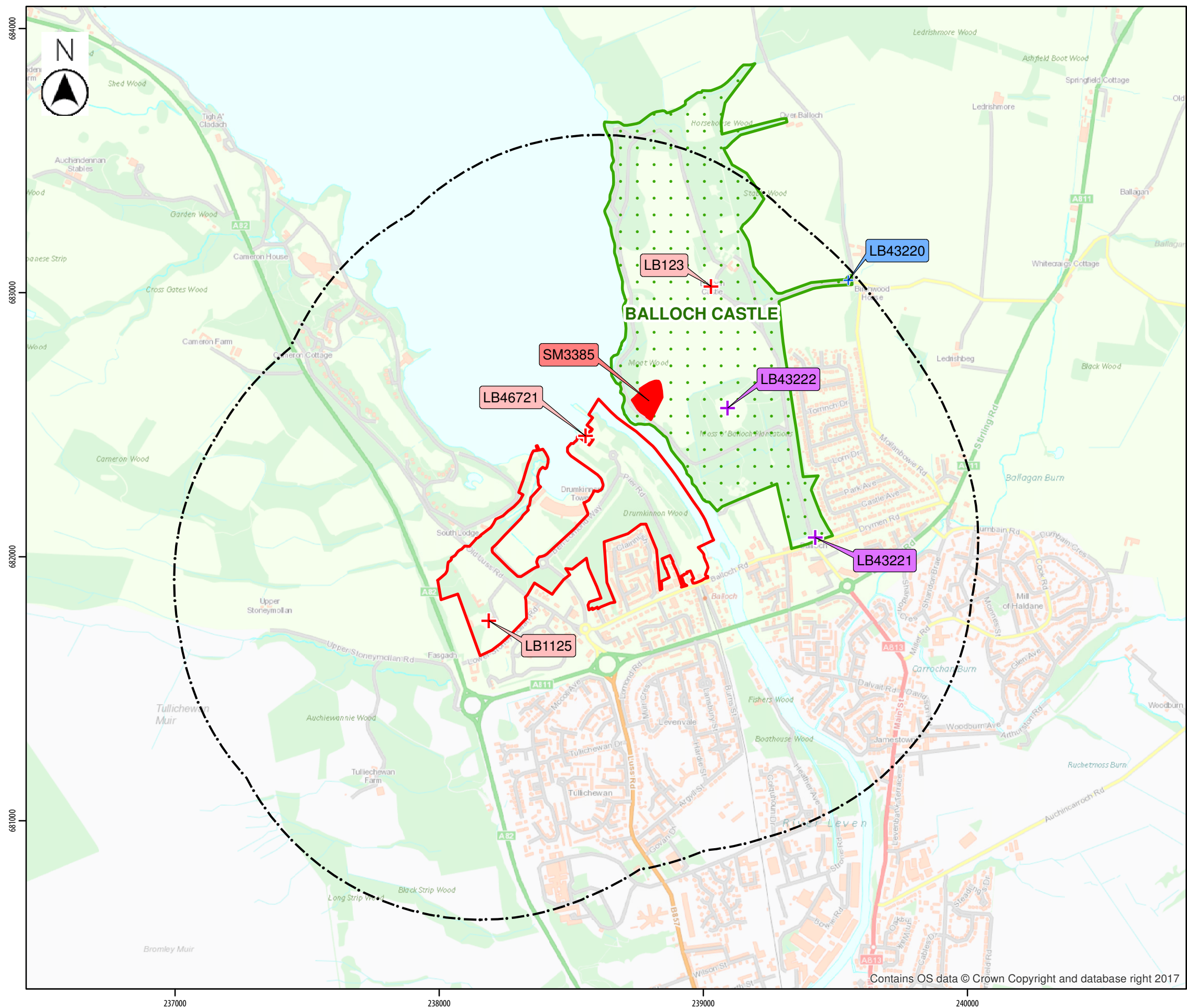


Appendix 13 – Archaeology and Cultural Heritage

Appendix 13.1 – Figures



- KEY
- ▬ Scheduled Monument
 - + Category A Listed Building
 - + Category B Listed Building
 - + Category C Listed Building
 - ▬ Inventory Garden and Designed Landscape
 - ▬ Site boundary

Designations data provided by
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FIGURE 13.1
Designated Heritage Assets
included in the Assessment



Plate 13.1. Blaeu, J, 1654, The Province of Lennox called the Shyre of Dun-Britton



Plate 13.2. Roy, W, 1747-52 Military Survey of Scotland (Highlands)



Plate 13.3. Ross, C, 1777, A Map of the Shire of Dumbarton

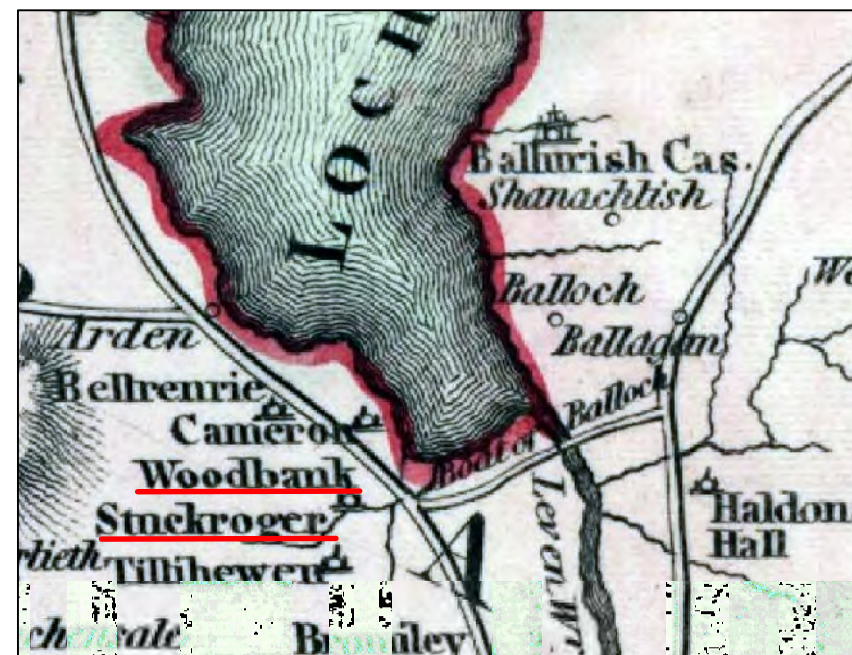


Plate 13.4. Ainslie J, 1821, Ainslie's Map of the Southern Part of Scotland



Plate 13.5. Thomson J 1823, Dumbartonshire



Plate 13.6. Ordnance Survey 1864, Dumbarton Sheet XVIII.5, (Bonhill) 1:2500, Survey 1860

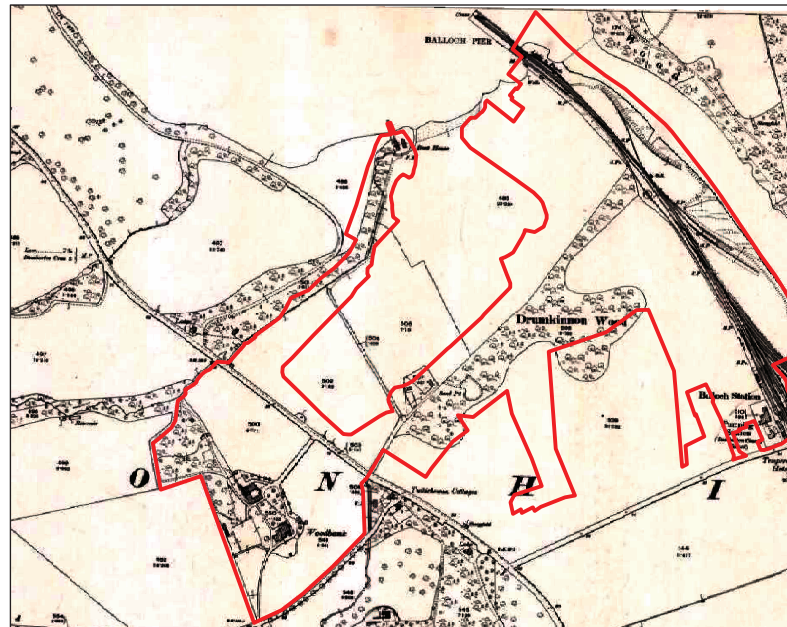


Plate 13.7. Ordnance Survey 1898, Dumbartonshire 018.05, (includes: Bonhill) 1:2500, Revised 1897

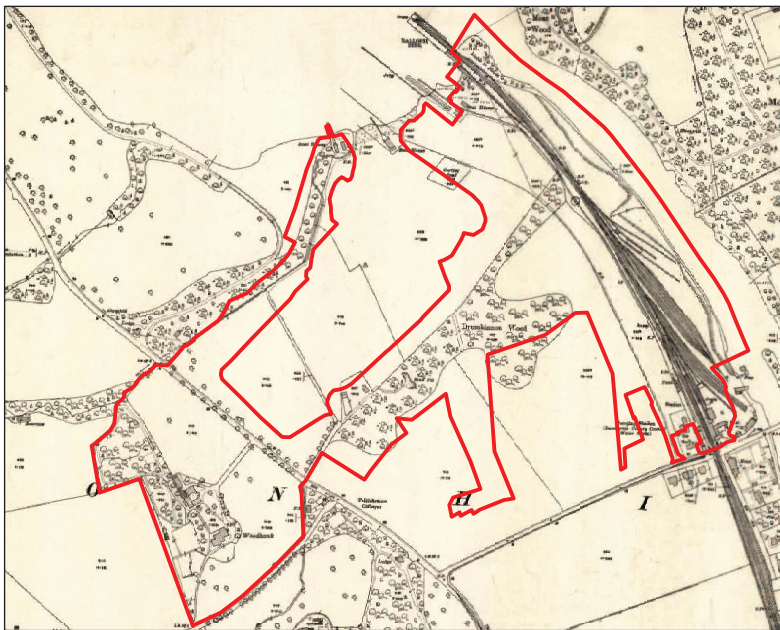


Plate 13.8. Ordnance Survey 1919, Dumbartonshire n018.02, (includes: Bonhill) 1:2500, Revised 1914

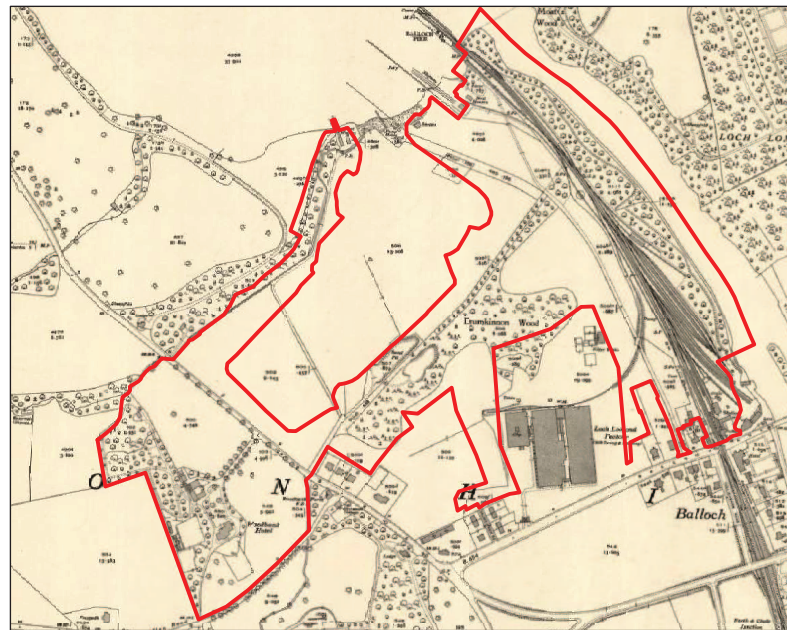


Plate 13.9. Ordnance Survey 1938, Dumbartonshire n018.02, (includes: Bonhill) 1:2500, Revised 1937



Plate 13.10 - Extract from 1864 OS Map showing Balloch Castle Estate

13 Technical Appendices

13.2 Archaeological Desk-Based Assessment, March 2017



WEST RIVERSIDE, BALLOCH AND LOCH LOMOND

Archaeological Desk-based Assessment

for Envirocentre

March 2017

WEST RIVERSIDE, BALLOCH AND LOCH LOMOND

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March 2017

Job No.:	WRBL16
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WEST RIVERSIDE, BALLOCH AND LOCH LOMOND

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

Headland Archaeology was commissioned by Envirocentre to undertake a desk based assessment of land at Balloch, West Dunbartonshire. The proposed development area (PDA) is within previously agricultural and estate land on the south banks of Loch Lomond. Four heritage assets were identified within the Site. These included one designated asset; the Category A-listed Building Woodbank House, and three undesignated assets including the course of a disused railway line, a military road and the former Balloch Central Station building. Designated heritage assets in the wider landscape, which may be sensitive to visual change affecting their settings, include Balloch Castle earthwork (Scheduled Monument), Balloch Country Park (Inventory Garden and Designed Landscape) and Balloch pier, slipway and engine house (Category A Listed Building).

The PDA is considered to be of medium archaeological potential. A programme of archaeological work should be implemented to identify any previously undiscovered archaeological remains and allow for their excavation and recording in advance of construction. Consultation with Historic Environment Scotland will be necessary to assess and mitigate potential impacts on the settings of designated heritage assets within the PDA and the wider Study Area.

1 INTRODUCTION

1.1 Planning Background

Envirocentre has commissioned Headland Archaeology to produce a desk-based assessment (DBA) of land at West Riverside, Balloch in relation to a proposed leisure development which is being brought forward by Flamingo Land Ltd. The DBA is intended to inform scoping of the development proposals.

1.2 Site Description

The proposed development area (PDA) is located at the northern limit of the town of Balloch at the southern shore of Loch Lomond, within the Loch Lomond & the Trossachs National Park, and within Bonhill parish within the local authority of West Dunbartonshire. Currently, the majority of the land is covered in forestry and grassland with some tracks and roads present. The PDA measures approximately 33 hectares (Ha).

The PDA topography is generally flat with a slight rise from 7m AOD at the shore line to 37m AOD inland to the south-west. Forming an irregular U-shape (Figure 1), the PDA is bounded to the east by the River Leven and to the north by Loch Lomond, the buildings and car parks of Loch Lomond Shore visitor centre; the boundary of the PDA curves round to the north of Loch Lomond Shore and the northern edge is defined by a belt of trees. To the south the area is bounded by housing estates and Balloch Road. The Old Luss Road bisects the south-western quarter of the PDA; west of this road, the PDA comprises trees and rough pasture alongside the A82.

1.3 Consultation

No formal consultation with cultural heritage organisations was carried out during the preparation of the DBA. The West of Scotland Archaeology Service (WoSAS) was contacted in order to obtain a digital data extract from the West Dunbartonshire Historic Environment Record (HER).

2 AIMS AND OBJECTIVES

The assessment has been carried out according to the *Standard and guidance for historic environment desk-based assessment* published by the Chartered Institute for Archaeologists (CIfA 2014), and aims to:

- Collate all available written, graphic, photographic and electronic information relevant to the development site;
- Describe the nature, extent and significance of the historic environment within the area potentially affected by the development, identifying any uncertainties in existing knowledge;
- Determine the potential impact of the proposed development; and
- Identify any requirements for further investigation that may be necessary to understand the effects of the proposed development on the historic environment.

Potential impacts of the proposed development are most likely to relate to the disturbance of buried archaeology during the construction phase and impacts upon Listed Buildings or their settings.

3 METHODOLOGY

3.1 Study areas

Two areas have been used in assembling and presenting the data:

- The Proposed Development Area (PDA) corresponds to the application boundary in order to include any known or unknown heritage assets at risk of direct and indirect impacts (Figure 1).
- The Study Area extends 1km from the PDA (Figure 2). Within this area background data has been collated to inform the archaeological potential of the Site, identify any heritage assets which may be affected as they continue into the site and to identify assets which may be subject to setting effects.

3.2 Data sources

The assessment has been based on a study of all readily available documentary sources, following the CIfA Standards and Guidance (CIfA 2014). The following sources of information were referred to:

- Designation data downloaded from the Historic Environment Scotland website on 12 December 2016;
- The National Record of the Historic Environment (NRHE), including the Canmore database and associated photographs, prints/drawings and manuscripts held by HES;
- Historic Landscape Assessment data, viewed through the HLAMap website;
- Historic Environment Record (HER) data from the West of Scotland Archaeology Service (WoSAS) (date received 12 December 2016)
- The National Collection of Aerial Photography (NCAP);
- LiDAR data supplied by the Scottish Government;
- Geological data available online from the British Geological Survey;
- Historic maps held by the National Library of Scotland;
- Ordnance Survey Name Books;
- Relevant internet resources; and
- Readily available published sources and unpublished archaeological reports.

The subscription based NCAP website was used to access available aerial photographs. It is considered that the aerial photographs available online are sufficient to inform this assessment.

The National Archives of Scotland was not visited as part of this assessment, since maps available from the National Library give sufficiently detailed information about the site to allow a reliable assessment of its archaeological potential and inform any archaeological mitigation. An online search of the National Archives of Scotland catalogue took place for the parish of Bonhill but produced no items of further interest.

LiDAR survey data supplied by the Scottish Government, covering both the West Riverside and Woodbank sites was processed in order to enable archaeological interpretation of the results. A Hill-Shade Relief model was used, with two separate simulated light angles applied from azimuths of 315 and 45 degrees.

A site visit was made on 20th December 2016. Weather conditions were overcast and cold, but dry. The purpose of this visit was to identify any previously unrecorded archaeological features, assess the topography, and identify levels of ground disturbance within the site. The setting of the site in relation to nearby heritage assets was also considered. The visibility within Drumkinnon Wood was limited due to the heavy tree coverage and dull lighting due to the time of year. The area around Woodbank House was deemed dangerous due to the ruinous state of the building so a safe distance was kept throughout the visit. The surface visibility of the remainder of the site was good.

3.3 Identification of heritage assets

The assessment aims to identify all known heritage assets potentially affected by the proposed development, and to estimate the potential for currently unknown heritage assets. A heritage asset is defined as any element of the historic environment which has cultural significance. Both discrete features, and extensive landscapes defined by a specific historic event, process or theme, can be defined as heritage assets; and assets may overlap or be nested within one another. Some heritage assets are designated as Scheduled Monuments, Listed Buildings, World Heritage Sites, Conservation Areas, Inventory Gardens and Designed Landscapes (IGDLs), Inventory Historic Battlefields, Historic Marine Protected Areas, or locally designated through policies in the Local Plan. Undesignated assets may be recorded in the NRHE or Historic Environment Records, while many other assets are currently unrecorded.

Heritage assets within the PDA are shown in Figure 1 and listed in Table 3. Non-designated assets within the PDA have been assigned an asset number (prefixed HA for Heritage Asset); designated assets, in this case the Category A listed Woodbank House, retain their Listed Building reference. A single asset number can refer to a group of related features, which may be recorded separately in the HER and other data sources. Heritage Assets within the Study Area are shown in Figure 2 (Designated assets) and Figure 3 (undesignated assets), and listed in Tables 4 to 7. Designated heritage assets are labelled with the reference number assigned by Historic Environment Scotland; undesignated assets with the reference number in the WoSAS HER.

3.4 Assessment of cultural significance and importance

Heritage assets are assessed in terms of their cultural significance and importance. Cultural significance is a quality that applies to all heritage assets, and as defined in 'Historic Environment Scotland Policy Statement 2016' (Annex 1, paragraph 3), may be artistic, archaeological, architectural, historic, traditional, aesthetic, scientific or social, and may be *'inherent in the monument itself, its fabric, setting, use, associations, meanings, records, related monuments and related objects'*. Following 'Scottish Planning Policy' paragraph 137, the analysis of a heritage asset's cultural significance aims to identify its 'special characteristics' which should be protected, conserved or enhanced. Such characteristics may include elements of the asset's setting, which is defined in Historic Environment Scotland's guidance as *"the way in which the surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated"* (HES 2016 'Managing Change in the Historic Environment: Setting', Section 1).

The importance of a heritage asset is the overall value assigned to it based on its cultural significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 1). Assets of national importance and international importance are assigned a high and very high level respectively. The criterion for Listing is that a building is of 'special architectural or historic interest'; following HESPS Note 2.17, Category A refers to 'buildings of national or international importance', Category B to 'buildings of regional or more than local importance', and Category C to 'buildings of local importance'. Conservation Areas are not defined as being of national importance, and are therefore assigned to a medium level. Any feature which does not merit consideration in planning decisions due to its cultural significance may be said to have negligible heritage importance; in general, such features are not considered as heritage assets and are excluded from the assessment.

Table 1: Criteria for Assessing the Importance of Heritage Assets

Importance of the asset	Criteria
Very high	World Heritage Sites and other assets of equal international importance
High	Category A Listed Buildings, Scheduled Monuments, Inventory Gardens and Designed Landscapes, Inventory Historic Battlefields, Historic Marine Protected Areas and undesignated assets of national importance
Medium	Category B Listed Buildings, Conservation Areas, and undesignated assets of regional importance
Low	Category C Listed Buildings and undesignated assets of lesser importance

3.5 Potential for unknown heritage assets

Archaeological features are often impossible to identify through desk-based assessment. The likelihood that significant undiscovered heritage assets may be present within the Site is referred to as *archaeological potential*. Overall levels of potential can be assigned to different landscape zones, following the criteria in Table 2, while recognising that the archaeological potential of any zone will relate to particular historical periods and types of evidence. The following factors are considered in assessing archaeological potential:

- The distribution and character of known archaeological remains in the vicinity, based principally on an appraisal of data in the HER;
- The history of archaeological fieldwork and research in the surrounding area, which may give an indication of the reliability and completeness of existing records;
- Environmental factors such as geology, topography and soil quality, which would have influenced land-use in the past and can therefore be used to predict the distribution of archaeological remains;
- Land-use factors affecting the survival of archaeological remains, such as ploughing or commercial forestry planting; and
- Factors affecting the visibility of archaeological remains, which may relate to both environment and land-use, such as soils and geology (which may be more or less conducive to formation of cropmarks), arable cultivation (which has potential to show cropmarks and create surface artefact scatters), vegetation, which can conceal upstanding features, and superficial deposits such as peat and alluvium which can mask archaeological features.

Table 2: Archaeological potential

Potential	Definition
High	Undiscovered heritage assets are almost certainly present, and these are likely to include assets of high or medium importance.
Medium	Undiscovered heritage assets are likely to be present, and it is possible, though unlikely, that these may include assets of high or medium importance.

Potential	Definition
Low	The study area may contain undiscovered heritage assets, but these are unlikely to be numerous and are highly unlikely to include assets of high or medium importance.
Negligible	The study area is highly unlikely to contain undiscovered heritage assets of any level of importance.
Nil	There is no possibility of undiscovered heritage assets existing within the study area.

4 RESULTS

4.1 Overview of the historic environment

Previous investigations (Figure 3)

No investigations have taken place previously within the PDA. However, over the last two decades, a number of archaeological investigations including evaluations, watching briefs, field surveys, and excavations have taken place in and around the Study Area. Of particular note was a series of trial trenching evaluations and excavations carried out near Vale of Leven Hospital, approximately 1km south of the PDA, which revealed prehistoric activity (WoSAS Event ID 4699, 4993 and 4994).

An archaeological evaluation was undertaken ahead of construction works connected with a bridge over the River Leven and revealed 18th-19th century occupation (WoSAS Event ID 562).

One further investigation is recorded on the HER within the Study Area; WoSAS Event ID 565 records a 1998 non-intrusive survey north of Balloch Castle (SM3385).

Geology and geomorphology

The bedrock, formed approximately 398 to 407 million years ago in the Devonian Period, comprises extensive sandstone deposits making up the Teith Sandstone Formation. These rocks were formed from river depositing mainly sand and gravel detrital material in channels to form river terrace deposits, with fine silt and clay from overbank floods forming floodplain alluvium, and some bogs depositing peat (British Geological Survey Website, accessed 21.12.16)

The superficial geology of the area is Glaciofluvial Deposits of Gravel and Raised Marine Deposits of Flandrian Age which are made up of clay, sand and silt. The valley now occupied by Loch Lomond is largely a product of the Pleistocene ice, a number of earlier valleys having been integrated by some 2,000 feet of glacial down-cutting. There is evidence to show that just before the last ice advanced into the basin the sea flooded in the Lomond hollow, leaving marine shells to be picked up by the succeeding ice and deposited in the terminal moraines (Whittow 1997, 193)

The area as a whole would have consisted of shallow seas and rivers after the last Ice Age. A Hillside Relief Model created using LiDAR data shows the PDA to be located in a flood-plain with the edge of a river terrace running north-south on the western edge of the Woodbank part of the PDA.

Prehistoric Activity

There is one Scheduled Monument (SM) within the study area, called 'Cameron Home Farm, chambered cairn 720m S of' (SM6341), a Neolithic chambered cairn, of the Clyde-Solway group, which lies on the perimeter of Cameron Wood. In about 1800 the cairn was partly investigated, leading to the discovery of stone arrowheads and bone in some of the 20-25 'graves' which were subsequently reported. A cutting about 4m wide and 3m deep, presumably this earlier excavation trench, has been made the entire length of the cairn and three, possibly four, burial chambers remain exposed.

Excavations carried out at Vale of Leven Hospital, Alexandria (WoSAS Event ID 4699, 4993 and 4994) revealed a substantial amount of prehistoric activity. Over 100 features were excavated, including fire-pits and pits

containing structured deposits of prehistoric pottery, the majority of which appeared to be Grooved Ware from the late Neolithic period. A number of lithics crafted from quartz, flint and pitchstone were also recovered. The remains of a ring-groove structure, of likely later prehistoric date were also excavated, along with a ditch.

Medieval and Post-medieval Activity

Woodbank House (LB1125), a Category A listed building, is located in the south-western corner of the PDA and is largely an eighteenth-century construction with later additions and alterations. The land around it was settled on James Lindsay and his wife Sarah in 1670, and a house known as Stuckrodger stood on the site at this time. In 1774 Stuckrodger was acquired by Charles Scott of Dalquhurn, a Glasgow merchant, who renamed it Woodbank and it appears that the house, as it now appears, dates from this time. In 1885 William Ewing-Gilmour of Croftenga was the occupant of the house and it is likely that the later additions date from his occupancy. The house was converted to a hotel in the 1930s.

The earliest map that depicts the house is Blaeu's Map of 1654 where it is annotated as a house along with nearby Cameron House and is called 'Stochrothart'. Roy's Map of 1747-55 also depicts four or five houses and woodland landscaping within the 'Stuckrodger' estate. Ainslie's map of 1821 labels the estate with the names of 'Stockroger' and 'Woodbank'. By John Thomson's map of 1832, the estate is definitively named Woodbank and is also annotated with 'Miss Scott', presumably indicating the proprietor, who may be a relation of Charles Scott. The estate continues to be depicted on all maps, including 20th century Ordnance Survey maps which show it as Woodbank Hotel which continued in use, trading as the Hamilton House Hotel into the 1980s.

The site of Balloch Castle (SM3385), a medieval castle pre-dating the existing Balloch Castle (LB123, Category A-listed), is located above the east bank of the River Leven. It was the property of the Earls of Lennox until 1652 when it was purchased by Sir John Colquhoun of Luss. In the 15th century the Castle became the property of the family of Stewart, Lords Darnley, who were afterwards regranted the title of Earls of Lennox. By 1511 it had been replaced by Inchmurrin as "the chief messuage" of the Earldom of Lennox; and after this period Balloch was gradually deserted. Nothing now remains except a mound surrounded by a ditch (Fraser 1869). The castle is depicted as 'Bellach' on Blaeu's Map of 1654 and 'Ballich' on Charles Ross' 1777 Map, but neither shows any detail of location. It appears as an earthwork from the 1864 1st Edition Ordnance Survey Map with the later castle (LB123) in the location it occupies today.

The existing Balloch Castle (LB123) was built in 1809 by Robert Lugar for John Buchanan of Ardoch, a wealthy shipbuilder and banker. The design for the castle was influential in the development of secular Gothic style. The house is now the headquarters of Scottish Natural Heritage and the estate is open to the public as a country park. It also designated an Inventory Garden and Designed Landscape (GDL00042). Robert Lugar also built Tullichewan Castle (WoSAS 7051) to the south-west of the PDA. Built in 1792 and demolished in 1954, the castle is mentioned in both the Old and New Statistical Account (NSA) of the parish of Bonhill.

Modern Activity

The 1st edition OS Map (Figure 4) shows that the shoreline of Loch Lomond is largely unaltered since the 1860s. Drumkinnon Bay Winch House & Slipway is a Category A-listed Building (LB46721), and Balloch Pier (HA1) and Balloch Pier Station (HA2) are recorded on the HER. The station was opened in 1850, and later renamed Balloch Pier Station. It closed on 29 September 1986, the line subsequently terminating at Balloch Central Station (Butt 1995). The pier and slipway was built c. 1899 by the Dumbarton & Balloch Joint Line Committee and is noted on Bartholomew's Map of 1902. It consisted of a 2-track 'patent slip', with a wooden cradle and iron outriggers supported on a double central rail, with ratchet in the centre, and single side rails. At the head of the slipway was a single-storey harled winding-engine house, containing a large steam winch (Hume 1976).

Just outside the PDA in what is now the Loch Lomond Shore visitors' car park, a building named 'Drumkinnan' is illustrated on the 1st edition OS Map. The Ordnance Survey Name Book (1860) describes Drumkinnan as an old farmstead but no record exists of when it went out of use. The site is not recorded on the HER.

Aerial photography and the 1938 OS Map shows the site of 'Loch Lomond Factory (silk dyeing & finishing)' just beyond the southern edge of the PDA. The housing estate around Inchcruin and Clairinish now occupies the site.

The Historic Land-use Assessment map (hlapmap.org.uk, accessed 29/03/17) indicates historic sand and gravel extraction close to the north-eastern edge of the PDA, around what is now the Loch Lomond Shores car park and visitor centre; the OS mapping from 1899 onwards depicts 'sand pits' in this area. Areas of disturbance are visible on aerial photographs and it is likely the area was used for quarrying sand in the first half of the twentieth century.

4.2 Assessment of heritage significance

In this assessment, a selective approach has been adopted. Whilst all assets within the PDA and Study Area have been considered, only assets where there are potential issues are highlighted and discussed further.

Known heritage assets within the PDA (Figure 1)

There are five known Heritage Assets within the PDA. These include the course of the disused railway line (HA1) connecting to the steamer pier north of the PDA. The old Balloch Central station was replaced by the current station in the 1980s. The former station building (HA2) survives as a private residence, and the course of HA1 is partially preserved as a footpath and local access road. The three remaining HAs comprise the ruinous Woodbank House and gazebo (LB1125) and its stables (HA4), and the course of the Dumbarton to Tyndrum Military Road (HA3), preserved today as the Old Luss Road. HA3 continues along the Old Luss Road outside the PDA as HER 22377 (Figure 3).

Table 3: Heritage assets within the PDA

Asset no.	Asset name	Status & Ref.	Period	Importance
LB1125	Woodbank House and gazebo	Category A-listed Building	Post-medieval	High
HA1	Disused Railway Line	n/a	Modern	Low
HA2	Former Balloch Central Station building	HER 21638	Modern	Low
HA3	Dumbarton to Tyndrum Military Road	HER 22377	Post-medieval	Low
HA4	Woodbank House stables	NRHE, NS38SE98	Post-medieval	High

Woodbank House and its gazebo are Category A-listed Buildings (LB1125), whilst the stables are recorded on the NRHE (NS38SE98); HA2 and HA3 are recorded on the HER, and HA1 was identified from historic mapping.

Woodbank House is located in an estate park and, although the building itself is in a ruinous condition due to abandonment, neglect and vandalism, the park itself retains aspects of its original design. The house and stables are currently set within woodland, as depicted on the 1st Edition OS Map (Figure 4). Its position at the top of a rise in the landscape was no doubt purposeful with views from the house overlooking the estate land on the lower ground. Although now in an overgrown state, it is clear the tree planting has allowed for the house to be partially concealed yet still visible; with the house glimpsed from the road on the south-easterly approach, but hidden from view as you approach along the driveway from the north-east.

Archaeological potential of the PDA

The prehistoric features excavated at Vale of Leven Hospital (WoSAS Event ID 4699, 4993 and 4994) and the Neolithic cairn (SM6341) in Cameron Wood suggests that there is potential for further prehistoric activity in the area. The PDA is in an area of low-lying, fertile land beside Loch Lomond. The loch is part of a historic maritime network linking the highlands with central Scotland. There are also links to medieval seats of power with the Earls of Lennox having their base at Balloch Castle for a long period of time. Such links would have been influential on the landscape and assets relating to this period may survive.

It would appear likely that most of the PDA was under agricultural use and partially forested from at least the medieval period until the recent past. If heritage assets survive they are likely to be field boundaries, furrows or perhaps structures relating to the agricultural use of the land. Historic mapping suggests some parts of the PDA may have been quarried in the post-medieval and modern period which may have implications for the survival of any unknown remains dating prior to this period.

With the above factors taken into account and according to the criteria in Table 2, the PDA is considered to be of medium archaeological potential.

Heritage assets in the Study Area (Figure 2 and Figure 3)

Scheduled Monuments

There are two Scheduled Monuments in the outer study area; Cameron Home Farm, chambered cairn 720m S of (SM6341), and the medieval Balloch Castle earthwork (SM3385) which lies within Balloch Castle IGDL (GDL0042). The IGDL corresponds to the estate and grounds of the later Balloch Castle (LB123), which is a Category A-listed building discussed below.

Table 4: Scheduled Monuments included in the assessment

Ref.	Name
SM6341	Cameron Home Farm, chambered cairn 720m S of
SM3385	Balloch Castle, earthwork, Loch Lomond Park

It is likely that the medieval Balloch Castle's location was chosen in order to overlook the River Leven where it flows out of Loch Lomond. Wide views across and along Loch Lomond are also available from this location, and any approaches from the north over land or water could be easily monitored.

Inventory Garden and Designed Landscape

There is one IGDL within the Study Area. Balloch Castle (GDL00042) is at the southern end of Loch Lomond and along the eastern bank of the River Leven. There are also four Listed Buildings within the IGDL. Balloch Castle (LB123) is a Category A-listed building, built in the eighteenth century; the remaining Listed Buildings are the Category B-listed South Lodge, and Walled Garden, and the Category C-listed North Lodge.

Table 5: Listed Buildings within Balloch Castle IGDL

Ref.	Name	Category
LB123	Balloch Castle	A
LB43221	Balloch Castle, South Lodge	B
LB43222	Balloch Castle, Walled Garden	B
LB43220	Balloch Castle, North Lodge	C

The IGDL is characterised by ornamental parkland and woods creating designed views within the estate. The boundaries of the IGDL are planted with shelter belts of woodland, which allow glimpses of the loch from certain parts of the IGDL.

The views from Balloch Castle (LB123) were intended to be across the ornamental parks and woods to the loch beyond. Woodland walks were designed to allow glimpses and views of the loch. The majority of the designed views are north and north-west, across the estate, the loch and the hills beyond. The views to the west and south towards Balloch and the PDA are screened by trees.

Listed Buildings

There are 14 Listed Buildings within the Study Area (in addition to those within the Balloch Castle IDGL). They include one Category A; nine Category B, and four Category C-listed Buildings.

Table 6: Listed Buildings included in the assessment

Ref.	Name	Category
LB46721	Balloch Pier, Slipway and Engine House	A
LB91	Tullichewan Castle, North Lodge	B
LB1137	Jamestown, Main Street, Jamestown Parish Church	B
LB4903	Balloch, Lower Stoneymollan Road, Drumkinnon Farm	B
LB4904	Cameron House, Lodge	B
LB43215	Balloch, Balloch Road, River Leven, Balloch Bridge	B
LB43218	Balloch, Lomond Road, River Leven, Lomond Bridge	B
LB43219	Balloch, Lomond Road, Fisherwood	B
LB43229	Lower Stoneymollan Road, Drumkinnon Farm, Mill, Granary and Sawmill	B
LB43230	Tullichewan Estate, Stables Cottage	B
LB1124	Cameron House, Drumkinnon Cottage	C
LB43216	Balloch, Drymen Road, The Cottage	C
LB43217	Balloch, Balloch Road, Tullichewan Hotel	C
LB43226	Jamestown, Main Street, Jamestown Primary School	C

Balloch Pier, slipway and engine house (LB46721) is Category A listed and is just outside the north-eastern corner of the PDA. It is listed for its architectural and industrial heritage interest, and as part of a group of structures related to the railway, including HA1 and HA2.

Other Designated Heritage Assets

There are no World Heritage Sites, Inventory Historic Battlefields, or Conservation Areas within the Study Area.

Undesignated Heritage Assets

There are 14 undesignated heritage assets within the Study Area. These largely relate to Balloch's recent industrial past and include buildings and features associated with the railway, grain milling, textile production and agriculture. All are considered to be of low importance.

Table 7: Undesignated assets within the outer study area

HER Ref.	Name and location	Description
7051	Tullichewan Castle / Balloch, Tullichewen / Tulliechewan	Castle
20346	Stirling to Dumbarton Military Road	Military Road
21012	Balloch, Dalvait Road, Lennoxbank House / Lennoxbank House Hotel / Riverside Motor Inn	House
21639	Balloch, Forth and Clyde Railway Junction	Railway Junction
21640	Balloch Pier Station / Loch Lomond, Balloch Pier	Railway Station; Pier
21647	Balloch, Balloch Hotel	Hotel
21649	Cameron House, Cameron Cottage / Cameron Issues / Loch Lomond	Building
21743	Balloch Pier	Pier
21851	Tullichewan Farm / Balloch, Tulliechewan Dairy Farm	Farm
39968	Balloch, Mill	Industrial; Mill (possible)
51516	Mill of Haldane	Mill Stones
61328	Haldane's Mill	Grain Mill
61329	Balloch, Mill	Mill Dam; Mill Pond

HER Ref.	Name and location	Description
61330	Mills of Balloch	Grain Mill
61331	Levenbank Print Works	Textile Print Works

5 PREDICTED EFFECTS OF THE DEVELOPMENT

Potential Impacts

Potential impacts arising from the proposed development include direct impacts involving disturbance or removal of heritage assets by construction groundworks and setting impacts arising from changes to views from and towards heritage assets.

Predicted Direct Impacts

There are five heritage assets within the PDA. HA1 and HA3 record the course of historic routes; a railway and a military road respectively; HA2 is the old Balloch station building, and LB1125 and HA4 are the Category A-listed Woodbank House and gazebo, and Woodbank stables respectively.

The development proposals seek to maintain the area around HA1 as a woodland walk. The course of the military road is preserved in the route of Old Luss Road; no historic fabric survives as upstanding remains. The development proposals also seek to preserve the old Balloch Station building. No significant direct impacts are anticipated upon HA1, HA2 or HA3.

The Category A-listed Woodbank House and gazebo (LB1125), and stables (HA4), are considered to be of high importance and any proposed modifications should be designed with reference to this importance. Any alteration to these buildings will be at the discretion of Historic Environment Scotland.

The PDA is considered to be of medium archaeological potential, and there is a risk of direct impacts upon archaeological deposits that may survive as buried remains within the proposed development footprint.

Predicted Setting Impacts

Woodbank House was designed on an east/west axis; eastern views from the front of the house are of the southern end of Loch Lomond and Balloch to the hills beyond. There is a possibility of setting impacts upon HA4.

The proposed development will also feature in south-western views from Balloch Castle Scheduled Monument (SM3385) and Balloch Castle IGD (GDL0042), and there is a possibility of setting impacts upon both. Depending on the nature of the development in its vicinity, there is also potential for setting impacts upon the Category A-listed Balloch pier, slipway and engine house (LB46721).

6 CONCLUSIONS

Impacts on currently undiscovered archaeological remains may occur during construction of any potential development. Considering the archaeological potential of the PDA, archaeological investigation is likely to be required in advance of construction works. This is likely to comprise evaluation (trial trenching, possibly in conjunction with geophysical survey) followed by excavation and recording of any remains of archaeological interest.

It is not yet known if there will be a direct impact on the heritage assets associated with the buildings at Woodbank House. It is recommended that consultation with Historic Environment Scotland in regards to Category A-listed buildings, alterations to them and what restrictions are involved, is sought as a priority. It is also recommended that an appropriate archaeological programme of works is agreed with WoSAS to record these and any associated assets in advance of any alterations. This will most probably involve a building recording survey of the House, and an evaluation (trial trenching, possibly in conjunction with geophysical

survey) followed by excavation and recording of any remains of archaeological interest within the environs of Woodbank House.

Potential impacts on the settings of Balloch Castle Scheduled Monument, Balloch Castle IGDL and Balloch pier, slipway and engine house Listed Building will require further detailed assessment, possibly with reference to visualisations of the proposed development.

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Historic maps

The following pre-Ordnance Survey maps held by the National Library of Scotland were examined:

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Roy, W 1747-55, *Military Survey of Scotland - Highlands*

Ross, C 1777, *A map of the Shire of Dumbarton*

Ainslie, J 1821, *Map of the Southern Part of Scotland*

Thomson, J 1832, *Dumbartonshire*

Bartholomew, JG 1902, *Trossachs, Loch Lomond*

The following Ordnance Survey maps held by the National Library of Scotland were examined:

1864 (surveyed 1860) Dumbartonshire, Sheet XVIII, 1:2,500

1898 (surveyed 1897) Dumbartonshire, Sheet 18.01, 1:25,000

1898 (surveyed 1897) Dumbartonshire, Sheet 18.05, 1:25,000

1918 (surveyed 1914) Dumbartonshire, Sheet 14.14, 1:25,000

1918 (surveyed 1914) Dumbartonshire, Sheet 18.02, 1:25,000

1938 (surveyed 1936) Dumbartonshire, Sheet 18.02, 1:25,000

Aerial Photographs

The following aerial photographs held by the NCAP were examined:

Sortie	Date	Frame nos.
AFL2132	10.09.49	SAW026582
ASS/51388	10.06.88	0195
AFL2014	07.10.27	SPW019589
n/a	01.01.39	SPW062643