immediately to the north of the River Kennet.

4.8.2 By 1643 Reading had become a strategic location during the Civil War, resulting in Royalist forces creating a significant circuit of earthwork defences to protect the town.

The HER depicts the line of the defences as following higher ground following the alignment of Forbury Road outside the boundary of the site (MRD15703, SU 71058 73227). It is probable that the Royalists utilised the remains of the Abbey precinct wall as part of their defences in this location.

4.8.3 Roque's map of 1761 (Fig. 5) shows the site occupied by flood meadow and gardens associated with properties fronting onto Forbury Road.

4.8.4 Tomkin's map of 1802 (Fig. 6) depicts the western part of the site which contains a number of detached buildings associated with 'Blakes Wharf' and 'The Grange'. The buildings are most likely to facilitate the storage and movement of goods via the River Kennet.

4.8.5 The Plan of Reading Borough of 1807 (Fig. 7) is less detailed only showing the key roadside buildings belonging to 'Grange Wharf', while the eastern part of the site is still shown as field plots. The layout of the site remains unaltered in 1813 (Fig. 8), although the western part of the site is now called 'Blake's Wharf'.

4.8.6 The 1848 St. Lawrence Reading Tithe Map (Fig. 9) and associated Apportionment records that the developed area of the site has increased with the 'House, Cottages and wharf' (plot 38) now extending into the central part of the site. 'Grange Close House and premises' (plot 39 & 40) have also been extended to the east, while the only areas now remaining as meadow are plots 37 & 41.

4.8.7 The Estate Map of John Belgrave (Fig. 10) and a general Map of Reading (Fig. 11) of approximately the same date, indicate that several buildings in the north of the site have been demolished, while two detached buildings are present in the southwest corner of the site, and several buildings of various sizes are present in the eastern part of the site.

4.8.8 In 1846, The Huntley and Palmer Biscuit Factory was opened on a land to the east of Forbury Road, on land now occupied by the site (MRD15661, SU 72347 73544). The factory was soon expanded with an additional number of buildings constructed. The opening of the Kings Road factory pioneered the first continuously running and integrated machinery for biscuit manufacture. The location of the factory by the Kennet and Avon Canal (MRD5764, SU 72300 73520) allowed Huntley and Palmers biscuits to be transported to the West Country. The railway at Reading was also used to transport the biscuits and the company constructed its own private sidings within the factory.

Surviving elements of this manufacturing complex was found during excavations on the site immediately to the southeast of the site identifying elements of a smithy, fitting shop and engine house (Fig. 12). The remains were recorded at approximately 0.60m below existing ground level (TVAS 2002b).

4.8.9 The 1879 Ordnance Survey map (Fig. 13) is the first map to depict the Huntley and Palmer Biscuit Factory. The greatest concentration of buildings is located in the western part of the site adjacent to Forbury Road, with a scatter of small industrial buildings in the central and eastern parts of the site. Railway spurs from the main London to Reading railway lead into the site from the north. The factory also occupies land on the south bank of the River Kennet.

4.8.10 The GOAD Insurance Plan of 1895 (Fig. 14) provides a detailed picture of the extensive complex dominated by the 'New Biscuit Factory' in the west of the site, as well as flour stores, machine shops, a smithy, wharf buildings, and the 'New Cake Bakery' in the eastern part of the site. Only minor alterations to the layout of the site occur between 1899 and 1962 (Figs. 15-18).

4.8.11 In 1979 (Fig. 19) the area adjacent to Forbury Road has been cleared. This is at a similar time to the closure of the factory. The factory complex was ultimately demolished during the 1990's (MRD15661, SU 72347 73544).

4.8.12 The site was subsequently redeveloped by the early 2000s, represented by the commercial properties currently present within the site (Fig. 20).

4.8.13 The Post-Medieval potential within the site is primarily invested in any remains of 18th buildings present adjacent to the Forbury Road site boundary, where not truncated by later activity. Any remains associated with the 19th and 20th century Huntley and Palmer Biscuit Factory can be considered of modest historic interest, but of limited archaeological interest, with any building remains significantly truncated by modern development within the site.

4.9 **Assessment of Significance**

4.9.1 There are no designated archaeological assets within the study site.

4.9.2 The Scheduled Reading Abbey and Civil War earthwork is located to the west of the site, on the opposite side of Forbury Road. The designated nature of the monument indicate the site is of national significance.

4.9.3 The foundations of the Huntley and Palmer Biscuit Factory (if they have survived the latest redevelopment of the site) can be considered to be non-designated archaeological asset of local importance.

4.9.4 This study concludes that the potential for as yet to be discovered archaeological evidence is modest. Any evidence present is likely to consist of Later Prehistoric geoarchaeological deposits at depth within the site, features associated with peripheral Medieval activity, and 18th century building remains, where not truncated by later activity. This evidence is of local interest.

5.0 SITE CONDITIONS, THE PROPOSED DEVELOPMENT AND IMPACT ON HERITAGE ASSETS

5.1 Site Conditions

5.1.1 A site walkover was undertaken in November 2015 to gain a greater understanding of existing land use and the potential for archaeological and/or heritage assets within the site.

5.1.2 The site is currently occupied by two large commercial units with associated car parking (Plates 1-4). The western part of the site lies approximately 2m below the level of Forbury Road. To the west, the view of the Reading Abbey Scheduled area is obscured by the high wall of Reading Prison (Plate 5).

5.1.3 The construction, and subsequent demolition, of the 19th/20th century Huntley and Palmer Biscuit Factory is likely to have a severe widespread destructive impact on any earlier sub-surface horizons. Additionally, the development of the current commercial units will have further reduced the archaeological potential of the site.

5.2 The Proposed Development

5.2.1 The site is proposed for residential development.

5.3 Impact on Archaeological Assets

5.3.1 The proposed development would not impact any designated heritage assets.

5.3.2 The site lies a short distance from the Scheduled Monument associated with Reading Abbey, with no direct intervisability due to the intervening urban environment and particularly Reading Prison. Due to the lack of visibility between the site and the Scheduled Monument, the proposed development will not impact the setting the Scheduled Monument; no harm to the designated asset will result.

5.3.3 The proposed development is likely to have a destructive impact on the non-designated foundations of the Huntley and Palmer Biscuit Factory (if they have survived the redevelopment of the site in 2000) which are considered to be of limited local archaeological interest.

5.3.4 Late prehistoric, Later Medieval, and Post-Medieval below-ground evidence of local interest is likely to be impacted, where not already destroyed by later development.

6.0 SUMMARY AND CONCLUSIONS

6.1 Land, approximately 2.8ha in extent, south of Kenavon Drive, Reading, Berkshire has been assessed for its archaeological interest.

6.2 In accordance with central and local government planning policy, a desk-based assessment has been undertaken to identify the significance of any archaeological assets on the site and clarify its archaeological potential.

6.3 There are no designated archaeological assets on the site, and the development will not have an impact on the setting of the adjacent Scheduled Monument, therefore no harm is anticipated to any nationally important heritage assets.

6.4 Post-Medieval and modern (non-designated) buildings remains are within the site, although the demolition of the Huntley and Palmer's Factory and its subsequent redevelopment is likely to have removed most, if not all, archaeological potential of the site.

6.5 There is a potential for Late Prehistoric geoarchaeological deposits at depth and a low potential for all other archaeological evidence.

6.6 In short, there is no archaeological constraint to the development of this site and its modest archaeological interest can be secured by an appropriately worded planning condition.

SOURCES CONSULTED

1. **General**

British Library

Berkshire Historic Environment Record

Berkshire Records Office

National Heritage List

2. **Internet**

http://www.british-history.ac.uk/

https://historicengland.org.uk/

*http://*www.opendomesday.org/

http://historicengland.org.uk/listing/the-list/

3. **Bibliographic**

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CgMs Consulting 2013 *Archaeological Desk-Based Assessment, Kenavon Drive, Reading, Berkshire*

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Hey, G. & Hind, J. (eds) 2014 *Solent-Thames Research Framework for the Historic Environment. Resource Assessments and Research Agendas.*

Philips, D. 1980 *The Story of Reading*

QUEST 2013 *A Report on the Geoarchaeological Borehole Investigations and Deposit Modelling on land at Kenavon Drive, Reading, Berkshire* unpublished report

Thames Valley Archaeological Services 2002a *Former Bus Depot, Gasworks Road, Reading, Berkshire* unpublished report

Thames Valley Archaeological Services 2002b *Former Bus Depot and Huntley and Palmers Biscuit Factory, Gasworks Road, Reading* unpublished report

3. **Cartographic**

1611 Speed's Map of Reading

1761 Rocque's Map of Berkshire

1802 Tomkin's Map of Reading

1807 Plan of Reading Borough

1813 Man's Map of Reading

1848 St Lawrence, Reading Tithe Map

1848 Estate of John Blagrave

Mid-19th Century Map of Reading

Excavation plan of 19th/20th century remains found at Gasworks Road

1879 Ordnance Survey

1895 Goad Insurance Plan

1899 Ordnance Survey

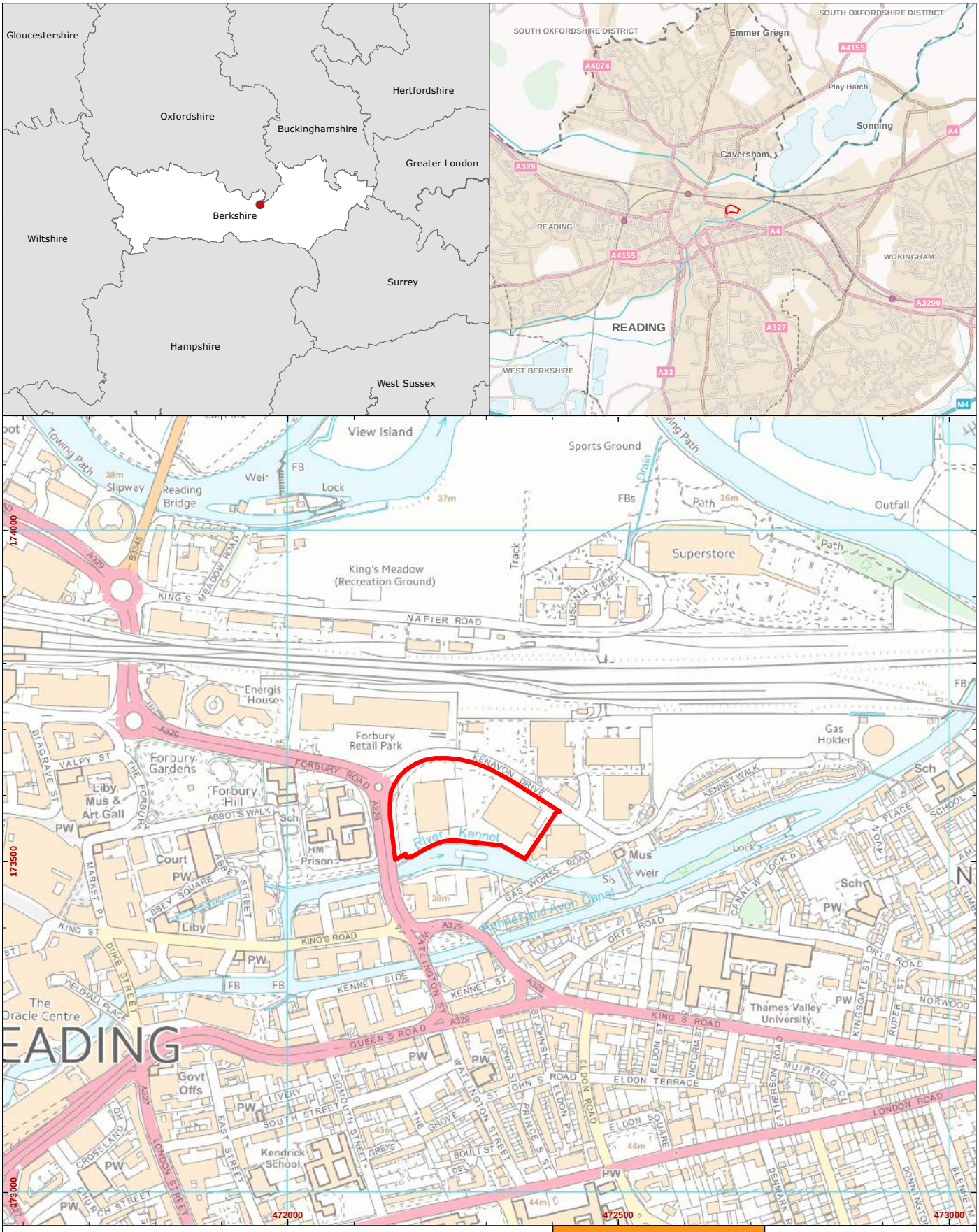
1912 Ordnance Survey

1931-34 Ordnance Survey

1962 Ordnance Survey

1979 Ordnance Survey

2014 Google Earth View



Site Boundary

N

Scale at A4: 1:8,000

0 200 m

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Figure 1:
Site Location

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- Site Boundary
- Search Radius 400m

Designated Heritage Assets:

- Conservation Area
- Listed Building
- Registered Park or Garden
- Scheduled Monument

Non-Designated Heritage Assets:

HER Record (Point)

- Building
- Find Spot
- Monument

HER Record (Polygon)

- Monument

N

Scale at A3: 1:4,000
0 125m

Figure 2a: Summary of cultural heritage assets (Berkshire HER data)

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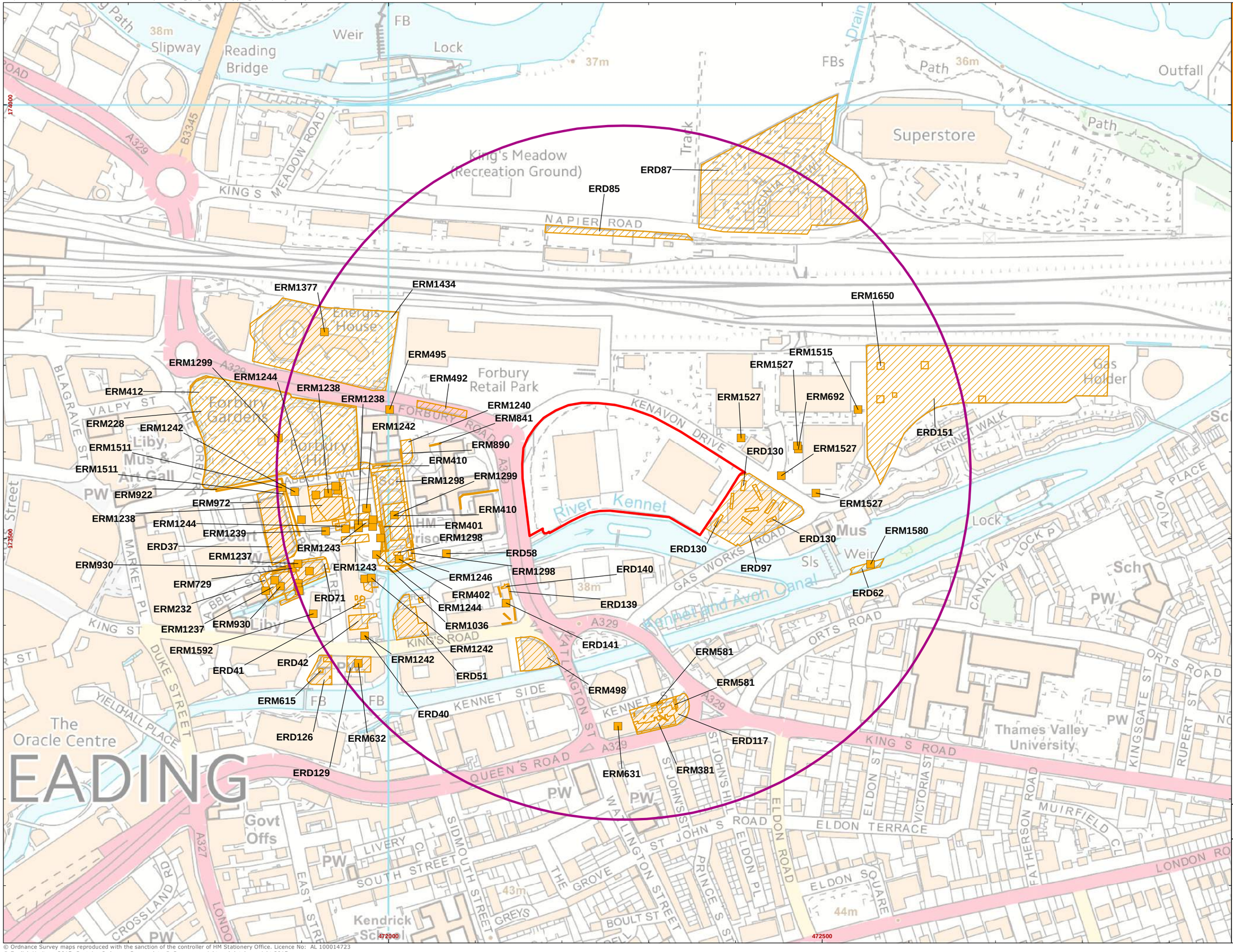
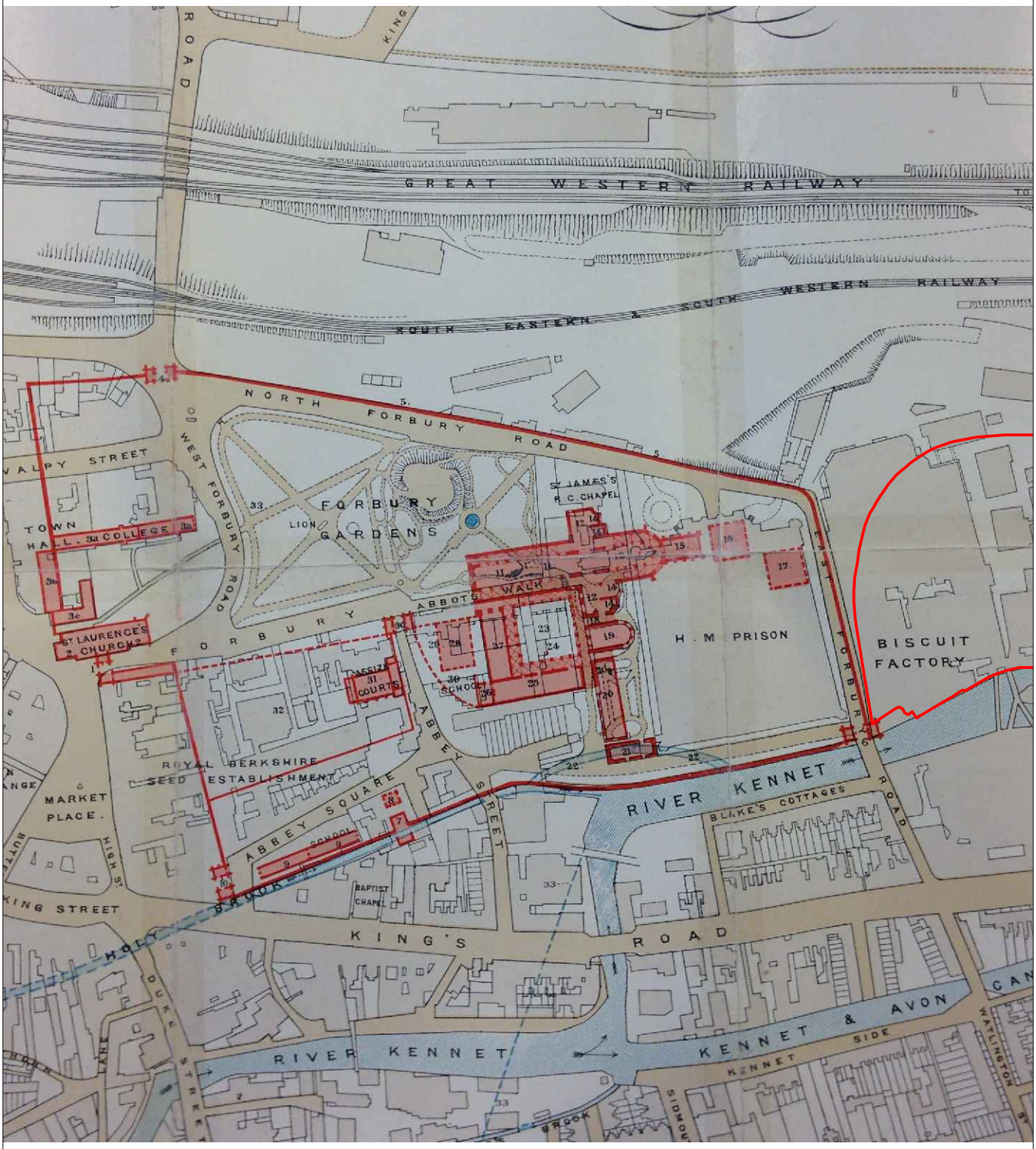


Figure 2b: Summary of previous archaeological investigation (Berkshire HER data)

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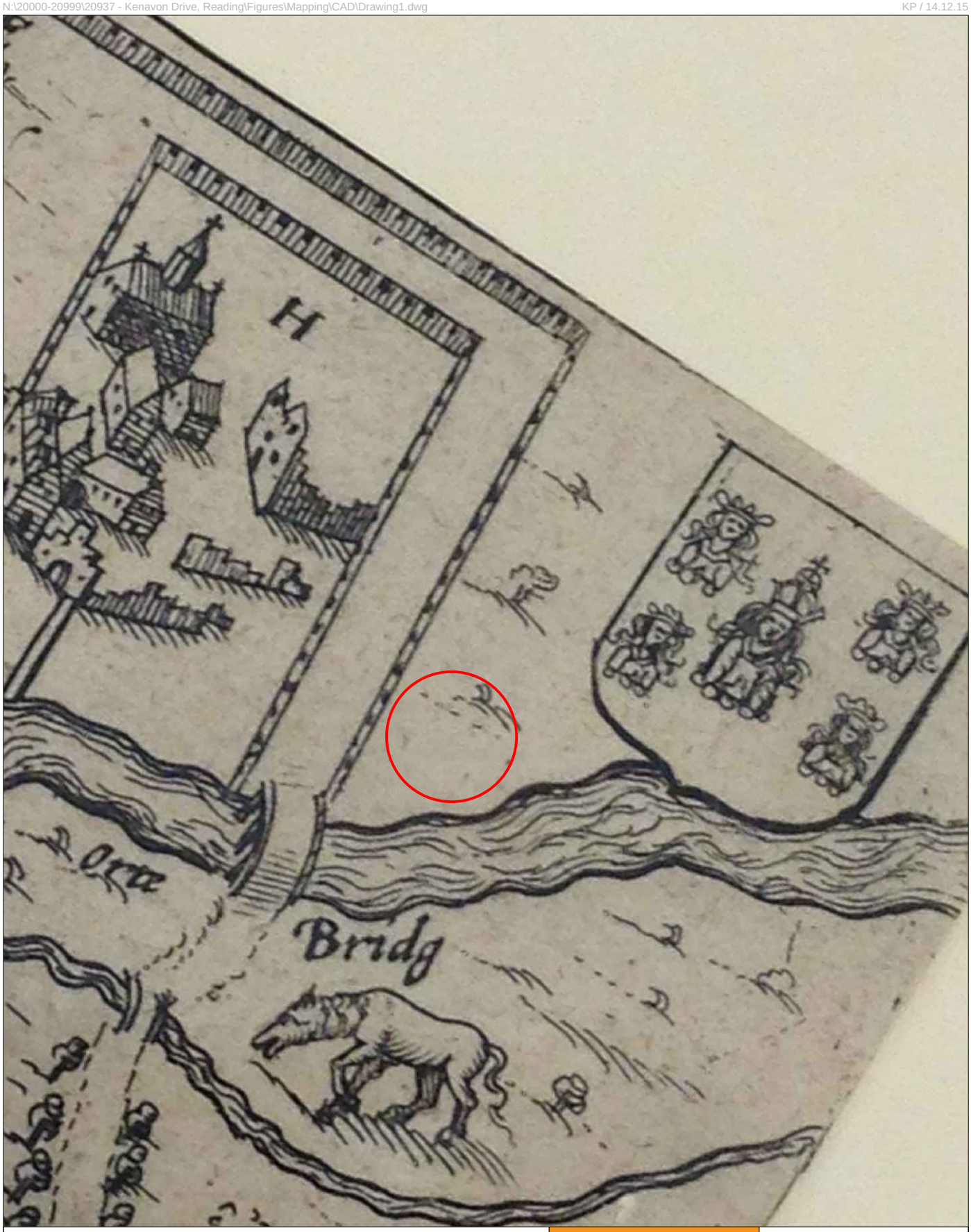
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Figure 3:
Plan of Reading Abbey overlaid onto Ordnance Survey mapping (1901)

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Figure 4:
1611 Speed's Map of Reading

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Site Location

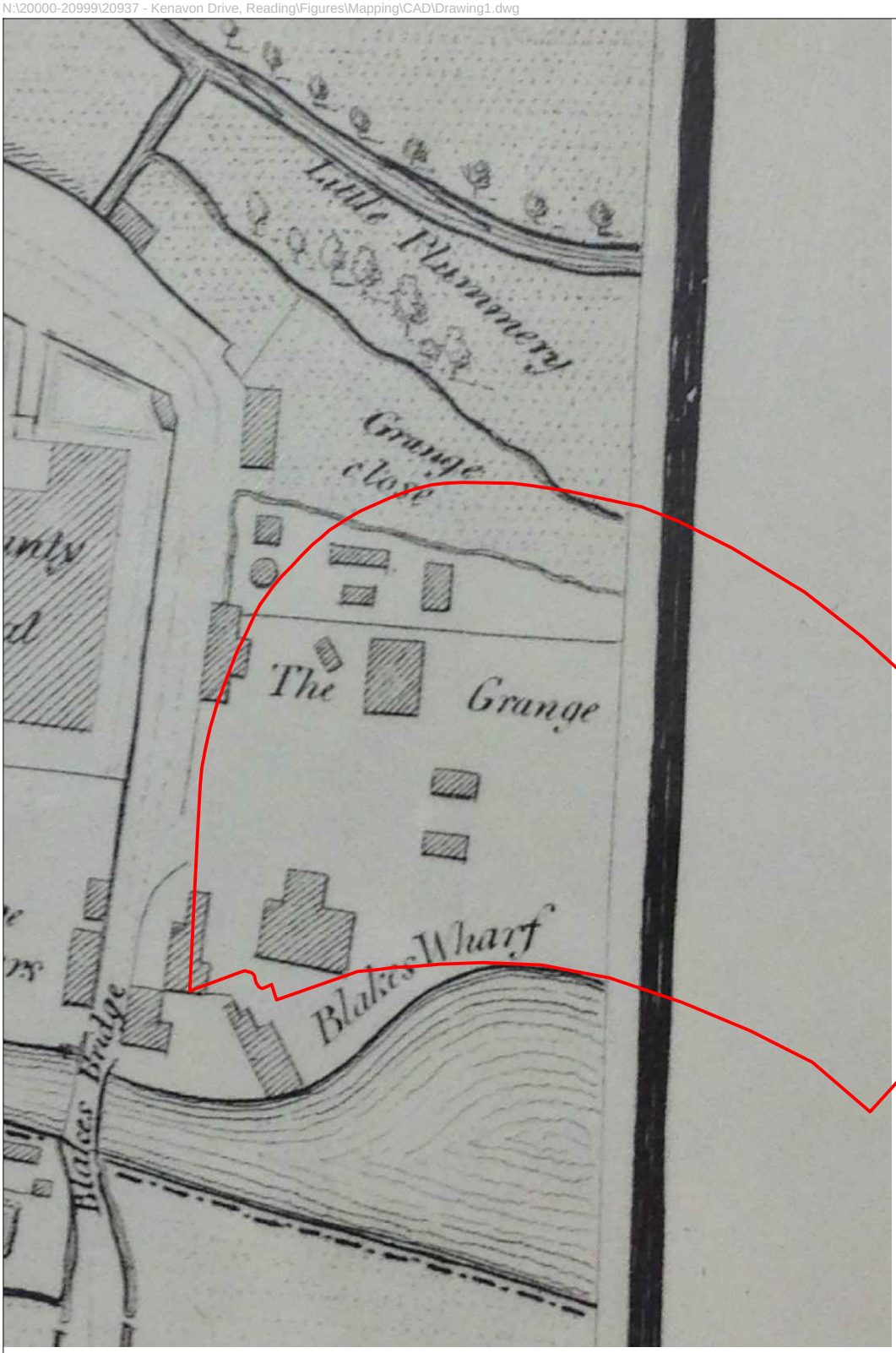
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Figure 5:
1761 Rocque's Map of Berkshire

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Site Boundary

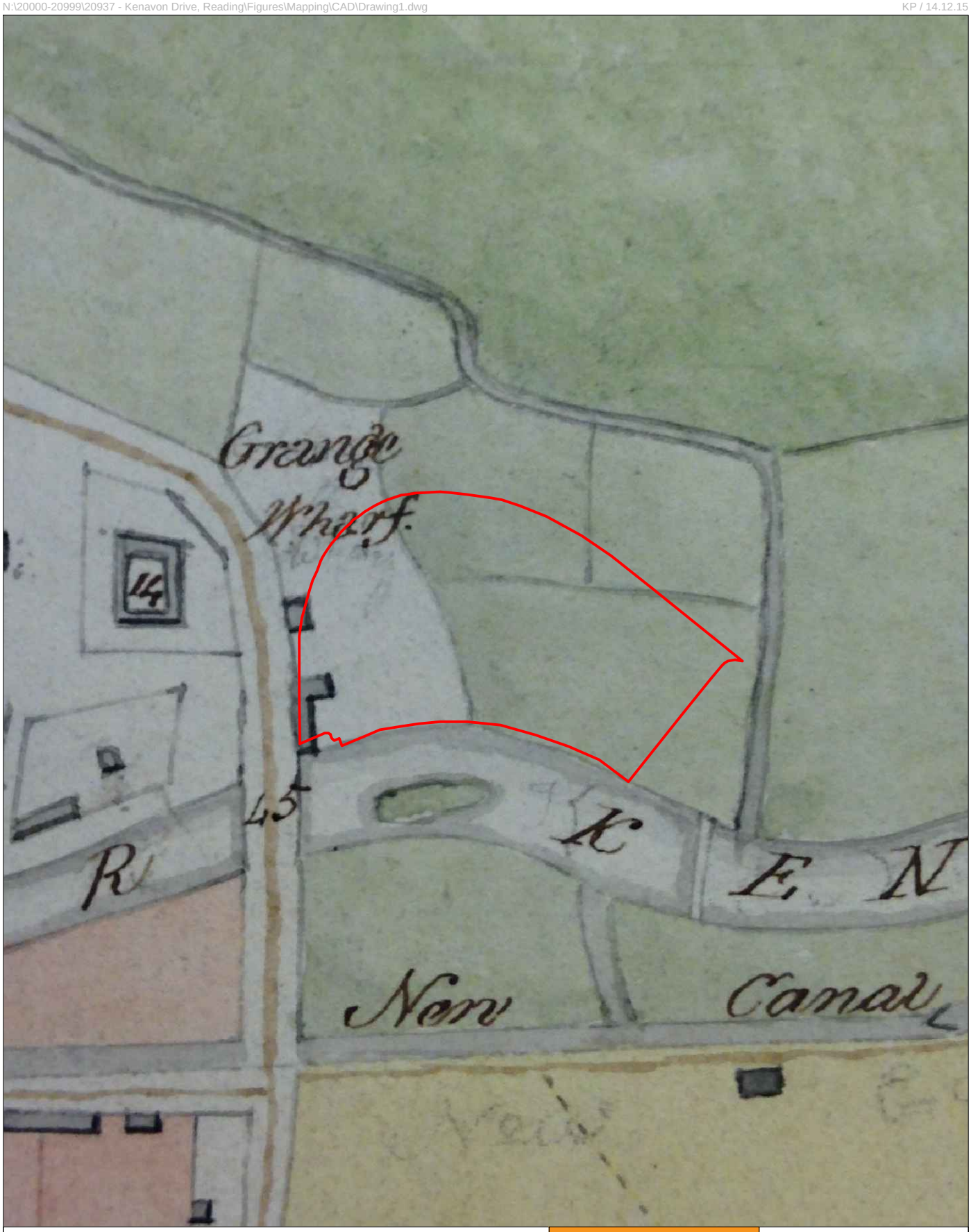
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Figure 6:
1802 Tomkin's Map of Reading

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Figure 7:
1807 Plan of Reading Borough

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Figure 8:
1813 Man's Map of Reading

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Figure 9:
1848 St Lawrence,
Reading Tithe Map

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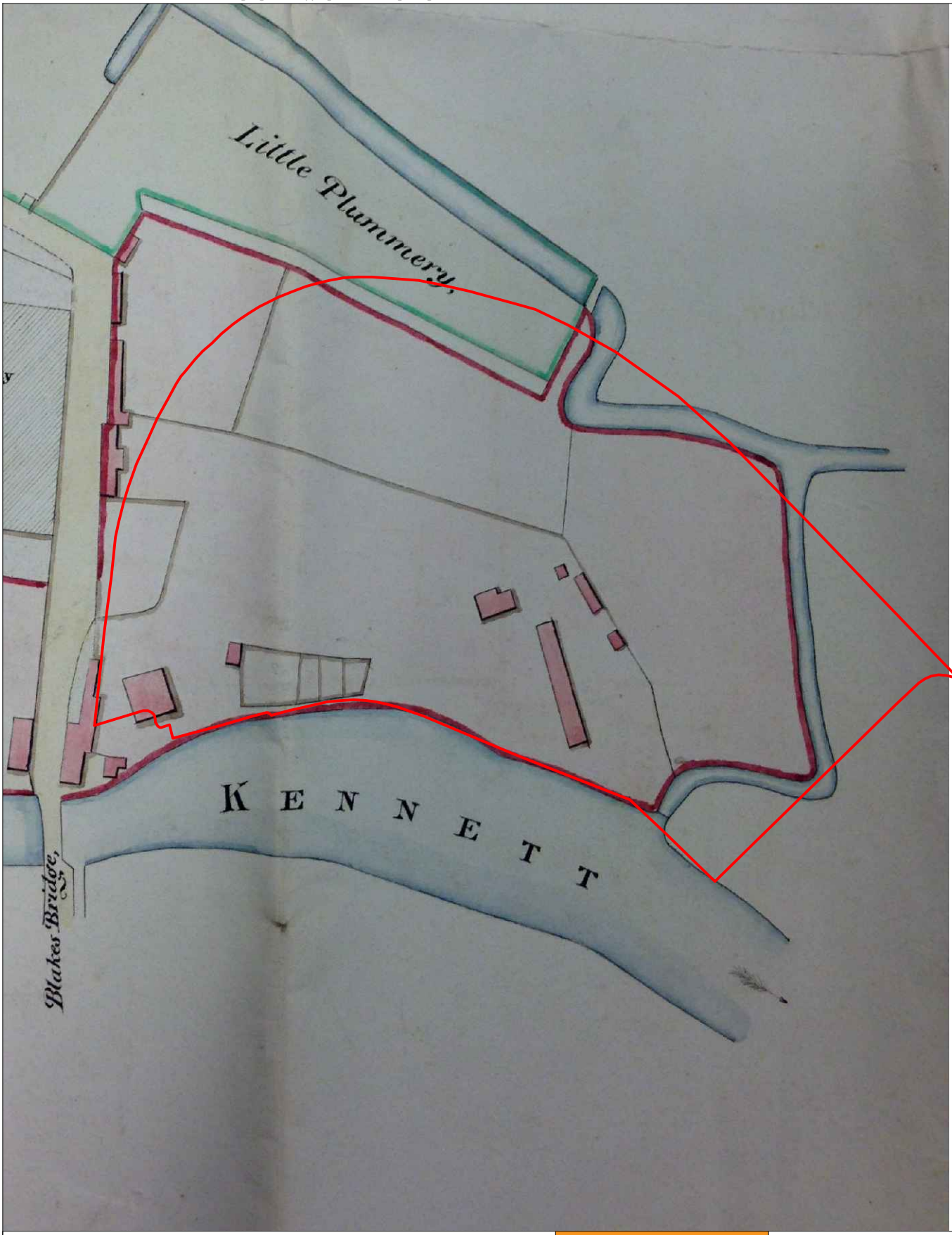
Site Boundary

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Figure 10:
1848 Estate of John Blagrave

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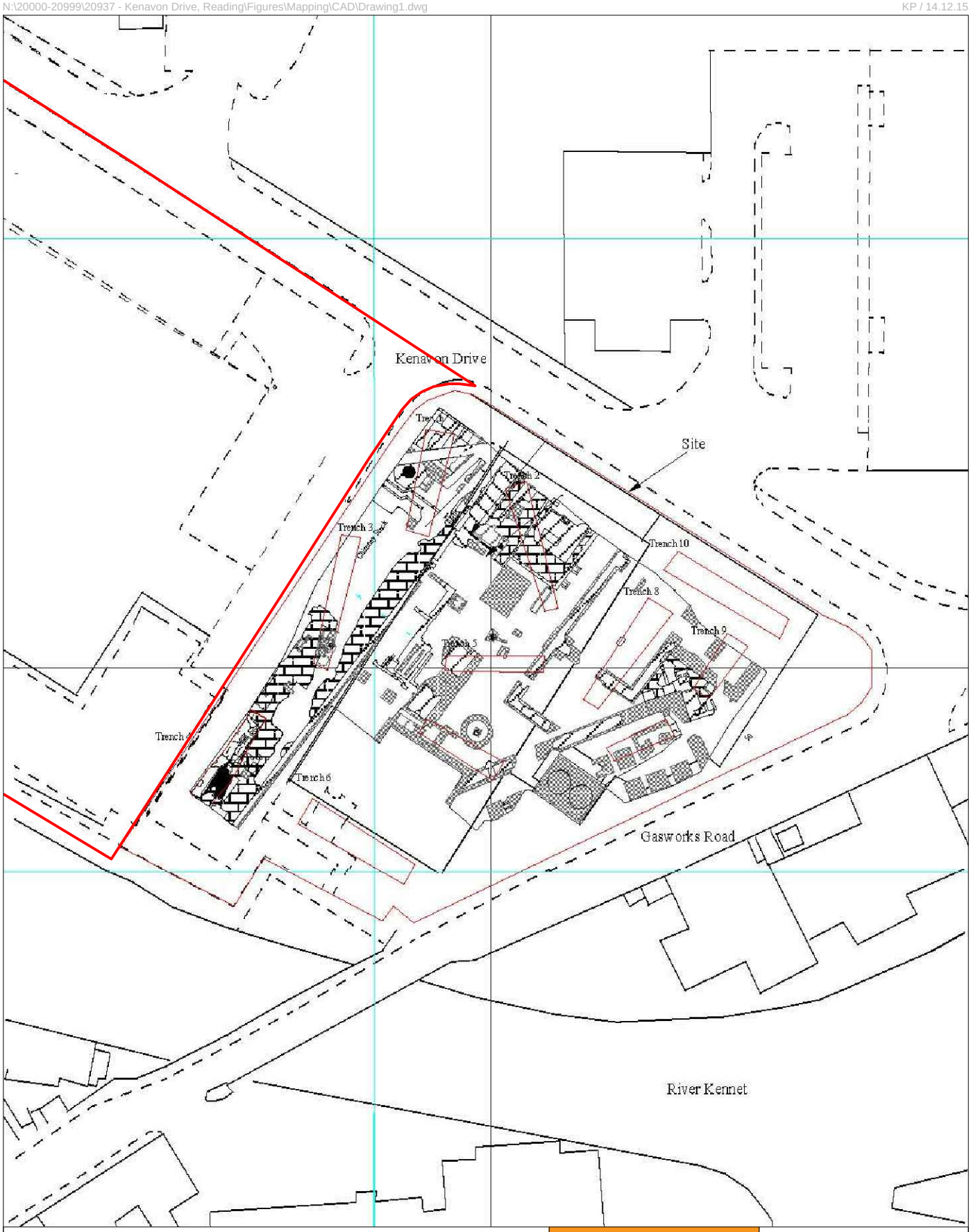
Site Boundary

Not to Scale:
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Figure 11:
Mid-19th Century Map
of Reading

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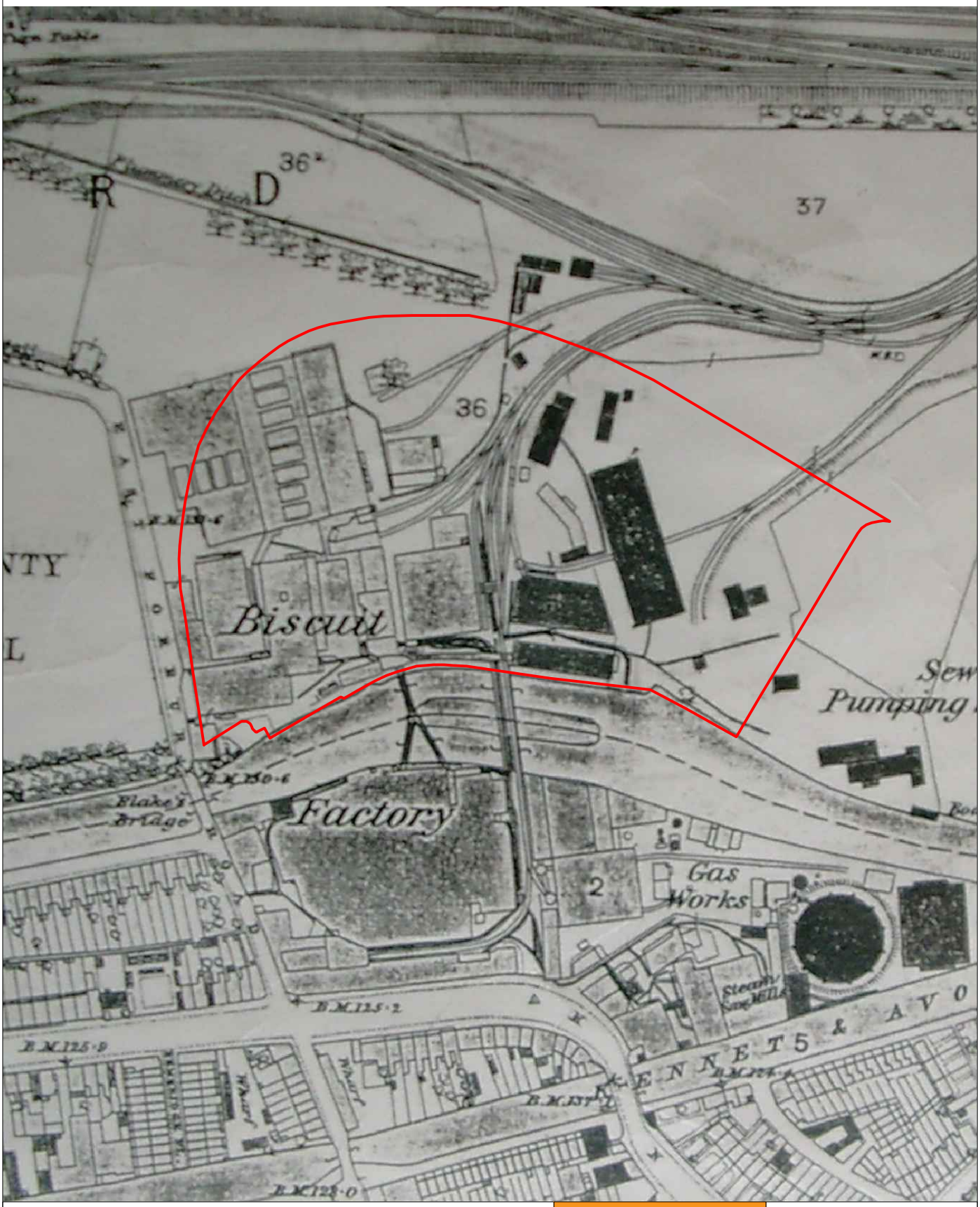
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Figure 12:
Excavation Plan of
19th/20th century remains
found at Gasworks Road

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Figure 13:
1879 Ordnance Survey

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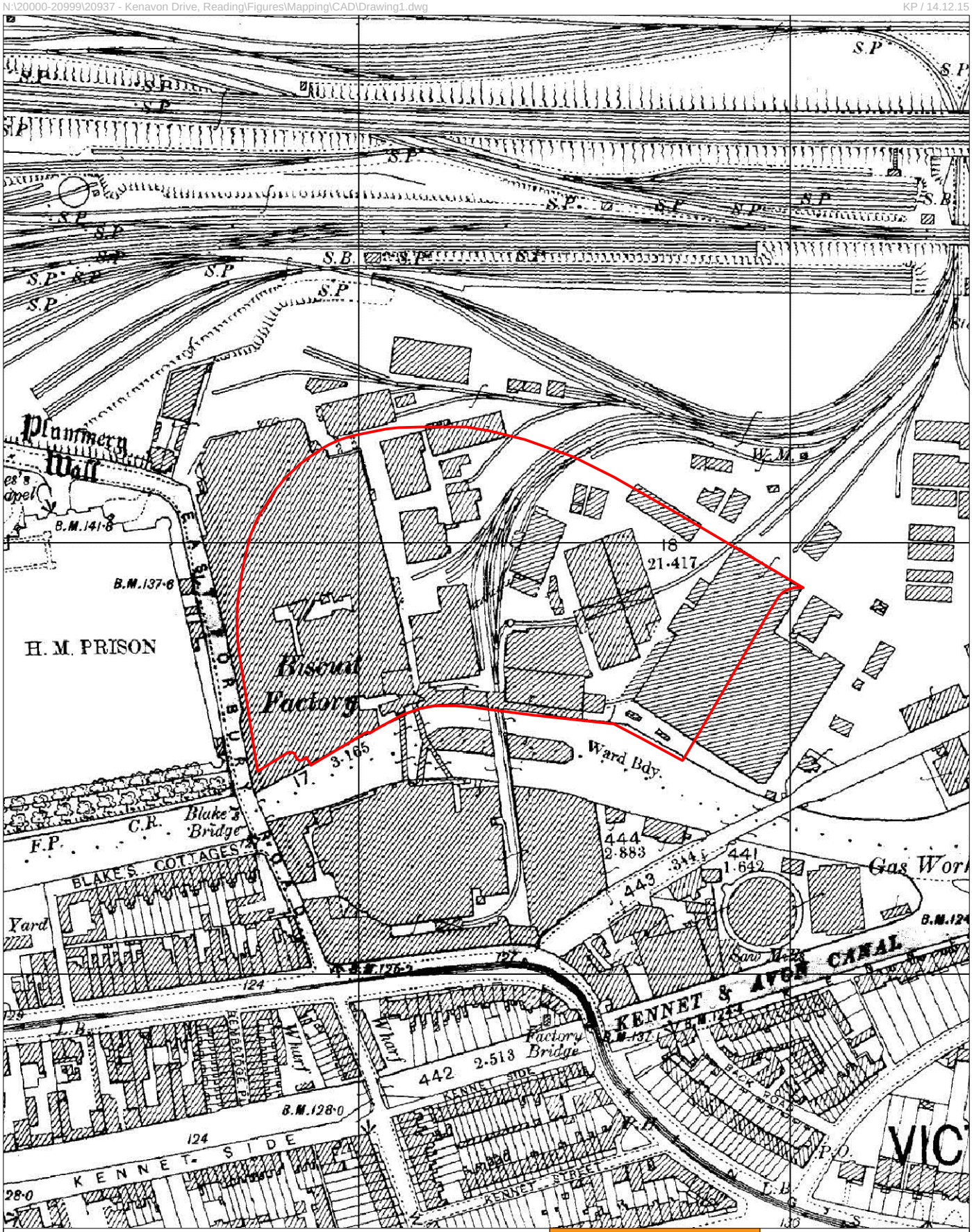
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Figure 14:
1895 Goad Insurance Plan

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Figure 15:
1899 Ordnance Survey

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Figure 16:
1912 Ordnance Survey

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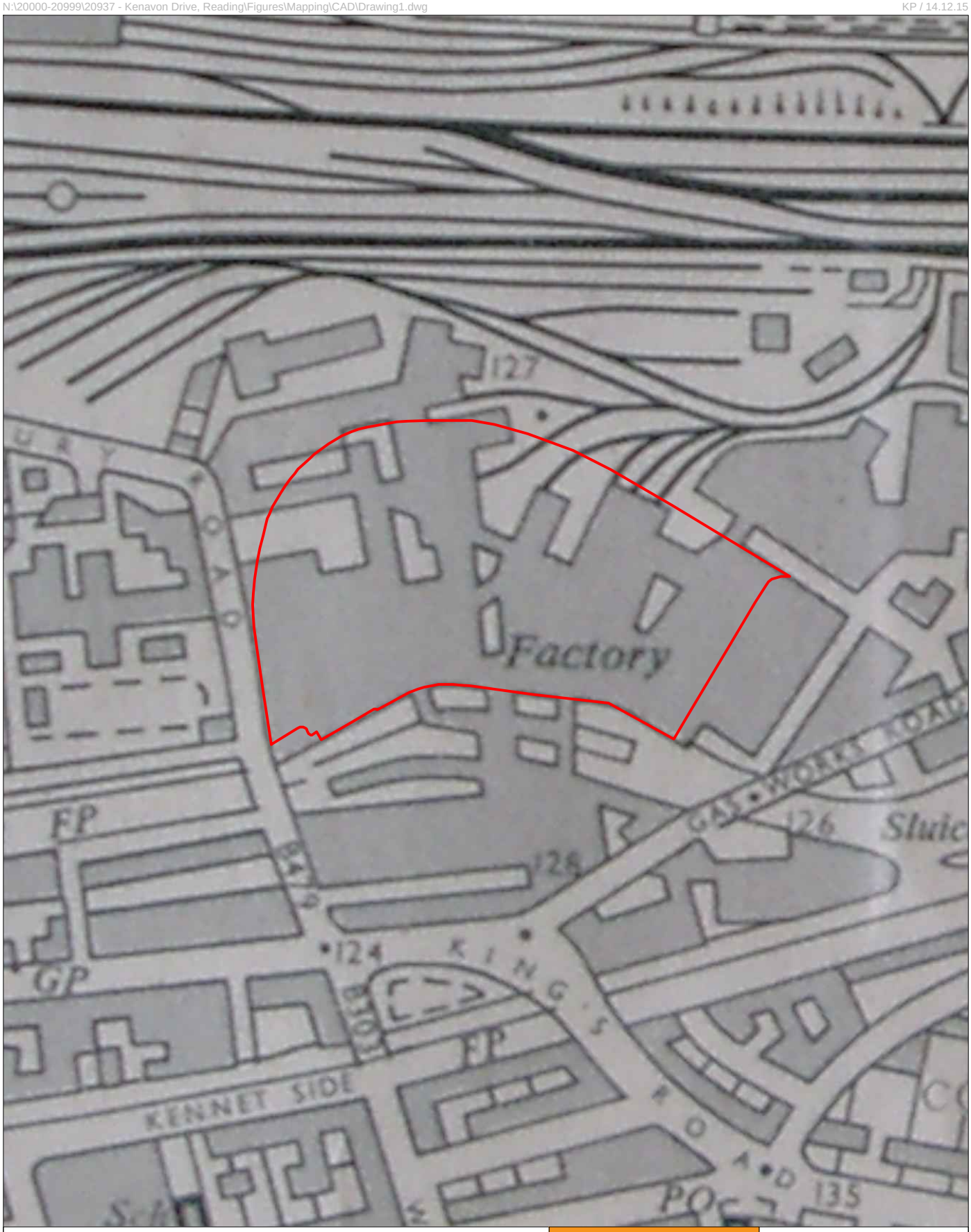
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Figure 17:
1931-34 Ordnance Survey

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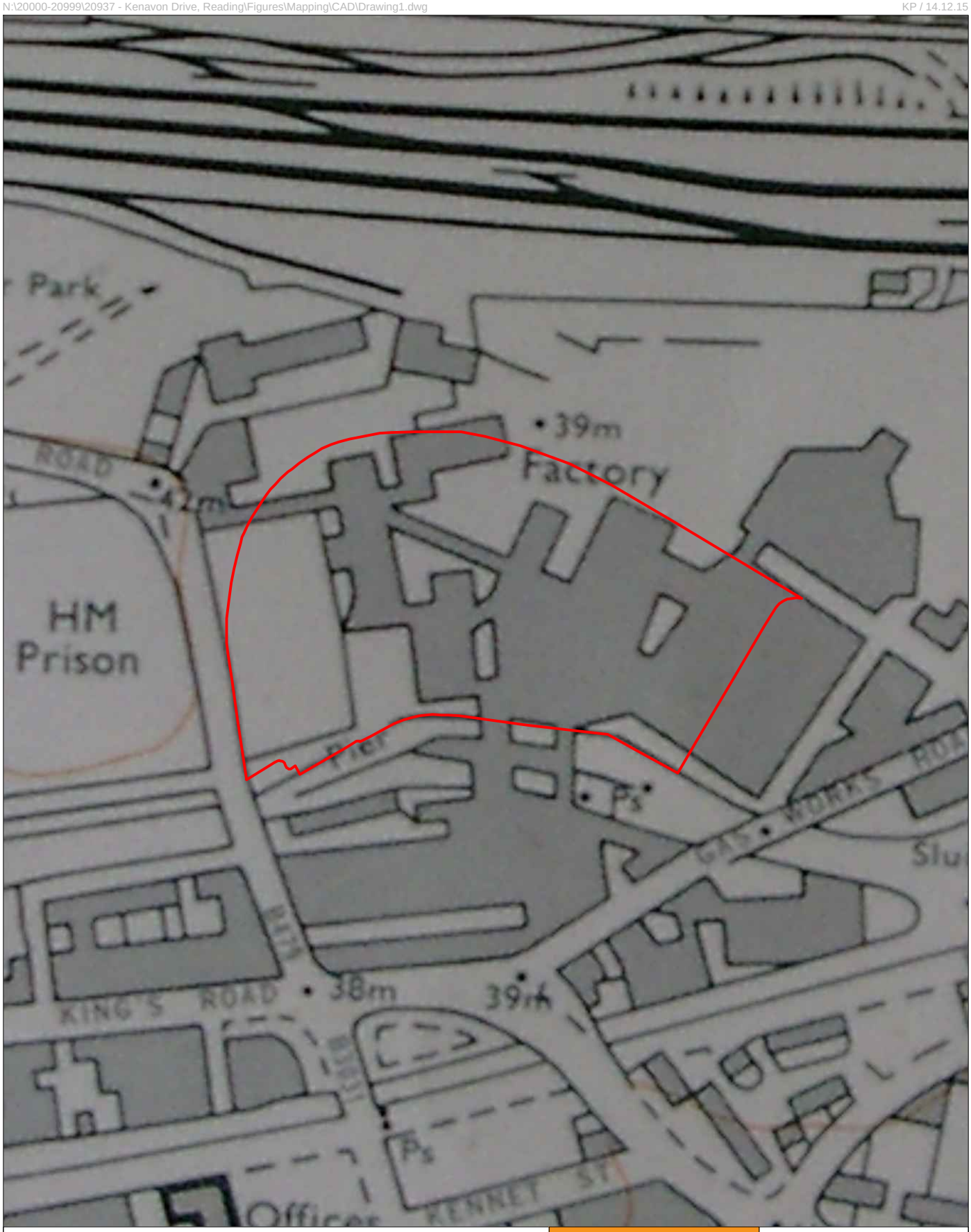
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Figure 18:
1962 Ordnance Survey

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Figure 19:
1979 Ordnance Survey

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Figure 20:
2014 Google Earth View

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Plate 1: Central area of the site looking northwest



Plate 2: Central area of the site looking northeast



Plate 3: Western area of the site looking north



Plate 4: Southern area of the site looking east



Plate 5: View to the west of the site (Reading Prison)

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APPENDIX 6: MINUTES FROM MEETING WITH BERKSHIRE ARCHAEOLOGY, 13 JULY 2016

Minutes

LEADERS IN ENVIRONMENT, PLANNING & SUSTAINABILITY.

Meeting on Site with Berkshire Archaeology
Date: 13 July 2016
Location: Kenavon Drive

Attendees: Ellie Leary (Berkshire Archaeology) and Chris Clarke (CgMS)
Temple attendees: Peter Cole and Alice Appleton
Distribution: Ellie Leary, Chris Clarke, Maxine Powell, Eve Ladden Timbers, Jonathan Markwell, Craig Sheach

1. Peter started by explaining why a meeting had been arranged on site. It was namely to to discuss the request from Berkshire Archaeology, as part of their Screening Response, for trial trenching before approval.
2. Ellie noted that there is currently geo-technical work being carried out on site.
   Action: Temple need to establish what stage this is at and what logs are available.
3. There was discussion about how logistically difficult it would be to carry out trenching on the site in its current form (the site is still being used by Homebase and Toys R Us). Ellie therefore suggested potentially carrying out geo-archaeological boreholes at several locations on site, to gather information on what geo-archaeological deposits there are. Ellie highlighted how important it is to gather as much information as possible to aid the application process.
4. Suggestions from Chris included looking at a transect area across the site and boreholing every 20 to 30 metres.
5. Chris then suggested, as a way of informing and minimising unnecessary work, initially using the data from the upcoming geo-technical work. If this geo-technical work picked up any areas of particular interest, then any subsequent geo-archaeological borehole work could specifically target the flagged areas.
6. The assessment would also use geo-archaeological data from the local area to model the potential for geo-archaeological deposits within the site.
7. Ellie mentioned the proposed basements and how these would have more of an impact on any remains and therefore suggested boreholing the proposed basement locations. Peter noted that any proposed basements may be in locations, where Homebase and ToysRus are currently located making it logistically difficult. Ellie therefore suggested boreholing as close as possible outside the footprint.
   Post meeting note – we can confirm that no basements are proposed.
8. Discussion moved on to possible Palmer Factory remains. Ellie acknowledged that any remains would have been impacted by the current development on site but that there could be pockets of surfaces remaining. It was agreed that this could be addressed by means of an evaluation conditioned as part of the planning consent. This condition would agree to trial trenching around the site to inform the evaluation of impacts. If any remains were found then a mitigation programme would have to be prepared. Notwithstanding this, Chris and Ellie both agreed that having an archaeologist present during the preparation of any trial

pits would be useful, and that certainly the results of the geotechnical surveys should be examined (the logs) for any record of finds from the biscuit factory.