

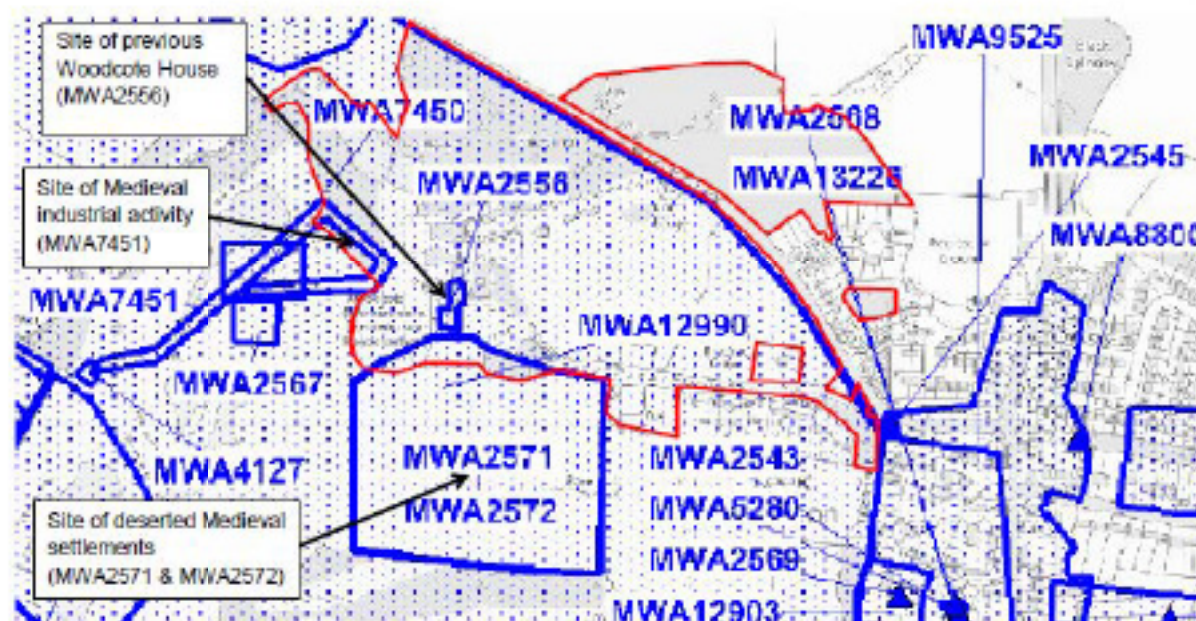
planning consents for development within this area have required archaeological evaluation and investigation, but it has not prevented development.

78. Excavation underneath the golf course at Fox Covert (HER Ref MWA7450) revealed Medieval industrial activity in the form of pits, gullies and burnt material deposits. This area strays into the north western edge of the site, and represents an area of potential archaeological sensitivity based on the results of previous excavations.

79. Documentary evidence suggests that a site lies just south of the Police Headquarters at Leek Wootton may once have been the site of the Medieval settlements of Lower Woodcote and Upper Woodcote (HER Ref MWA2571 & MWA2572). This area strays into the lawn and garden area south of the House and represents an area of potential

archaeological sensitivity based on anecdotal evidence of a possible settlement, which was reported as being entirely depopulated by the C15th.

Areas of Recorded Archaeology



Source: Warwickshire HER

80. The extent of the area has not been tested, and the majority has been thoroughly landscaped as part of the construction of the golf course. Development within this area may require archaeological evaluation (trial excavations) prior to the determination of planning applications.

Assessment of Sensitivity

81. The site has been divided into colour coded zones according to the perceived sensitivity of each area to development, as shown on **Figure A3.1**.

- Red - High Sensitivity: Most forms of development are likely to be considered to impact adversely upon the setting of the listed building or the significance of the locally listed park and garden.
- Purple - Moderate Sensitivity: Development up to one storey is

unlikely to impact upon the setting of the listed buildings or the significance of the locally listed park and garden with the benefit of appropriate design, landscaping and screening. Two storey developments may also be considered acceptable in some areas.

- Green - Low Sensitivity: Development up to two storeys is unlikely to impact upon the setting of the listed buildings or the significance of the locally listed park and garden with the benefit of appropriate design, landscaping and screening. Taller buildings may be possible in some locations depending on topography and existing screening.

82. The arrows on the figure represent views toward and from the site, which are pertinent to the setting of the listed buildings.

83. This assessment is based on the information gathered and observations made during the site visit. It provides an informed assessment, however it is not possible to predict the outcome of any subsequent planning applications.

84. Each zone is allocated a number which corresponds with the following commentary:

85. **Area 1 (Red):** This area of high sensitivity represents the core of the park and garden surrounding Woodcote House. This area is most prominent and indicative of the surviving historic designed landscape. Development within this broad area is likely to be considered to have an adverse impact upon the setting of the listed building or the significance of the locally listed park and garden.

86. **Area 2 (Purple):** This area of moderate sensitivity represents the historic site of the stables and the C19th extension to

the main house (later replaced in the 1960s). The area is screened to a degree from the wider setting of the listed building by the stone wall overlooking the forecourt. It is understood that planning permission has previously been granted to demolish the stables and the 1960's addition to the Hall. Despite the inappropriate nature of the later extensions, this area is sensitive to redevelopment and its impact upon the setting of the listed building. To some degree, with the removal of the 1960s building, there is scope for replacement development to be an enhancement. Development in this area will need to be sympathetic to and respectful of the scale and character of the historic elements it replaces.

87. **Area 3 (Purple):** This area of moderate sensitivity represents the old walled kitchen garden. It is understood that some form of development is

considered acceptable within this area. However, it is likely that any proposed development would need to be carefully considered in terms of height, layout and design in order to provide a suitably sympathetic development within the parameters of the historic walled garden.

88. **Area 4 (Purple):** This area of moderate sensitivity comprises a section of the tree lined driveway between North Lodge and later development further into the site. It is considered sensitive to change, in that the isolated character of the small gate lodge and the sense of openness to the south across the playing field is likely to be considered worthy of preservation. There appears to be some scope to develop along the drive, especially closer to the existing late C20th buildings, which are of no architectural merit and do not make a positive contribution to the appearance of the park and garden.

However the scale and mass of the development, its design, its visual impact upon the wider parkland and the way in which it interacts or competes with the lodge will be significant considerations.

89. **Area 5 (Green):** This area of low sensitivity comprises part of the site that is generally screened from the wider site by topography and other buildings, and is already heavily developed. Where some views into the area are possible, such as along the North Lodge Access, the scale, design, materials and detail of the replacement buildings will likely have to respect the parkland context. In areas that are less visible the parameters of development would be set by their visibility in relation to Woodcote House.
90. **Area 6 (Green):** This area of low sensitivity represents an area of land along the main drive, adjacent to mid C20th residential development. This

area has been proposed as a housing allocation in the emerging Local Plan. Provided the development is of a sympathetic scale, mass and design it is likely to be sufficiently distant from Woodcote House that it would not impact adversely upon the setting of the listed building or the parkland approach. However, like the adjacent C20th development, careful screening is likely to be required.

91. **Area 7 (Green):** This area of low sensitivity comprises land at the very eastern corner of the site, which has been proposed as a housing allocation in the emerging Local Plan. The boundary is defined by Woodcote Lane to the north and Woodcote Drive to the south. It is unlikely that development would impact adversely upon the appearance of East Lodge or the approach along the drive due to existing screening by vegetation. This area is visible from the playing field and potentially from Woodcote

House, but the views are mostly screened and are not primary views. Location, scale and design of residential units, along with landscape screening should reduce this impact. Issues have been raised regarding the visual impact of changes to the appearance of the approach to Leek Wootton Conservation Area due to the potential requirement for access off Woodcote Lane. The same consideration may apply to Area 8 depending where the access is required. Mitigation regarding the impact of the access will rely on the design and treatment of this access.

92. **Area 8 (Green):** This area of low sensitivity comprises a strip of open land adjacent to the playing fields, bounded to the north by Woodcote Lane and to the south by Woodcote Drive. This area is separated from the playing field by a derelict estate fence, but appears to have formed part of the wider parkland. It had

been proposed as part of a larger housing allocation in the emerging Local Plan, but has since been withdrawn by the LPA due to concerns over the impact of development upon the setting of Woodcote House and the approach to the Conservation Area along Woodcote Lane.

93. It is clear that a degree of impact upon the appearance and character of the park and garden is likely to result from development on this land. The impact would be manifest as a restriction of open views when passing along Woodcote Lane and Woodcote Drive, and change the appearance and sense and boundary of the parkland as perceived from the playing field. That said, this area is considered to be of low sensitivity because:

- There is little historic or current inter-visibility between Woodcote House and this area;

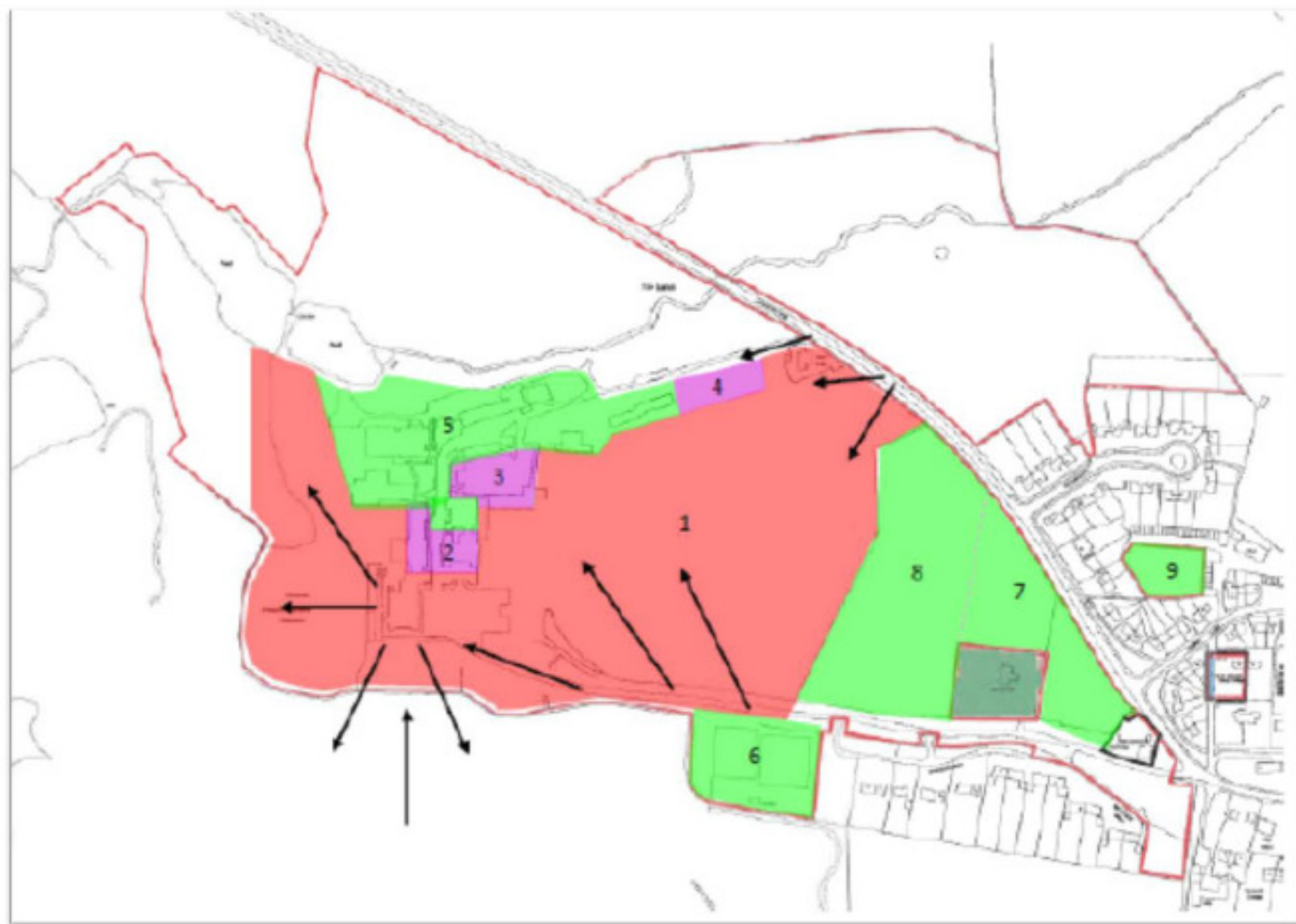
- Woodcote House was not designed in a way that utilises or relies on long views to the east;
- Mitigation of impact upon the appearance of the wider parkland could be improved through layout, design, scale massing and screening;
- Sufficient expanses of parkland remain, therefore development of this relatively small area would not have an appreciable impact the wider parkland; and
- Mitigation regarding the impact of the potential new access on the approach to the Conservation Area will rely on the design and treatment of this access.

94. **Area 9 (Green):** This area of low sensitivity represents an undeveloped plot within a late C20th housing development. The land is now wooded, parts of which are tended by local residents. There are no

heritage issues regarding development on this land.

95. Areas within the site left blank are generally heavily wooded, or contain watercourses or steep topography. Development within these areas would not necessarily impact upon heritage assets.

Figure A3.1: Sensitivity to Development



Sources

Dept of Culture Media & Sport.
*Principles of Selection for Listing
Buildings* (2010)

Department for Communities and
Local Government. *National Planning
Policy Framework* (2012)

Historic England. *Conservation
Principles, Policies and Guidance for
the Sustainable Management of the
Historic Environment* (2008)

Historic England. *Historic Environment
Good Practice – Advice in Planning:
Note 3 – The Setting of Heritage Assets*
(2015).

Historic England. *National Heritage List
for England*

Warwick District Council. *A Guide to
Conservation Areas: Leek Wootton
Conservation Area* (2007)

Warwickshire Police. *150th Anniversary
1857 – 2007 of Warwickshire Police*
(2007)

Flood Risk

Introduction

1. This technical appendix has been prepared by Bilfinger GVA to inform the preparation of a Masterplan for the Leek Wootton site. It identifies flood risk issues that have the potential to affect the future use and development of the site.
2. A site visit was carried out on 22 May 2015, followed by a desk-top assessment of flood risk, which has regard to the National Planning Policy Framework (Flood Risk and Coastal Change), its accompanying Technical Guidance and the methodology in CIRIA C624: Development and Flood Risks – Guidance for the Construction Industry (2004).
3. This appendix does not constitute a Flood Risk Assessment for the purposes of supporting future planning applications. Definitions and Reservations are provided at the end of this appendix.

4. The Local Authority is Warwick District Council and the lead local Flood Authority is Warwickshire County Council.

Data Sources

5. This appendix is based upon a detailed review of the following readily available documentation:
 - Environment Agency online Flood Maps;
 - Environment Agency Product 1 data;
 - Landmark Information Group Flood Maps (based on Risk Management Solutions flood data and British Geological Survey data);
 - Stratford-on-Avon District Council, Warwickshire County Council, North Warwickshire Borough Council and Rugby Borough Council, Strategic Flood Risk Assessment (SFRA), Level 1, September 2013;

- Warwick District Council Strategic Flood Risk Assessment (SFRA), Level 1, April 2013; and
- Warwickshire Preliminary Flood Risk Assessment (PFRA), May 2011.

6. Regulatory enquiries have been undertaken with the Environment Agency, Warwickshire County Council and Severn Trent to obtain historic flood records and an understanding of the local flood risk (if any). Supporting information can be found at the end of this appendix.
7. All Ordnance Survey Mapping contained within this appendix is © Crown Copyright. All rights reserved, licence number 100000795.

Site Conditions and Layout

8. The Leek Wootton site covers an area of approximately 25ha. The site is located on the western side of A46 on the edge of the village of Leek Wootton.

9. The operational core of the site, the former Headquarters of Warwickshire Police, comprises of a complex of buildings, car parks and a large radio mast. The Communications Centre and Woodcote House are key buildings that currently remain in use.
10. The surrounding land is largely undeveloped, including gardens to the west and north of the buildings that encompass two man-made lakes with an overflow stream, formerly used for fishing and boating.
11. The closest watercourse is Cattle Brook, which runs through the site. The River Avon is located approximately 2km to the east of the site. The entire site lies within Environment Agency Flood Zone 1.

Sources of Flood Risk

Fluvial

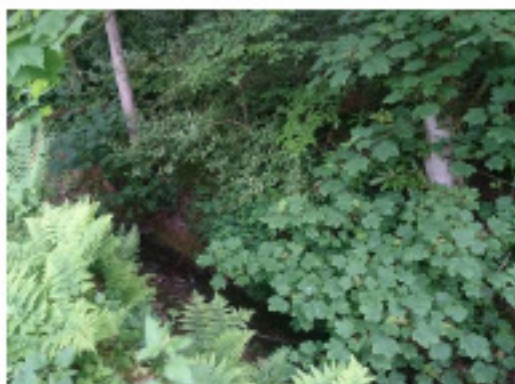
12. Fluvial flooding is the term used to describe flooding which occurs when rivers experience large flows which cause them to exceed their capacity. In the natural environment open spaces near the river act as storage areas or 'flood plains' for out-of-channel flow, alleviating downstream flood risk.
13. The closest main river is the River Avon which is located approximately 2km to the east of the site. Due to this distance, the River Avon is not considered to pose a potential flood risk to the site.
14. A watercourse runs through the north-western, central and north-eastern portion of the site. It is understood to be a source of the Cattle Brook.

15. The Cattle Brook enters the north western boundary of the site where it flows into a lake within the north-western portion of the site. The lake has a small sluice located on the south east bank of the lake. When the lake reaches a certain level, water flows over the sluice and into a smaller lake, located beneath the top lake. To the south of the lake there is an overflow weir where water discharges back into the Cattle Brook.
16. After flowing through the two lakes, the Cattle Brook continues through a narrow valley which is approximately 2m below the surrounding site levels. It is understood that this valley was excavated to ensure the Brook remains free flowing and to accommodate additional surface water from the buildings located to the south of the Brook. The Brook eventually discharges into the River Avon, approximately 2km to the east of the site.

17. There are no publically available flood maps showing predicted flood outlines for the brook, therefore, the potential flood risk associated with this watercourse is predominately unknown. However, the Brook was reported to have flooded in 2007.

18. As there are no "Main Rivers" within vicinity of the site, it is located within the Environment Agency's Flood Zone 1 (land assessed as having a less than 1 in 1,000 annual probability of river flooding (< 0.1%)). A copy of the Environment Agency Flood Zone Map can be found at the end of this appendix.

Cattle Brook



Cattle Brook flowing under Woodcote Lane Bridge



Surface Water

19. Surface water flooding (otherwise known as pluvial) is the term used to describe flooding which occurs when intense, often short duration rainfall is unable to be conveyed either into the ground or a drainage network, and as a consequence flows over ground on the surface causing flooding.
20. According to the Environment Agency Surface Water Map, the majority of the site is at 'very low' risk of flooding from surface water.

Environment Agency Surface Water Map



Impermeable Area Assessment

21. A calculation of the existing impermeable areas on the site has been undertaken using ProMap. All buildings and areas of hardstanding have been classed as impermeable areas.
22. The calculations are approximate only, but around 3ha of the site is impermeable, and 22ha is permeable.

On-site Surface Water

23. There are six Storm Water drainage pipes that discharge into the Cattle Brook. These pipes carry surface water away from sites SW-02, SW-03, SW-04 and SW-05. This is shown on the Leek Wootton Drainage Plan that can be found at the end of this appendix.

Sewer

24. Sewer flooding is the term used to describe flooding which occurs when local drainage systems (foul or surface

water or combined) become overwhelmed by run off or foul water due to lack of capacity and/or maintenance issues, such as blockages.

25. There is no evidence to suggest that the site has experienced problems with the sewer system, for example drains backing up. However, it would be prudent to undertake an inspection of the sewer system to investigate its capacity and condition.

26. A copy of the Leek Wootton Drainage Plan can be found at the end of this appendix.

Groundwater

27. Groundwater flooding is the term used to describe the emergence at surface level of water originating from a permeable sub surface stratum where the groundwater level rises above the local ground level.

28. A review of the British Geological Survey (BGS) Solid & Drift Sheet 184, Warwick at a scale of 1:50,000 shows that, to the West of Woodcote House the site is underlain by Ashow Formation. The remainder of the site is underlain by Bromsgrove Sandstone and Sherwood Sandstone. Therefore, there is the potential for groundwater flooding to occur.

Reservoirs

29. Reservoir flooding is the term used to describe an area that could be flooded if a large reservoir were to fail and release the water it holds.
30. Reservoir flooding is extremely unlikely to happen. However, in the unlikely event that a reservoir dam failed, a large volume of water would escape at once, and flooding could happen with little or no warning.

31. The Environment Agency Reservoir Flood Map shows that the site is not at risk from reservoir flooding. These maps do not take into account raised lakes and ponds below 25,000m³, therefore, due to their size, the two on-site lakes, located to the north western portion of the site have not been included in the Environment Agency's mapping study.

Top Lake

32. For the purposes of this report the lake located within the extreme north-western part of the site has been titled 'Top Lake'.
33. This lake is approximately 5,000m³ in volume (based on a 1m average depth). The Cattle Brook flows into the north-western part of the lake. The lake is dammed at the south-eastern end and there is an overflow sluice

located along the northern section of the wall.

Top Lake



Top Lake Sluice



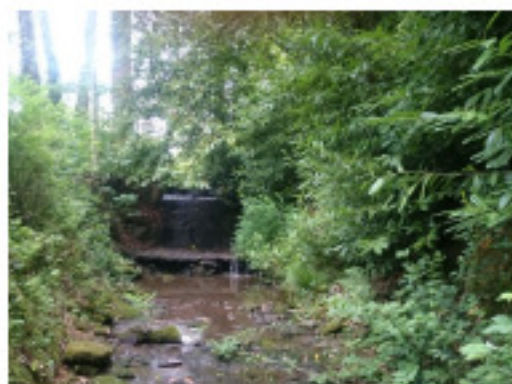
Bottom Lake

34. Directly below the Top Lake is a second, smaller lake, titled 'Bottom Lake' for the purposes of this report. This lake is approximately 1,600m³ in volume (based on a 1m average depth). The lake is fed by the Top Lake and water discharges from this smaller Lake over a weir, back into the Cattle Brook.

Bottom Lake



Bottom Lake Weir



Artificial Sources

35. Artificial sources flooding is the term used to describe flooding caused by man-made waterways such as canals or water storage areas.
36. The Grand Union Canal is located approximately 4km to the south west of the site and is therefore not considered a potential flood risk to the site.

Flood History

37. According to Environment Agency records (dating back 50 years), there are no records of fluvial water flooding affecting the site. However, it is understood that the Cattle Brook overtopped in 2007, although no property flooded.
38. According to Severn Trent records (dating back 3 years), there are no records of surface water flooding affecting the site.
39. According to Environment Agency records (dating back 50 years), there are no records of groundwater flooding affecting the site. There is also no mention of Groundwater flooding within the PFRA and SFRA reports.
40. According to the Alliance, in 2007 water from the Top Lake was reported to have been cascading over the dam wall into the Bottom Lake, flooding parts of the lower lying land

opposite the site buildings. During this event, no water ingressed into any of the buildings.

Probability of Flooding

41. The probability of flooding from each potential source has been assessed as 'low', and the overall probability of the site flooding is considered to be 'low'. However, there is a small area of the site at potential risk from the Cattle Brook.

Review of Flood Reports

42. The Consultant has obtained and reviewed the following publically available reports to investigate any local flood risk, drainage issues or development constraints:
 - Warwickshire Preliminary Flood Risk Assessment (PFRA) May 2011;
 - Warwick District Council Strategic Flood Risk Assessment, Level 1 (SFRA), April 2013; and

- Stratford-on-Avon District Council, Warwickshire County Council, North Warwickshire Borough Council and Rugby Borough Council, Strategic Flood Risk Assessment, Level 1 (SFRA), September 2013.

Warwickshire PFRA

- A PFRA was undertaken by Royal Haskoning in May 2011 to satisfy the legal requirements of the Flood Risk Regulations 2009, the Water Management Act 2010, and the EU Floods Directive. Key findings from the report are:
- There were no specific records of historical flooding in the immediate area of the site, during the past 10 years. (PFRA only requires flood records dating back 10 years); and

- There were no references of the site with regard to flood risk within the document.

Warwick District Council SFRA

43. A Level 1 SFRA for Warwick District Council was undertaken by Mouchel in April 2013 summarising flood risk and providing planning guidance. Key findings from the report are:

- The site is located in Flood Zone 1; and
- There are no records of fluvial flooding within the site boundary.

44. The Report also provides advice for developers that:

- All new developments should include Sustainable Drainage Systems (SUDS);
- Surface water management should aim to achieve a

greenfield discharge rate with a minimum reduction of 20%; and

- 1 in 100 year surface water attenuation should take into account climate change.

Stratford-on-Avon District Council, Warwickshire County Council, North Warwickshire Borough Council and Rugby Borough Council SFRA

45. URS Infrastructure and Environment UK Ltd, on behalf of Stratford-on-Avon District Council, Warwickshire County Council, Rugby Borough Council (BC) and North Warwickshire BC, updated the Level 1 SFRA which was produced in 2008.

46. The aim of the updated SFRA was to inform the preparation of the Development Plan Documents of all

the Local Planning Authorities, Warwickshire County Council's Surface Water Management Plan (which is still being completed) and Warwickshire County Council's Minerals and Waste Development Plan.

47. Recommendations identified within this report, such as SUDS advice, have been included within the revised Warwickshire District Council SFRA, as discussed above.

Development Potential

Sequential Test and Vulnerability

48. The risk based sequential test is a planning tool found within the National Planning Policy Framework. It is used to steer new development towards areas with the lowest probability of flooding, known as Flood Zone 1.

49. According to the Environment Agency flood maps, the Leek Wootton site is located in Flood Zone 1.

50. The National Planning Policy Framework groups development types into different vulnerability classifications:

- **Essential Infrastructure**, such as essential utility infrastructure;
- **Highly Vulnerable**, such as caravans and basement dwellings;
- **More Vulnerable**, such as dwelling houses and educational establishments;
- **Less Vulnerable**, such as shops; and
- **Water Compatible**, such as water treatment plans.

51. For each Flood Zone the Technical Guidance, sets out whether development of the various different

vulnerability classifications is appropriate.

52. All types of development are appropriate in Flood Zone 1.

Exception Test

53. The Exception Test, as set out in paragraph 102 of the National Planning Policy Framework, is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

54. In accordance with National Planning Policy Framework, an Exception Test would not be required for development at the Leek Wootton site, because the site is located in Flood Zone 1.

Other Sources of Flooding

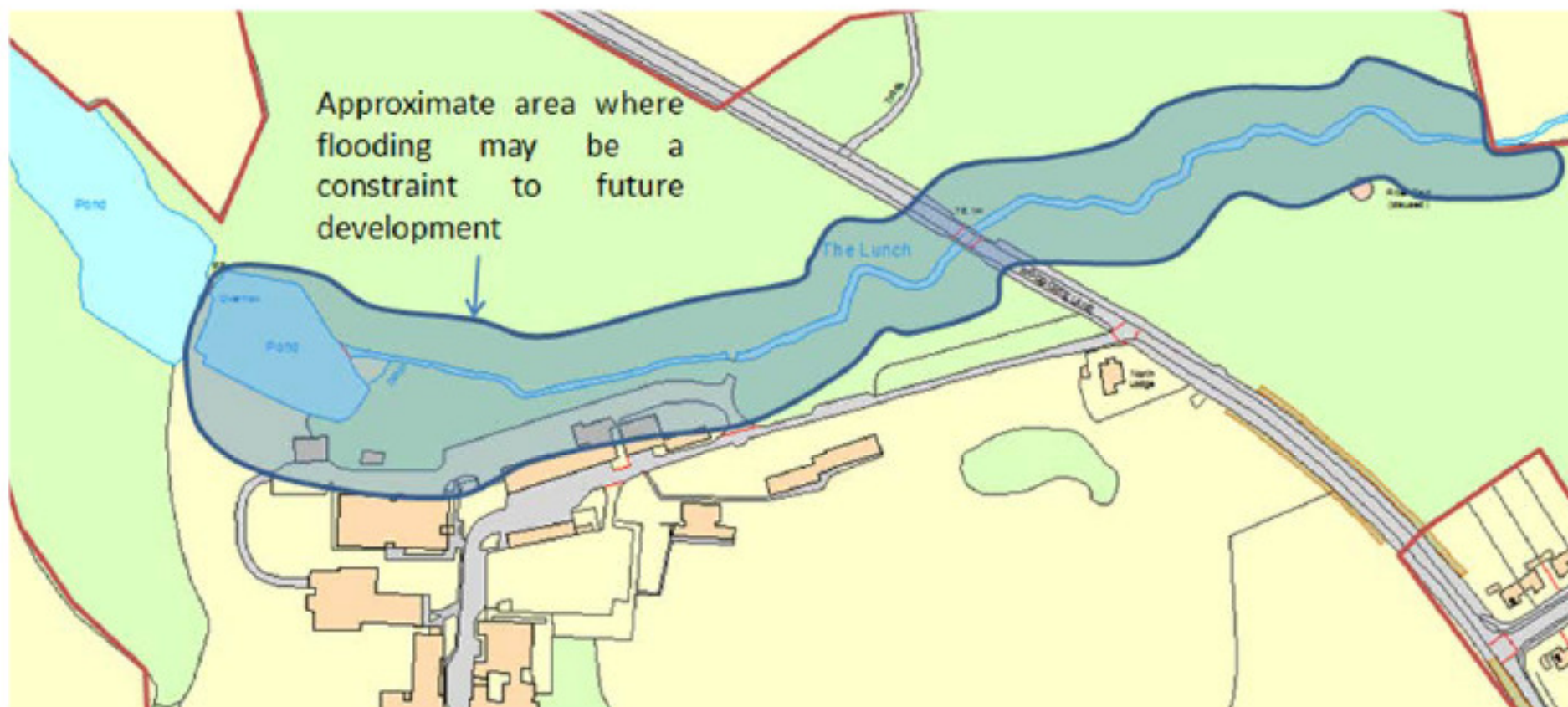
55. Although the Leek Wootton site is located within Flood Zone 1, and therefore all development classifications are deemed appropriate, in accordance with National Planning Policy Framework (Flood Risk and Coastal Change), other sources of flood risk need to be reviewed, including ordinary watercourses and surface water.
56. The Cattle Brook is located along the northern, central and north eastern portion of the site. The Brook has not been mapped or modelled. Therefore, the flood risk is relatively unknown, although the Brook was reported to have flooded in 2007. Consequently should development be proposed in this area, it is likely that the Environment Agency and Local Authority will request that the Brook is modelled and mapped, to gain a better understanding of flood risk.

57. **Figure 4.1** outlines the approximate area where flooding may be a constraint to development.

Conclusions

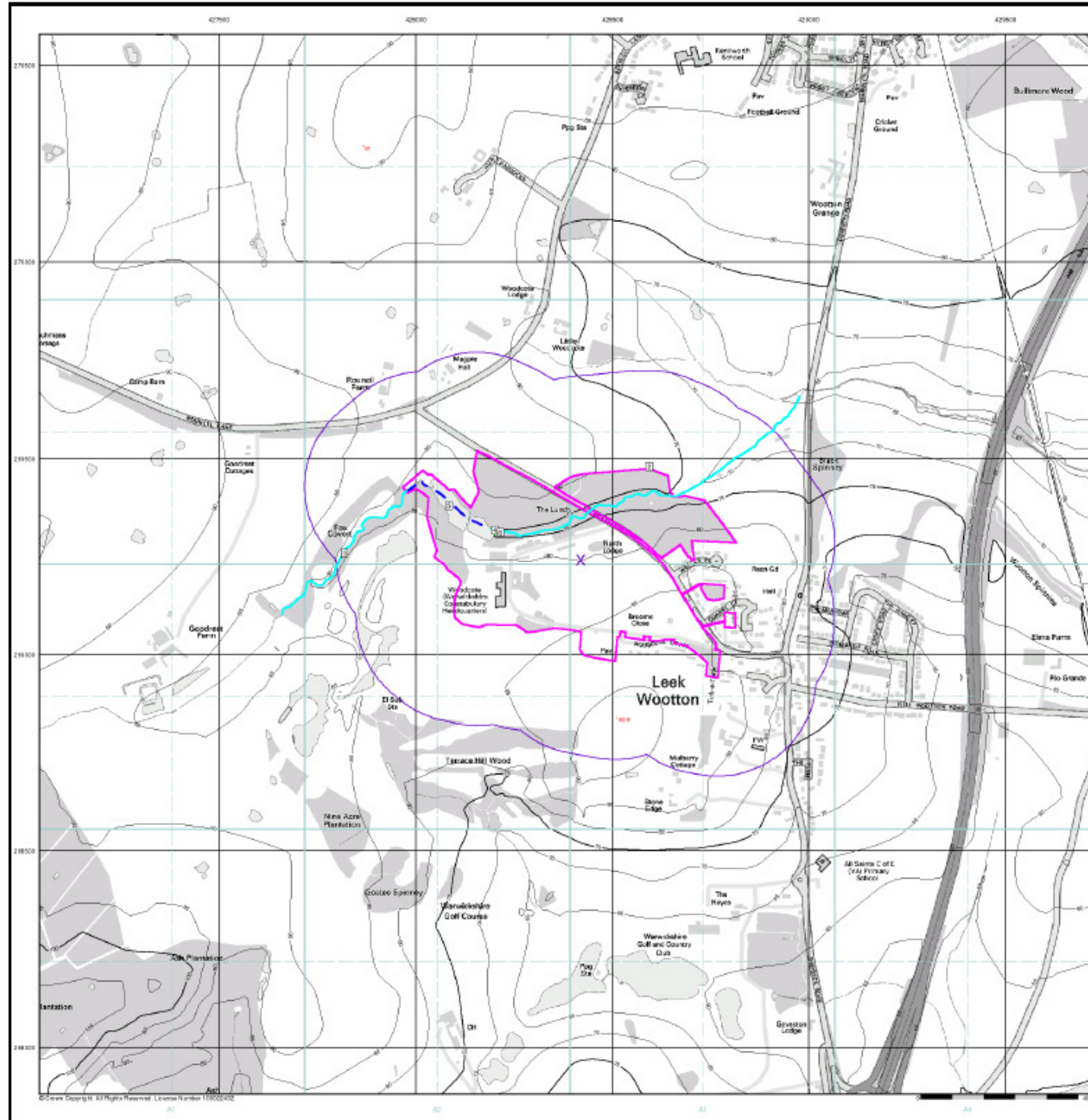
58. The key findings of this assessment are:
- **Fluvial flooding:** Development constraints are possible along the Cattle Brook and modelling of the Brook may be required to identify areas at risk. The remaining land has low risk/no constraints.
 - **Surface water flooding:** The whole site has low risk/no constraints, but as part of any planning application it is recommended that a Surface Water Management Plan and Drainage Strategy is undertaken to support the proposed development.
 - **Other:** Low risk/no constraints.

Figure 4.1: Area of Potential Development Constraint





Appendix I Site & Drainage Plans



General

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

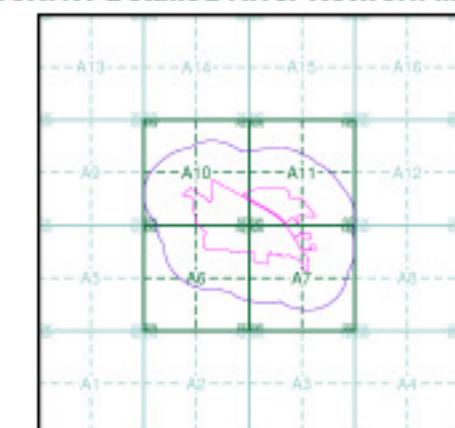
Detailed River Network Data

- | | |
|---|--|
| — Primary River | — Extended Culvert (greater than 50m) |
| — Secondary River | — Underground River (inferred) |
| — Tertiary River | — Underground River (local knowledge) |
| — Canal | — Downstream of High Water Mark |
| --- Canal Tunnel | --- Downstream of Seaward Extension |
| — Undefined River | --- Not assigned River feature |
| --- Lake/Reservoir | |
| --- Off-line Drainage Feature | |

Contours (Height in metres)

- Standard Contour — 100 — 105 — 110 — 115 — 120 — 125 — 130 — 135 — 140 — 145 — 150 — 155 — 160 — 165 — 170 — 175 — 180 — 185 — 190 — 195 — 200
- Master Contour — 100 — 105 — 110 — 115 — 120 — 125 — 130 — 135 — 140 — 145 — 150 — 155 — 160 — 165 — 170 — 175 — 180 — 185 — 190 — 195 — 200
- Spot Height ● 197.3 — Mean Low Water — Mean High Water

EANRW Detailed River Network Map - Slice A



Order Details

Order Number: 67244377_1_1
 Customer Ref: 01850
 National Grid Reference: 428420, 269240
 Slice: A
 Site Area (Ha): 26.78
 Search Buffer (m): 250

Site Details

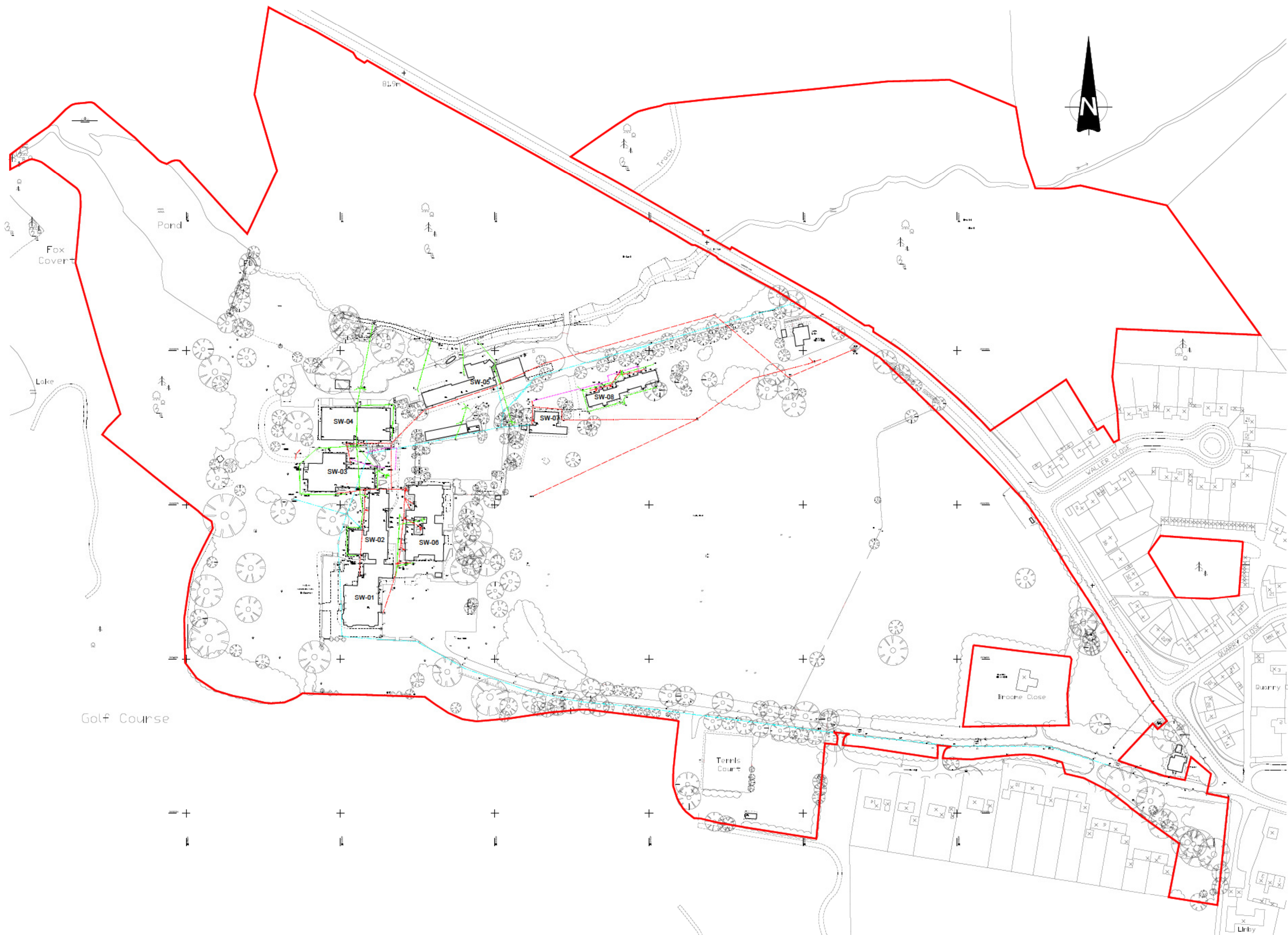
Leek Wootton



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

KEY

GU	GULLY
PHR	RECTANGULAR MANHOLE
PHO	SQUARE MANHOLE
PHC	CIRCULAR MANHOLE
IC	INSPECTION CHAMBER
PWF	POST AND WIRE FENCE
PRF	POST AND RAIL FENCE
CBF	CLOSE BOARDED FENCE
CLF	CHAIN LINK FENCE
MKR	MARKER
LP	LAMP POST
TP	TELEGRAPH POLE
RW	RETAINING WALL
G 0.7	TREE GIRTH (IN METRES)
EP	ELECTRICITY POLE
ST	STOP TAP
SV	STOP VALVE
CATV	CABLE TV COVER
BT	BRITISH TELECOM COVER
FL	FLOOR LEVEL
CL	COVER LEVEL
L	INVERT LEVEL
BO	BOLLARD
TL	TRAFFIC LIGHT
RE	RODDING EYE
ER	EARTHING ROD
DR	DROP KEYS
BT	BRITISH TELECOM
E	ELECTRIC
FW	FOWL WATER
SW	STORM WATER
B	BOUNDARY



Rev	Date	Comments
PROTECT - CONTRACTS		
Estates Services Hindlip Hall Worcester WR3 8SP Tel: 00 44 (0) 1905 332861 Fax: 00 44 (0) 1905 332 276		
Client	ESTATES	
Job Title	POLICE HEADQUARTERS LEEK WOOTON WARWICKSHIRE	
Drg Title	LEEK WOOTON DRAINAGE PLAN	
Date	08-05-15	Drawn By RTFS
Scale	1:1250@A1	
Job N°	LW-01	
Drg N°	S-002	Revision -
STATUS - EXISTING		

Appendix II
Environment
Agency
Product 1



Bilfinger GVA
David.Hoppe@gva.co.uk

Our Ref: SWWM-10024

Your Ref:

Date: 15 May 2015

Dear David Hoppe

Request for information:- Leek Wootton CV35 7QX

Thank you for your enquiry which was received on 6 May 2015.

We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

I enclose flood map.

I can confirm that the site is not within the current 'Extreme Flood Outline'. According to the Flood Map, which provides a general estimate of the likelihood of flooding across England & Wales, the site is shown to have less than 0.1% (1 in 1000) chance of flooding in any year from rivers. See attached Flood Map for details.

The Cattle Brook is designated as an ordinary watercourse and therefore the Local Authority is responsible and not the Environment Agency. We have not therefore undertaken any studies on this watercourse and we do not have records of flooding.

You may wish to contact the local authority to see if they hold any records of previous flooding.

I have attached our Standard Notice or licence which explains the permitted use of this information. Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely

Diane Edwards
Customers & Engagement Officer
Staffordshire, Warwickshire & West Midlands

For further information please contact the Customers & Engagement team on
01543 404959/4971/4814

Direct e-mail:- SWWMcustomers@environment-agency.gov.uk

Flood Map centred on Leek Wootton, Warks. Created 11 May 2015.

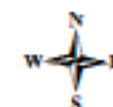
Ref: SWWM-10024



Legend

- Main Rivers
- Flood Zone 3
- Flood Zone 2

Flood Map Areas (assuming no defences)
Flood Zone 3 refers to land where the indicative annual probability of flooding is 1 in 100 years (1%) or less from river sources
Flood Zone 2 shows the extent of an extreme flood from rivers with up to a 1 in 1000 (0.1% - 1%) chance of occurring each year



Scale 1:10,000



Appendix III Report Reliance

Report Reliance

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The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed and which GVA assumes to be reliable, but has not been independently confirmed. Therefore, GVA cannot and does not guarantee the authenticity or reliability of third party information it has relied upon.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by GVA for the effects of any future changes to such guidelines and legislation.

The limitations of liability of GVA for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.



Appendix IV Definitions & Reservations

Definitions and Reservations

Information

All information supplied by the Client, the Client's staff and professional advisers, local authorities, other statutory bodies, investigation agencies and other stated sources is accepted as being correct unless otherwise specified.

Tenure

Title Deeds and Leases are not inspected (unless specifically stated) and, unless we are informed to the contrary, it is assumed that a property is free of any onerous covenants, easements, other restrictions or liabilities including mortgages, grants and capital allowances that may affect the value.

Plans

Any plans supplied are for identification purposes only unless otherwise stated. The Report assumes site boundaries are as indicated to us. The reproduction of Ordnance Survey sheets has been sanctioned by the Controller of Her Majesty's Stationery Office, Crown Copyright reserved.

Site areas

Site areas are normally computed from plans or the Ordnance Survey and not from a physical site survey. They are approximate unless otherwise indicated.

Ground conditions

Any discussion of ground conditions in this report have been based on a review of existing documentary information prepared by British Geological Survey and/or other parties. GVA accepts no responsibility for the accuracy or completeness of information prepared by third parties.

Condition of buildings, plant etc

Our inspection of a property does not constitute a structural survey. When preparing our report we have regard to apparent defects and wants of repair and take into account the age of the property. We do not

however carry out the detailed search for defects which is undertaken as part of the structural survey neither do we necessarily set out the various defects when making the report. We do not inspect woodwork or other parts of the structure which are covered, unexposed or inaccessible. We do not arrange for any investigation to be carried out to determine whether or not high alumina cement concrete or calcium chloride additive or any other deleterious materials or permanent woodwool shuttering or composite panelling has been used in the construction.

Unless so instructed we do not arrange for any investigations to be carried out to determine whether or not any deleterious or hazardous material or techniques have been used in the construction of the property or has since been incorporated and the services are not tested.

We are therefore unable to report that the property is free from defect in these respects.

For reporting purposes we assume unless otherwise stated that the property (including associated plant and machinery, fixtures and fittings) is in serviceable order and will remain so for the foreseeable future. It will be assumed that the building(s) is/are in good repair, except for defects specifically noted.

Asbestos Containing Materials (ACM's)

Includes any of the following materials; crocidolite, amosite, chrysotile, fibrous actinolite, fibrous anthophyllite, fibrous tremolite and any mixture containing any of these materials.

Asbestos Surveys

Any reference to asbestos surveys is given the same meaning as that given in HSE Guidance Document HSG 264 entitled 'Asbestos: The Survey Guide'.

Composite panels and insurance

We will not test any panels within the property to see whether there are any polystyrene insulated composite panels. The presence of such panels may result in the property being uninsurable, which would have an adverse impact on value.

Contamination

This is taken to mean specifically, the presence of toxic, noxious or polluting substances in, on or under land.

Contaminated Land

Any reference to contaminated land should be construed in the statutory sense.

Land is defined as being contaminated land under Section 78 of the Environmental Protection Act 1990 where any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:

Significant harm is being caused or there is a significant possibility of such harm being caused; or

Significant pollution of controlled waters is being, or is likely to be caused.

Controlled Water

Means all in land waters, i.e. rivers and watercourses (other than public sewers or sewers or drains which drain into a public sewer) and lakes and ponds which discharge directly or indirectly into them, groundwater, coastal waters and territorial waters extending seaward for three miles from the baseline from which the breadth of the territorial sea is measured. Section 104, Water Resources Act 1991.

Enquiries

Any enquiries undertaken by GVA of local authorities and statutory undertakers are made verbally in respect of environmental issues. Local searches are not undertaken and no responsibility is accepted for any inaccurate information provided.

It is further assumed unless otherwise stated that all necessary licences, permits etc either run with the property or are transferable to a new occupier as appropriate.

Environmental Liability

Any reference to environmental liability should be taken to mean a combination of the following types of liabilities:

Actual Liabilities

These are known present obligations of the business arising from past or future events, the settlement of which will require future expenditure.

These will include costs associated with regulatory compliance e.g. known monitoring, decommissioning requirements, fines, damages, and surrender provisions imposed by statute and/or contract.

Latent and Contingent Liabilities

These are unknown obligations arising from past or future events that exist, but where the outcome will only be known following the occurrence or non-occurrence of future events that are outside the control of the business.

These might include, unknown costs associated with site remediation, decommissioning and the possibility of unforeseen future events such as a pollution incident.

Environmental Reports

Any reference to environmental reports should be taken to mean one or all of the following types of report:

Phase 1

This is a desk-based study (supported by a site inspection if agreed) of past and present uses of the site, geological and hydrogeological conditions, regulatory review and qualitative risk assessment.

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties.

The opinions given in the report have been dictated by the finite data on which it is based and is relevant only to the purpose for which the report was commissioned.

The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions.

Should additional information become available which may affect the opinions expressed in this report, GVA reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase 2

This is an intrusive phase of works involving the drilling of boreholes/trial pits and the testing of soil, groundwater and soil gas samples for environmental and geotechnical purposes.

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environmental risks together with engineering and development implications. If costs have been included in relation to site remediation these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions.

The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out.

It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected based on the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

GVA accepts no liability what so ever for the content or conduct of the Environmental Consultant/Engineer of Sub Consultants/ Contractors appointed on behalf of the client by us.

Environmental Risk

Any reference to environmental risk shall be taken to mean:

High Risk

Those properties where environmental risks have been identified that will affect land value, business interruption, lead to regulatory intervention and/or result in material financial expenditure by the client in the short term.

Moderate Risk

Those properties where environmental risks have been identified that have the potential to affect land value, lead to regulatory intervention and/or result in material financial expenditure by the client in the medium to long term.

Low Risk

Those properties where no environmental risks have been identified that have the potential to affect land value, lead to regulatory intervention and/or result in material financial expenditure by the client.

Flood Resistance Measures

These measures are designed to prevent flood water from entering the buildings on Site.

Flood Zones

Flood Zone 1

The area where flooding from rivers or sea is very unlikely as defined by the Environment Agency. There is less than 0.1% (1 in 1000) chance of flooding occurring each year

Flood Zone 2

The area of medium probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of between 1% (1 in 100) to 0.1% (1 in 1000) for river flooding and 0.5% (1 in 200) to 1% (1 in 1000) for coastal flooding.

Flood Zone 3A

The area of high probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of 1% (1 in 100) or greater for river flooding and 0.5% (1 in 200) or greater for coastal flooding.

Flood Zone 3B

The boundary between 3a and 3b is a planning decision made by the Local Authority. This information is usually in the strategic flood risk assessment. This area is a functional floodplain as defined by the Environment Agency. It is an area which is designed to flood – a flood return period of 1 in 20 or less.

NPPF (Flooding)

This relates to the National Planning Policy Framework and the associated Technical Guidance.

Pluvial (Surface Water) Flooding

Pluvial flooding results from rainfall running over ground before entering a watercourse or sewer. It is usually associated with high intensity rainfall events (typically greater than 30mm per hour) but can also occur with lower intensity rainfall or melting snow where the ground is already saturated, frozen, developed (for example in an urban setting) or otherwise has low permeability.

Flood Risk Rating

Low

The overall flood risk rating for the Site is assessed to be 'Low'.

Low to Moderate

The overall flood risk rating for the Site is assessed to be 'Low to Moderate'. The presence of such features as flood defences, flood storage areas and watercourses within the locality of the Site suggests that there may be a risk of flooding to the Site itself.

Moderate

The overall flood risk rating for the Site is assessed to be 'Moderate'. Information from existing datasets suggests that there are certain features which may present a risk to the Site and its occupants.

Moderate to High

The overall flood risk rating for Site is assessed to be 'Moderate to High'. Information from existing datasets suggests that there are certain features which may present a significant risk to the Site and its occupants.

High

The overall flood risk rating for Site is assessed to be 'High', with a consequent risk to life and property. This means that existing datasets reveal significant flood risk issues which need to be addressed.

Flooding Return Period

Return periods are a measure of how likely flooding is to occur. They are commonly expressed as a ratio (for example 1 in 75 or 1:75). This means that this level of flooding is expected once in every 75 years.

Legal issues

Any interpretation of leases and other legal documents and legal assumptions is given in our capacity as Property Consultants (including Chartered Surveyors and Chartered Town Planners) and must be verified by a suitability qualified lawyer if it is to be relied upon. No responsibility or liability is accepted for the true interpretation of the legal position of the client or other parties.

Jurisdiction

In the event of a dispute arising in connection with a report, unless expressly agreed otherwise in writing, GVA, the client and any third party using this report will submit to the jurisdiction of the British Courts only. This will apply wherever the property or the client is located, or the advice is provided.

Warranties

The client warrants and represents that, to the best of its knowledge, information and belief, the information supplied by and on its behalf to GVA is true and accurate and that it will advise and instruct its third party advisers to advise GVA in the event that it and/they receive notice that any such information is either misleading or inaccurate.

Updated April 2015

Ground Conditions

Introduction

1. This technical appendix has been prepared by Bilfinger GVA to inform the preparation of a Masterplan for the Leek Wootton site. Its primary objective is to identify those ground related issues (contamination and geotechnical) which could be potential constraints to future development.
2. The report has been prepared in general accordance with current best practice guidance documents concerning the assessment of potentially contaminated land including; British Standard (BS) 10175:2011: Investigation of Potentially Contaminated Sites, Environment Agency (2004): Model Procedures for the Management of Contaminated Land (CLR 11), and DEFRA (2012): Environmental Protection Act 1990: Part 2A, Contaminated Land Statutory Guidance.

3. A site visit and visual inspection of accessible areas was carried out by Mr Paul Nixon LLM MSc BSc from the Bilfinger GVA Environmental Services team on 22 May 2015.

4. Definitions and Reservations are provided at the end of this appendix.

Data Sources

5. The findings of this report are based upon existing information provided to Bilfinger GVA by the Alliance, regulatory enquiries with Warwickshire Regulatory Services and a review of database information obtained from regulatory and statutory bodies (the Environment Agency, Local Authority, etc) as contained within the Envirocheck Report (Ref. 67244377_1_1) prepared by Landmark Information Group.

6. All Ordnance Survey Mapping contained within this report is © Crown Copyright. All rights reserved, licence number 100000795.

Site Conditions

7. The Leek Wootton site covers an area of approximately 25ha. The site is located on the western side of A46 on the edge of the village of Leek Wootton.
8. The operational core of the site, the former Headquarters of Warwickshire Police, comprises of a complex of buildings, car parks and a large radio mast. The Communications Centre and Woodcote House are key buildings that currently remain in use.
9. The surrounding land is largely undeveloped, including gardens to the west and north of the buildings that encompasses two man-made

lakes with an overflow stream, formerly used for fishing and boating.

10. No significant evidence of ground contamination was noted on site. However, there are a number of fuel and oil storage tank locations:

- Decommissioned underground fuel tank adjacent to the garages in close proximity to workshops/stores (building number SW05);
- Operational above ground fuel tank adjacent to workshops/stores (building number SW05); and
- Diesel powered generator with internal fuel tank adjacent to training building (building number SW04).

Site Services

11. The property is served with electricity, gas, drainage and communication infrastructure. However, the condition or capacity of these services is not

known and are assumed, for the purpose of this appendix, to be in good order.

12. For further information regarding the site services, please refer to 'Site Illustrative Services Plan', (ref. drawing no. BS580), prepared by Johnson Poole and Bloomer, dated May 2002.

Asbestos Containing Materials

13. The Control of Asbestos Regulations 2012 came into effect in April 2012. These repealed earlier asbestos legislation, including; the Asbestos Regulations 2006, the Control of Asbestos at Work Regulations 2002, Asbestos Licensing Regulations 1983 and the Asbestos (Prohibition) Regulations 1992.

14. Owners, occupiers, managers and/or those who have responsibilities for premises have a legal duty to either manage the risk of asbestos or a duty

to co-operate with whoever manages that risk. The responsible party has to identify the existence of asbestos containing materials, record their location and condition, set out a plan to manage the risk from the material and take the necessary steps to put this plan into action.

15. An appropriately licensed asbestos contractor should remove asbestos material that is likely to be disturbed and cannot be easily protected. Reviews of this plan will have to be undertaken on an on-going basis. Details as to the location and condition of the materials must be provided to anyone who is liable to work on or disturb it.

Asbestos Survey

16. From discussions with the Design Coordinator in Estates Services at Warwickshire Police and West Mercia Police, we understand that historically a large number of asbestos surveys

and re-inspection(s) have been undertaken across the property.

17. Unfortunately, there is no single asbestos register held centrally that could be provided for review.

Underground/Above Ground Tanks

18. Our site inspection identified a number of underground and above ground fuel/oil storage tanks located on the site.
19. No visual evidence of ground contamination was noted around these locations.
20. In the event of redevelopment, consideration will need to be made for further investigation/remediation in these areas.

Chemical & Materials Storage

21. From our site inspection, there are no bulk chemical or material storage areas on site.

Waste Management Practices

22. From our site inspection, waste streams appeared to be adequately managed and the general level of housekeeping across the site was to an acceptable standard.

Invasive Plants

23. The Wildlife and Countryside Act 1981 (as amended) is the principal legislation which regulates the release of non-native species. Section 14(2) prohibits the release of certain invasive non-native plants into the wild in Great Britain. It is an offence under Section 14(2) to "plant or otherwise

cause to grow in the wild" any plants listed on Part II of Schedule 9. The most common plant species found on brownfield and urban sites include Japanese Knotweed, Giant Hogweed and Himalayan Balsam.

24. During our site inspection, none of these species were suspected to be present.

Historical Development

25. In order to ascertain the historical land uses on site, Bilfinger GVA purchased Ordnance Survey mapping from the Landmark Information Group, at 1:1,250, 1:2,500, and 1:10,000 scale. The Consultant has also reviewed a 'Leek Wootton Background Information' document prepared by Warwickshire Police and West Mercia Police in December 2014.
26. The Leek Wootton Estate was first mentioned in the 1086 Domesday Book. The site therefore has a long

history connected with the various owners and their families who lived there up until 1947.

27. The present Woodcote House building was designed by architect John Gibson, constructed in 1861 and owned by the Waller family. It was used as a convalescent home for injured US servicemen in WW2, before being bought from the Waller family by Warwickshire County Council in 1947. The building and its grounds became Warwickshire Police Headquarters in 1949 and remained so until February 2011.

28. Prior to the site ceasing to be an Headquarters, the buildings consisted of a communications centre, pavilion, administration block, social/stable block, training building, residential block, garages, stores, car ports and a large radio mast.

29. On the land to the north of the House, various modern buildings were

constructed for various police uses. The latest of these was the Communications Centre, built in the early 1990s.

30. Selected extracts of the historical maps are provided at the end of this appendix.

Potential for Historical Contamination

31. From a review of the historical Ordnance Survey mapping, there is a single contaminative land use identified on site – that is, a disused filter bed, located in woodland to north of Woodcote Lane.

Geological & Hydrogeological Setting

32. From a review of the British Geological Survey (BGS) Solid & Drift Sheet 184, Warwick at a scale of 1:50,000 the

following geological succession has been identified at the site:

- **West of Woodcote House:** The strata is Ashow Formation (Enville Group) to a thickness of >250m. This comprises red-brown mudstone with subordinate, but locally thick, beds of red-brown and grey-green, fine- to medium-grained sandstone.
- **Remainder of the site:** The strata is Bromsgrove Sandstone Sherwood Sandstone Group to a thickness >300m comprising Sandstones, red, brown and grey, commonly pebbly or conglomeratic at the bases of beds, inter-bedded with red and brown siltstones and mudstones.

Structural Geology

33. According to the British Geological Survey Map, there is a geological fault shown trending north-west to south-

east through the centre of the site. The fault marks the boundary between the Bromsgrove Sandstone to the east and Ashow Formation to the west.

Economic Geology

- 34. According to the British Geological Survey Map, no evidence of surface mineral extraction has been identified on the site or within 250m.
- 35. The site is also not located within a potential coal mining area.

Radon

- 36. According to the Envirocheck Report, the property is in a lower probability radon area, as less than 1% of homes are above the action level of 200Bq/m³.
- 37. No radon protective measures would be necessary in the construction of new dwellings or extensions.

Previous Site Investigations and British Geological Survey Borehole Records

- 38. The Consultant has obtained a Site Investigation Report and borehole logs from the British Geological Survey that was undertaken on site in April 1970 by Leonard Laing and Partners.
- 39. The report was commissioned to obtain geotechnical data ahead of the development of proposed extensions to the headquarters (dining block, residential and training blocks, administration block and sports hall).
- 40. Ground conditions encountered comprised upper sequence of clay, silt or sand (to 1.5m bgl), overlying weathered Keuper Marl (Mercia Mudstone).
- 41. The report recommend the adoption of traditional strip/pad foundations in 'recent soils' up to a depth of 1m and

between 0.4m and 2.7m bgl in weather Keuper Marl.

Hydrogeology

- 42. According to the Envirocheck Report the underlying solid geology (Sherwood Sandstone) has been classified as a Principal Aquifer.
- 43. The aquifer designation data is based on geological mapping provided by the British Geological Survey. The aquifer designations are consistent with the Water Framework Directive and reflect their importance in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.
- 44. Principal Aquifers are defined as rock layers or drift deposits that have high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage. They may support water supply and/or

river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

45. Environment Agency data has revealed that the site is not located within 1km of a Groundwater Source Protection Zone.

Hydrology

46. The closest main river is the River Avon which is located approximately 2 km to the east of the site. Due to this distance the River Avon is not considered a flood risk to the subject site.
47. The Cattle Brook enters a lake located to the north-western portion of the site. The lake has a small sluice where, when water levels reach a certain level, ovetop into a smaller lake. This lake has an overflow weir where water discharges back to the Cattle Brook.

48. The brook is narrow, and often covered by vegetation, and flows through a narrow and deep valley (around 3m below the site's closest buildings to the waterway), which was excavated to help reduce flood risk. The date of these works is unknown. The Cattle Brook flows in an east to west direction through the centre of the site, flowing under Woodcote Lane, before exiting through the north-eastern portion of the site. The brook eventually discharges into the River Avon, approximately 2 km to the east of the site.

49. A standalone assessment of flood risk has been prepared by Bilfinger GVA under separate cover.

Regulatory Database

50. We have reviewed the Envirocheck Report to assess if there are any relevant entries that may impact the on the masterplanning for the site.

Discharge Consents

51. The Report does not identify any licensed discharge consents on site or within 250m of the property.

Pollution Incidents

52. The Report does not identify any substantiated pollution incidents on site.

Pollution Prevention and Control (IPC, IPPC, LAPPC)

53. The Report does not identify any of the above environmental permits on site or within 250m of the property.

Groundwater Abstractions

54. The Report does not identify any groundwater abstractions on site or within 250m of the property.

Surface Water Abstractions

55. The Report does not identify any surface water abstraction licences on site or within 250m of the property.

Waste Management Sites

56. The Report does not identify any historical or operational landfills on site, or within 250m of the property.

Hazardous Substances (COMAH etc)

57. The Report does not identify any authorisations/consents on site or within 1km of the property.

Regulatory Enquiries

Warwick District Council

58. We have made regulatory enquiries to Kate Warren, Technical Officer (Environmental Sustainability) at Warwick District Council regarding environmental issues that may impact future development.

59. In summary, the Council has confirmed the following details:

- Based on the information currently available to the Council a now disused sewage filter bed is located towards the north eastern corner of the site. This area has not been forwarded for any further investigation under Part IIA of the Environmental Protection Act 1990.
- The Council is not aware of any other past contaminative land uses either on site or within 250m of the site. The site is not registered as contaminated land and has not been forwarded for any further investigation under Part IIA.
- The Council does not hold on file any ground investigation reports and/or monitoring records relating to any land contamination issues at the property.

- The Council is not aware of any known current or former landfills located either at the site or within a 250m radius of the site.
- The Council does not hold any records relating to any pollution incidents occurring either on the site or within 250m.
- The Council does not hold any records of any premises within a 250m radius of the site been granted Pollution Prevention and Control Authorisations.
- The Council is not aware of any private abstraction wells/water supplies located either at the site in question or within 250m.
- Based on the information currently available the site is not registered as contaminated land, nor has it been forwarded for any further investigation under Part IIA of the Environmental Protection Act 1990. The site is not listed on the Council's Prioritisation List.

Environmental Assessment

Risk

Risk Exposure

60. In order to assess the risks associated with the presence of ground contamination, the linkages between the sources and potential receptors need to be established and evaluated. This is in accordance with Part 2A of the Environmental Protection Act (EPA) 1990, which provides a statutory definition of Contaminated Land.
61. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that:
- Significant harm is being caused or there is a significant possibility of such harm being caused; or
 - Significant pollution of controlled waters is being, or is likely to be, caused.
62. In consideration of the above regulatory regime and available information, the overall risk with respect to issues identified on the site has been assessed qualitatively as low, moderate or high.
63. A risk exposure matrix for plausible pollutant linkages for continued use is shown below.

Potential Contamination	Pathways	Receptors	Risk Evaluation of Pollutant Linkage
<p>Historical contaminants - (1) Disused Filter Bed – located in woodland to north of Woodcote Lane (2) Decommissioned underground fuel tank</p> <p>Current contaminants – Above ground storage of diesel fuel (bunded with no evidence of issues)</p>	Contact with contaminated soil	Occupants	Low – Site workers and visitors are unlikely to be exposed or come into contact with ground contamination.
		Construction Workers (if redeveloped)	Low - Construction workers are unlikely to be exposed to contamination in soil during future ground works. However, hotspots of contamination may be encountered in close proximity to fuel storage areas.
	Inhalation of vapours	Occupants	Low/Moderate – Potential for gas generation in vicinity of former filter bed. However, no other sources identified on site.
		Construction Workers (if redeveloped)	Low/Moderate - Construction workers may be exposed if development was undertaken in close proximity to decommissioned underground fuel tank or former filter bed.
	Ingress of methane & carbon dioxide gas	Site buildings	Low - No sources of methane or carbon dioxide have been identified within 250m of any buildings on site, therefore, exposure is considered low.
	Surface water runoff	Site Lake and Cattle Brook	Low - Unlikely given absence of current sources of contamination.
	Leaching to groundwater and watercourse		Low - Unlikely given control measures in place to prevent pollution.
	Plant uptake from soil	Landscaped areas	Low - No evidence of vegetation die back noted on site.
	Migration in groundwater	Principal Aquifer	Low/Moderate - No significant sources of contamination noted. However, there is a decommissioned underground tank – no further details known.
	Surface water runoff to adjacent land	Off site property	Low - No significant sources of contamination noted, therefore, runoff of contamination onto third party land is unlikely.
	Migration in groundwater to adjacent land		Low - Site and adjacent property have not had a contaminative history, therefore, migration in groundwater is considered unlikely.

Conclusion

64. The Masterplan should reflect a number of ground related constraints in those geographical areas identified for the development:

- Land Adjacent to workshops/stores (building number SW05) where a decommissioned in-situ underground fuel tank is located; and
- Area of Woodland to North of Woodcote Lane, which is the location of a former filter bed.

65. These are shown on Figures A5.1 and A5.2. In both instances ground investigation and remediation may be required ahead of development.

Figure A5.1: Decommissioned Tank



Figure A5.2: Former Filter Bed





Appendix I Historical Maps