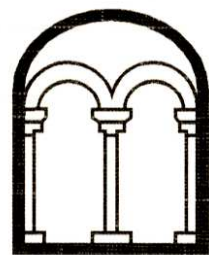


**ECOLOGY PONDS AT
CHAMBERLAINS BARN
EASTERN LEIGHTON LINSLADE
BEDFORDSHIRE**

**ARCHAEOLOGICAL OBSERVATION,
INVESTIGATION, RECORDING, ANALYSIS
AND PUBLICATION**

Albion
archaeology



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Project: EL1631

Document: 2014/59
Version 1.0

Luton Museum accession no.: LUTNM 2011.96
OASIS reference no: albionar1-175887

27th April 2014

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Produced for:
Arnold White Estates Ltd



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Preface

Every effort has been made in the preparation of this document to provide as complete an assessment as possible, within the terms of the specification. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

The project was monitored on behalf of the Local Planning Authority by Hannah Firth, Central Bedfordshire Council Archaeologist.

The fieldwork was undertaken by Richard Gregson (Archaeological Supervisors) who also prepared the report. The project was managed by Drew Shotliff (Operations Manager).

The assistance and co-operation of the engaged contractors throughout the project are gratefully acknowledged.

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Version History

<i>Version</i>	<i>Issue date</i>	<i>Reason for re-issue</i>
<i>1.0</i>	<i>27/04/2014</i>	<i>n/a</i>

Key Terms

Throughout this document the following terms or abbreviations are used:

CBCA	Central Bedfordshire Council Archaeologist
BLARS	Bedfordshire and Luton Archives and Record Service
CBC	Central Bedfordshire Council
HER	Historic Environment Record
IfA	Institute for Archaeologists
WSI	Written Scheme of Investigation



1. INTRODUCTION

1.1 *Planning Background*

Planning permission CB/11/04313/FULL has been granted for the construction of a series of nature conservation ponds on land within the Chamberlains Barn Development Area, Eastern Leighton Linlade.

A condition was attached to the planning consent (2) requiring the implementation of a programme of archaeological investigation as a consequence of the development. This is in accordance with national planning guidelines in the form of Policy 141 of the *National Planning Policy Framework (NPPF)*.

A written scheme of investigation (WSI) (Albion Archaeology 2012a) was prepared after consultation with the Central Bedfordshire Council Archaeologist (CBCA) who confirmed the requirement for a programme of archaeological observation of the groundworks; investigation and recording of any archaeological remains that were revealed; and an appropriate programme of post-fieldwork analysis, reporting and archiving.

Archaeological monitoring of the construction works took place between 20th and 25th March 2014. The results are presented in this report.

1.2 *Site Location and Description*

The site of the ponds is located to the north-east of Leighton Buzzard between Heath Road and Vandyke Road and to the south of Shenley Hill Road. It is centred on NGR SP 9341 2703.

The 2011 desk-based assessment subdivided the Chamberlains Barn application site into separate fields to facilitate discussion of their nature and heritage assets (Albion 2011, fig. 15). This numbering has been retained within this document. The southernmost ecology pond is located in land parcel 47b and the three ponds to its north in land parcel 53 along its boundary with land parcel 54 (Figures 1 and 2).

Land parcel 47b consists of a clearing in an area of surrounding woodland (land parcel 47). Its boundaries with adjacent land parcel 53 and 59 consist of mature hedges. Land parcels 53 and 54 are open fields currently put down to pasture. The site as a whole occupies an area of high ground overlooking Leighton Buzzard to the south. This land forms part of the Greensand Ridge that runs broadly NE-SW across Bedfordshire, creating a distinctive band of high ground which contrasts to the flatter lands to its north and south. The underlying solid geology consists of Gault Formation mudstone; no drift geology is recorded.

The ecology ponds lie near the south-eastern base of Shenley Hill, which at 126m OD is the highest point on the Chamberlains Barn site. From here the land falls very gently towards Vandyke Road in the east. The ecology ponds are situated on fairly level ground at 109.9–111.05m OD.



1.3 Archaeological Background

A heritage asset assessment was prepared by Albion Archaeology to accompany the planning application for the ecology ponds (Albion Archaeology 2012b). This is summarised below.

For the proposed development area the only known heritage asset is an area of surviving ridge and furrow earthworks (HER 2589) on land parcel 47a. These earthworks are created as a result of the strip field arable system of the medieval period. A site visit assessed that the earthworks are of poor to moderate quality and do not survive in the area of the proposed ponds.

Ridge and furrow earthworks (also HER 2589) survive in land parcel 52 to the west and sub-surface linear features indicating the presence of ridge and furrow cultivation have been identified by the geophysical survey over much of the surrounding area.

To the south-west of the application site, within land parcel 59, a number of cropmarks are summarised in the HER as “square and circular cropmarks that are probably not archaeological in nature” (HER 14689). The geophysical survey further defined these cropmarks and also mapped a number of additional potential archaeological features in land parcels 53, 54 and 55.

An intrusive trial trench evaluation of parts of land parcels 54 and 55 demonstrated that the area was largely devoid of archaeological features, with the exception of a number of post-medieval and modern agricultural marks and boundary ditches. The trial trenches located closest to the ecology ponds did not reveal any significant archaeological features (Albion 2012b).

A double-ditched ring ditch situated in land parcel 55, lies *c.* 250m to the east of the proposed ecology ponds. This was identified by the geophysical survey and confirmed through trial trenching. However, the trial trenching did not reveal any additional features associated with the ring ditch. The small number of artefacts and ecofacts recovered during the evaluation also suggests that the area close to the ring ditch was not intensively occupied (Albion 2012a).

The site of the ponds is part of a wider archaeological landscape, which has a low to moderate density of archaeological heritage assets (Albion Archaeology 2011). These include the Anglo-Saxon cemeteries (HER 3) revealed during 19th-century quarrying at Chamberlains Barn; and assets related to the 19th-century and modern extraction works in the area, including the narrow-gauge railway (HER 11090), and two 19th-century extraction pits in land parcels 50/52 and 53 (HER 11085 and HER 11146).

1.4 Project Objectives

The regional research frameworks for Bedfordshire (Oake *et al.* 2007) and the eastern region (Medlycott 2011) state that in terms of settlement characterisation and distribution patterns much still remains unknown for the prehistoric to Saxon periods. Most work in Bedfordshire has been done on the gravel soils of the river valleys, which are more directly accessible and affected by modern gravel



extraction, and on which below ground archaeological assets are much more easily visible (Oake 2007).

Increasingly, however, settlements have been investigated on the more heavy clay soils, for example on the clay plateau in northern Bedfordshire. The Chamberlains Barn development area lies in an area of high ground that is part of the Greensand Ridge.

The research framework also states that field systems have been identified as an important area of study, particularly with reference to Bedfordshire's unique location with connections to both the field systems of the midlands and the eastern region. The framework also states that few ridge and furrow earthworks survive within the region (Oake 2007, 14)

The specific objectives of the investigation were to determine:

- whether there were any remains related to the prehistoric ring ditch identified in land parcel 55;
- if any of the eroded ridge and furrow earthworks survived as below-ground negative features.

The general objectives of the investigation were to determine:

- the date, nature and extent of any activity or occupation within the DA;
- the relationship of any remains found to the surrounding contemporary landscapes;
- recovering palaeo-environmental remains to determine local environmental conditions.

The broader objective of the project was to add to the knowledge and to our understanding of prehistoric to medieval settlement characterisation, pattern and development within more marginal areas of the county, a stated research aim in the framework for Bedfordshire, and to produce an archive report that fully describes the archaeological investigations.

1.5 Methodology

The following groundworks were monitored:

1. Turf removal over the full extent of all four ponds.
2. Ground reduction within Ponds B and C using a tilting, ditching bucket to achieve the cross-sectional profiles dictated by the ponds' design.
3. Supervised ground reductions within the central 'cut' areas of Ponds A and D to the depth of undisturbed geological deposit or to the maximum depth of the pond, whichever was reached first.

The removal of turf and subsequent ground reduction were carried out by a mechanical excavator fitted with a toothless ditching bucket. All archaeological monitoring and recording was carried out by experienced Albion Archaeology staff.



Throughout the project the standards and requirements set out in the following documents were adhered to:

• IfA	<i>By-Laws and Code of Conduct</i>
	<i>Standard and Guidance for an Archaeological Watching Brief (2009)</i>
	<i>Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (updated 2008)</i>
• EAA	<i>Standards for Field Archaeology in the East of England (2003)</i>
• Luton Museum	<i>Procedure for preparing archaeological archives for deposition with Luton Culture (October 2010 – with minor updates July 2013)</i>
• English Heritage	<i>Management of Research Projects in the Historic Environment (MoRPHE) (2009)</i>
• English Heritage	<i>Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation (2011)</i>
• Albion Archaeology	<i>Procedures Manual: Volume 1 Fieldwork (2nd ed, 2001).</i>



2. RESULTS AND CONCLUSIONS

All contexts recorded on site are listed in Table 1. No significant archaeological features were identified during the groundworks.

Pond A was located at the bottom of the slope within the more southerly of the two fields which had the remains of ridge and furrow (HER 2589) still visible within it. Ponds B to D were located in the adjacent field which had no visible remains of ridge and furrow.

The footprint of each pond was marked out with wooden pegs and turf was removed before beginning the deeper excavations (Figure 2). Ponds B and C were monitored to the full extent of their three dimensionally designed shapes. This involved the removal of material from their central 'cut' areas using a tilting bucket to achieve the correct profiles and piling it up around the edge to form the banks. Ponds A and D were excavated within the whole of their designated 'cut' areas, to either the undisturbed geological deposit or the maximum depth of the pond, whichever was reached first.

The overburden in Ponds B–D comprised topsoil (4000) and subsoil (4001). Artefacts found within these deposits included small quantities of post-medieval brick and tile (284g); four clay tobacco pipe stem fragments (17g), one datable to the 19th century; and pottery (44g). The latter comprises two sherds of glazed earthenware (fabric types P01, P03¹), and a sherd of German stoneware (fabric P25), all datable to the 17th century. An abraded rim sherd of transitional late medieval / post-medieval smooth ware (fabric E03) was also recovered.

In Pond A, there was an additional make-up layer (4003) within the overburden that covered the down-slope, eastern half of the pond. It was largely left *in situ*, because it was below the maximum depth of the pond's 'cut' area. It had created a noticeable change in the topology of the field, having buried some of the ridge and furrow and created a slightly raised plateau relative to the adjacent fields to the north-east and south-east.

A treethrow [4004] and two patches of root disturbance [4006] and [4008] were located within Pond D.

Five WNW-ESE aligned land drains were located in Ponds B–D. Their alignment corresponds with features identified as agricultural marks by the geophysical survey of the area (Stratascan 2008). It is likely that they were laid in the base of furrows that have since been removed from the landscape.

The archaeological observation works revealed no evidence for activity earlier than the post-medieval period within the area of the ponds.

¹ Fabric types defined in accordance with the Bedfordshire Ceramic type Series



The project archive will be deposited with Luton Museum (accession no. LUTNM 2011.96). This report will be uploaded onto the Archaeology Data Service's OASIS website (ref. albionar1-175887).

Context	Description	Dimensions
4000	Topsoil Firm dark grey-brown clay silt with occasional fragments of small-large ceramic building material and occasional small-medium stones	0.2m thick
4001	Subsoil Firm mid brown-grey silty clay with occasional small stones	0.3m thick
4002	Undisturbed geological deposits Firm light brown-grey silty clay	n/a
4003	Make-up layer Firm light yellow-grey silty clay.	At least 0.2m thick
4004	Treethrow Irregular shape in plan, unexcavated	3.4m long 2.4m wide
4005	Sole fill of treethrow [4004] Firm dark brown-grey silty clay with moderate small-medium stones.	n/a
4006	Rooting Sub-oval in plan, aligned N-S, with asymmetrical sides and an uneven base	1m long 0.6m wide 0.09m deep
4007	Sole fill of rooting [4006] Firm dark brown-grey silty clay with moderate small-medium stones	0.09m thick
4008	Rooting Sub-oval in plan, aligned NW-SE, unexcavated	1.05m long 0.45m wide
4009	Sole fill of rooting [4008] Firm dark brown-grey silty clay with moderate small-medium stones	n/a

Table 1: Context descriptions



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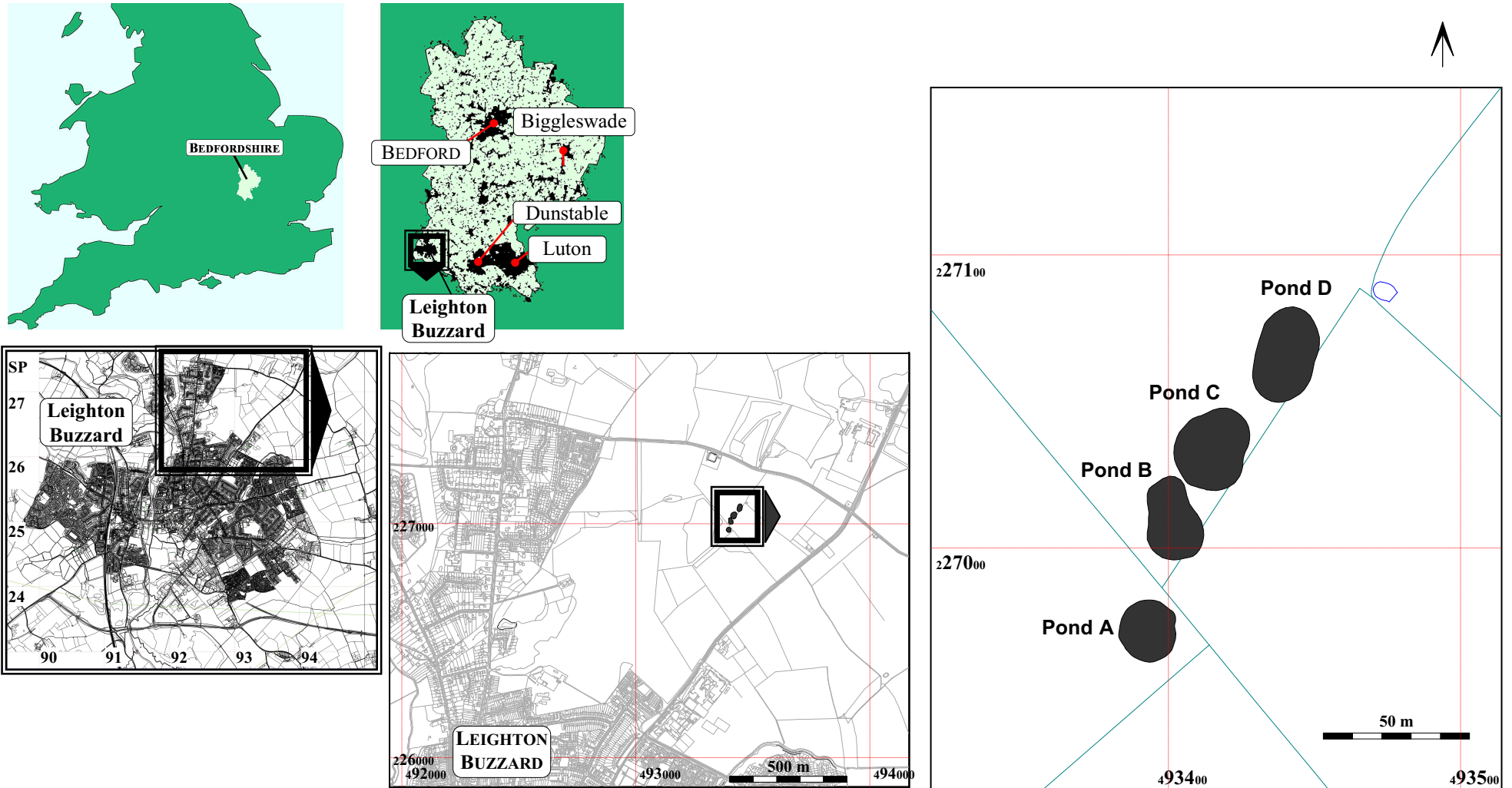
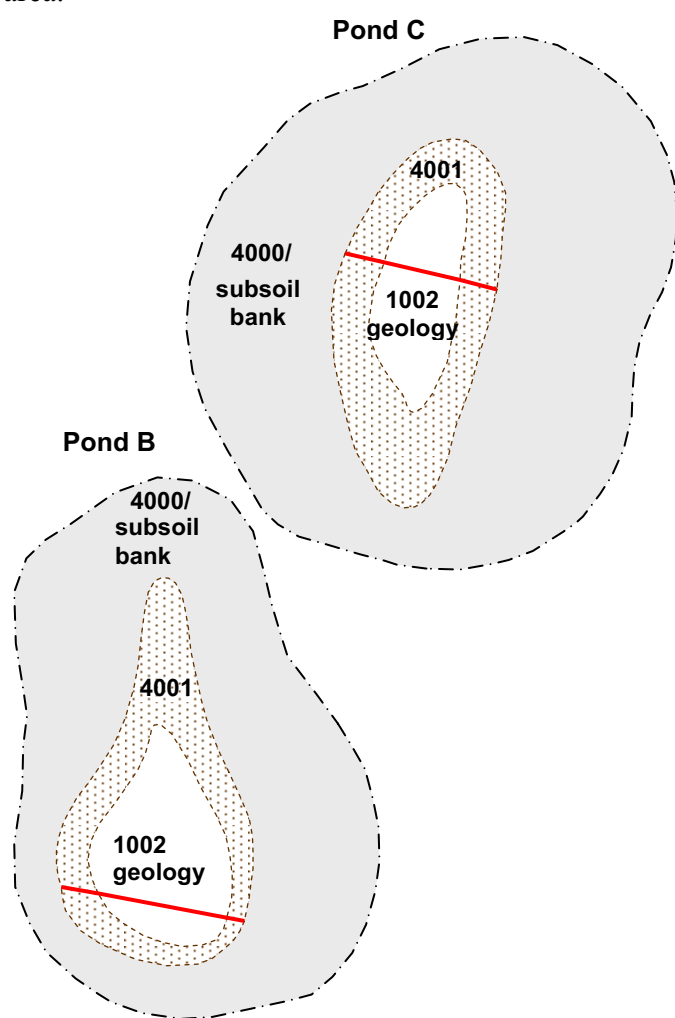
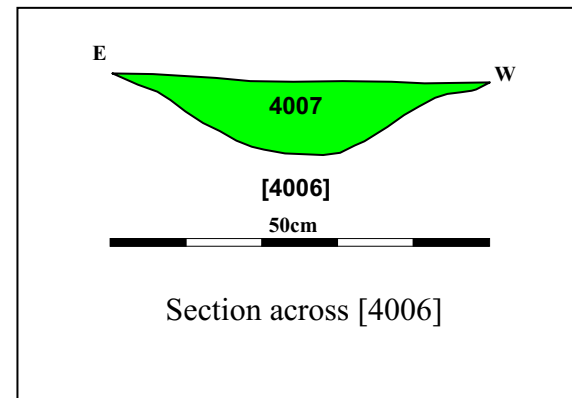
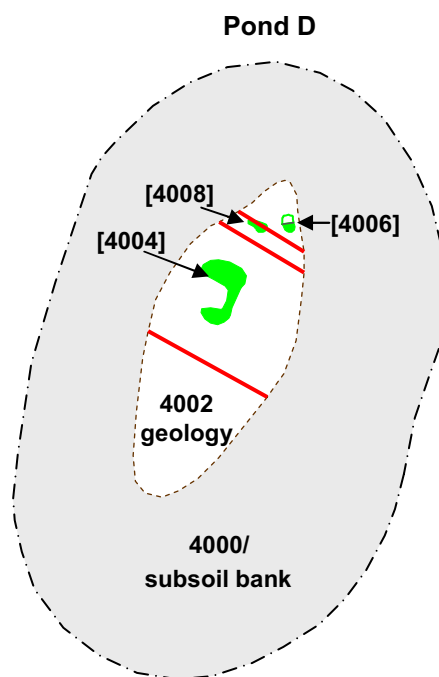


Figure 1: Site location plan

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Pond D – stripped to the undisturbed geological horizon within the ‘cut’ area.



Pond B – stripped and formed to the pre-determined shape.

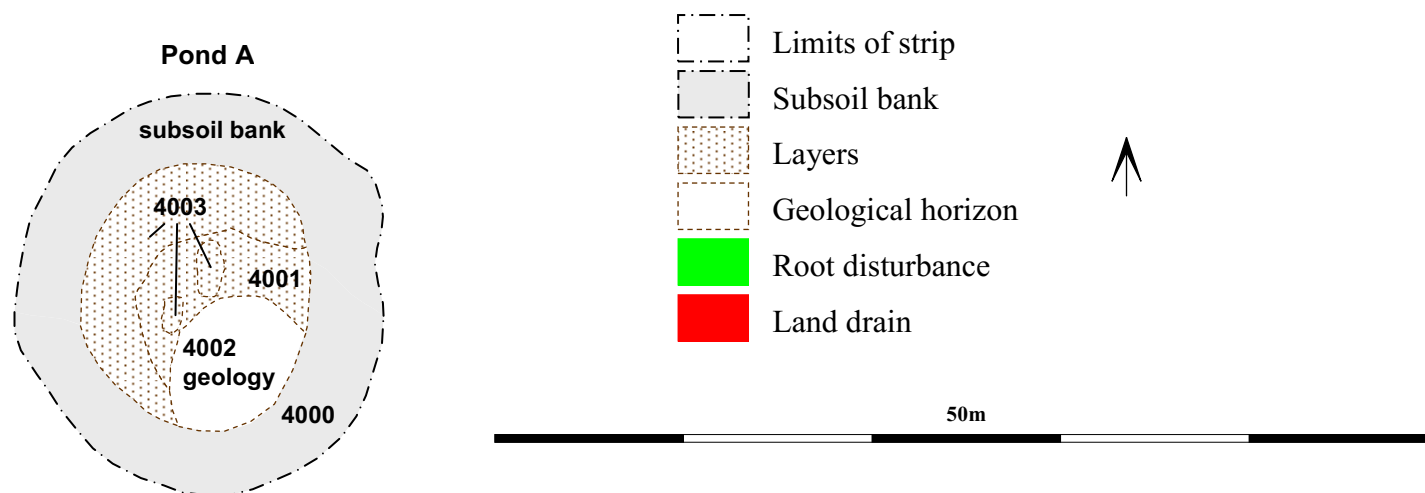


Figure 2: All features plan

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