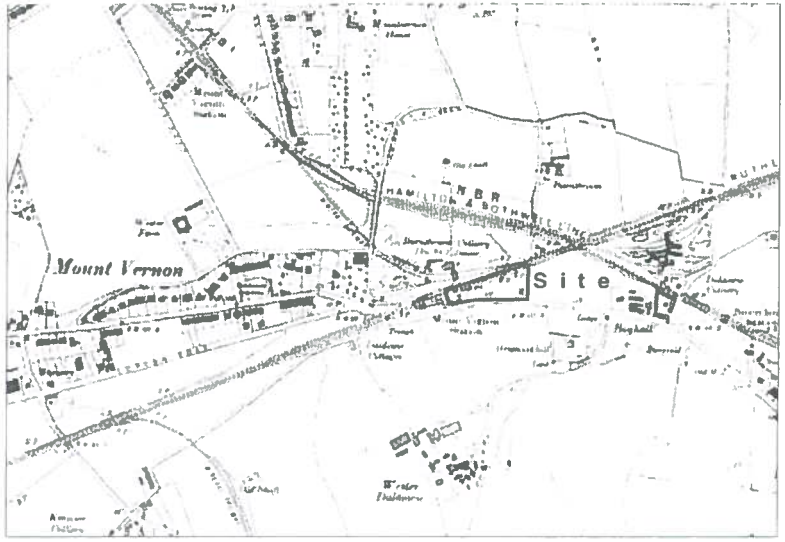
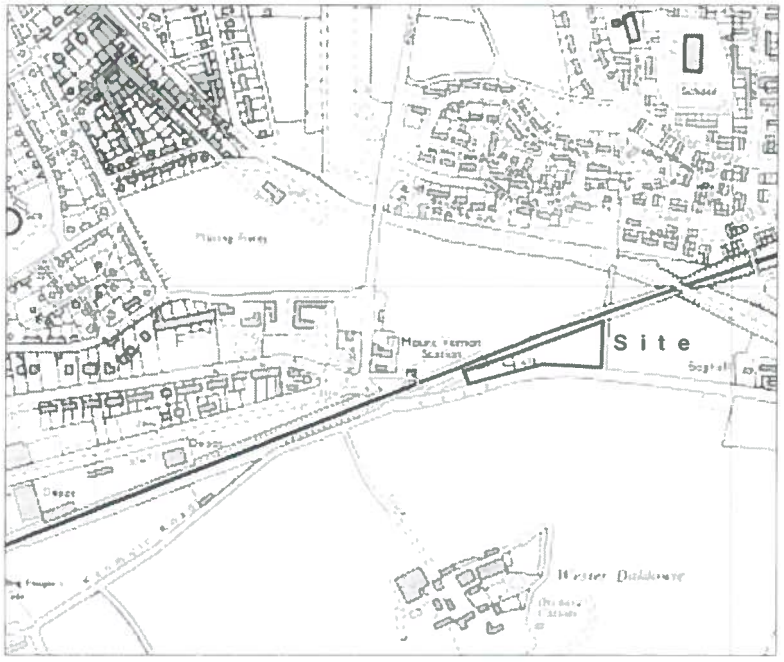


Site 1914



Site 1996

The Dovecot

History

Site

Research suggests the site has historically been un-developed. Most recently with the introduction of the Dovecot it has acted as a small park area.

Dovecot Details

- Constructed with rubble and ashlar stone
- Slated bell-cast roof
- Margined doorway with key-stoned flat lintel
- Oculii flight-holes below eaves above continuous string course.

The Mid 18th century Daldowie Dovecot is all that remains of the estate attached to Daldowie House, also known as Daldowie Mansion. c.1650.

The Dovecot was Category A listed on the 12th of January 1971. It was located in the Daldowie sewage works, neglected and vandalised. Consequently, it was dismantled and relocated 1 kilometre (0.5 mile) north and restored on Hamilton Road. The restoration included an internal timber revolving ladder access system.

The Dovecot will remain accessible to the public in our proposal.

Connection - Greater Connection

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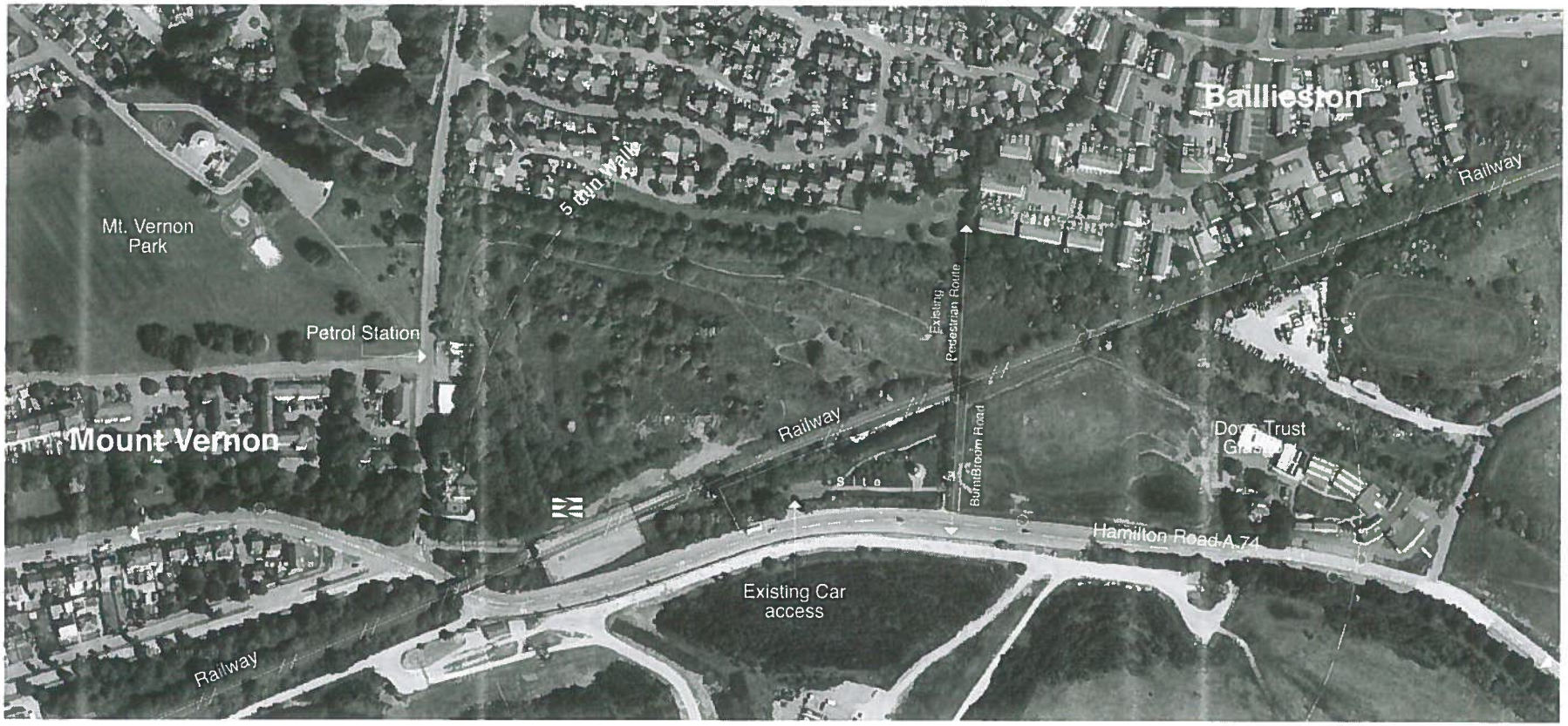
Hamilton Road, Mount Vernon for Mr Alan McArthur
Connection

DATE:
3065/06



Connection - Immediate Context

Pedestrian Movement

The site benefits from a pavement along Hamilton Road that continues into the site from both the east and west. Burntbroom Road serves as a link to the Baillieston estate to the north, which will be upgraded in line with the proposed the development, with a focus on it remaining well maintained and secure.

Vehicular Movement

The site has good public transport links with bus stops situated along Hamilton Road. Mount Vernon train station is located immediately to the west of the site.

Road Links

The Site can currently be accessed by car to the west of the site off Hamilton Road. Travel further east along Hamilton Road will connect you to the M74 giving residents the ability to broaden their employment and leisure opportunities.

Mount Vernon station

Railway Line

Bus Stops

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Hamilton Road, Mount Vernon for Mr Alan McArthur
Connection

DATE
3065/07

Built Context

Local Area

The established residential zones of Mount Vernon and Baillieston are characterised by a variety of developer and housing association houses, with a very typical and recognisable style.

Site outlook

As the site is over looked by the railway line and in turn overlooks Hamilton Road it offers little in the way of visual amenities. However, the compact and secluded nature of the site will add to the desired levels of privacy the client requires for such a development.

Mount Vernon House

Mount Vernon House

Mount Vernon Station

Mount Vernon Flats

Baillieston Houses

Baillieston Houses

Hamilton Road

Services

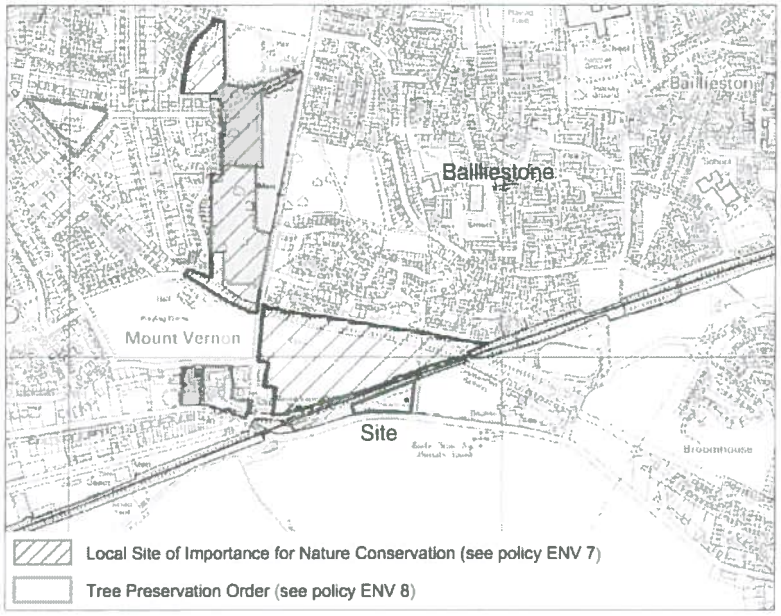
As it is a greenfield site, a study of the site is being undertaken to determine the location and capacity of utilities. However, it is believed that supplies for mains electricity, water and gas as well as sewage exist within the neighbouring settlements and Mount Vernon railway station, with a capacity for the development to connect in to.

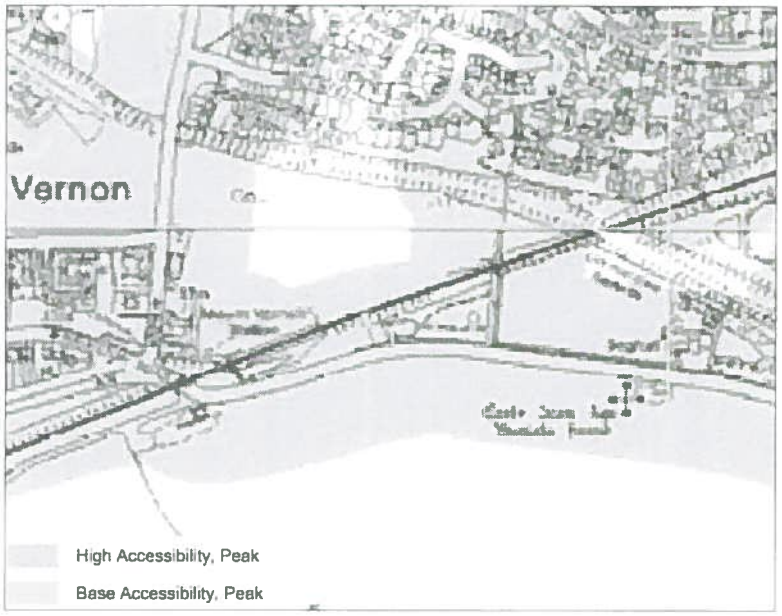
Identity Surrounding Buildings

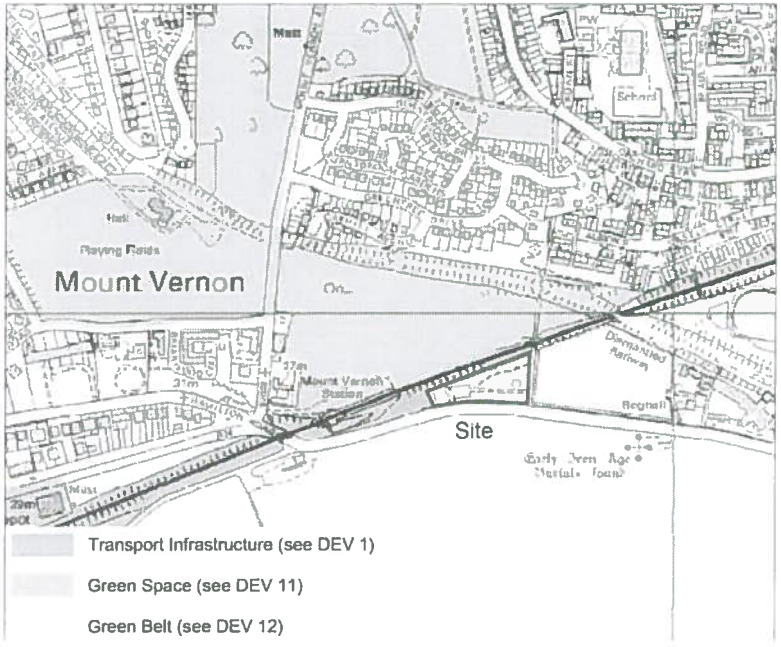
The survival and preservation of the 18th century Dovecot will ensure the new development will generate a particularly unique character and also give the residents a visual element that will enhance the aesthetic of the development.

The Dogs Trust building further east on Hamilton Road provides an example of more contemporary architecture in the area.

Greenbelt and Countryside in Mount Vernon







Local Plan issues

1. Site is classified as being in an area of 'high accessibility'

2. Site is out with Nature Conservation & has no TPO's on it

Suitability of Site for Development

The proposed development is located in an undeveloped area that offers huge potential for a quality residential development.

High levels of privacy thanks to the tree and railway boundary add to the desired qualities of the scheme.

The proposed site arrangement carefully accommodates the Dovecot. This A-Listed feature is preserved as the main visual element of the site - particularly from the road.

Each Plot benefits good open space provision, with the buildings orientated suitably to make the most of solar gains.

Policy Considerations

The site benefits from being very close to a variety of public open spaces and parks. These facilities along with large garden space to the front and rear of the properties give the residents a wealth of public and private space.

We believe that the development represents enhancement and protection of the built and natural environment within the terms of the policy document.

Conclusions

The proposed development will:

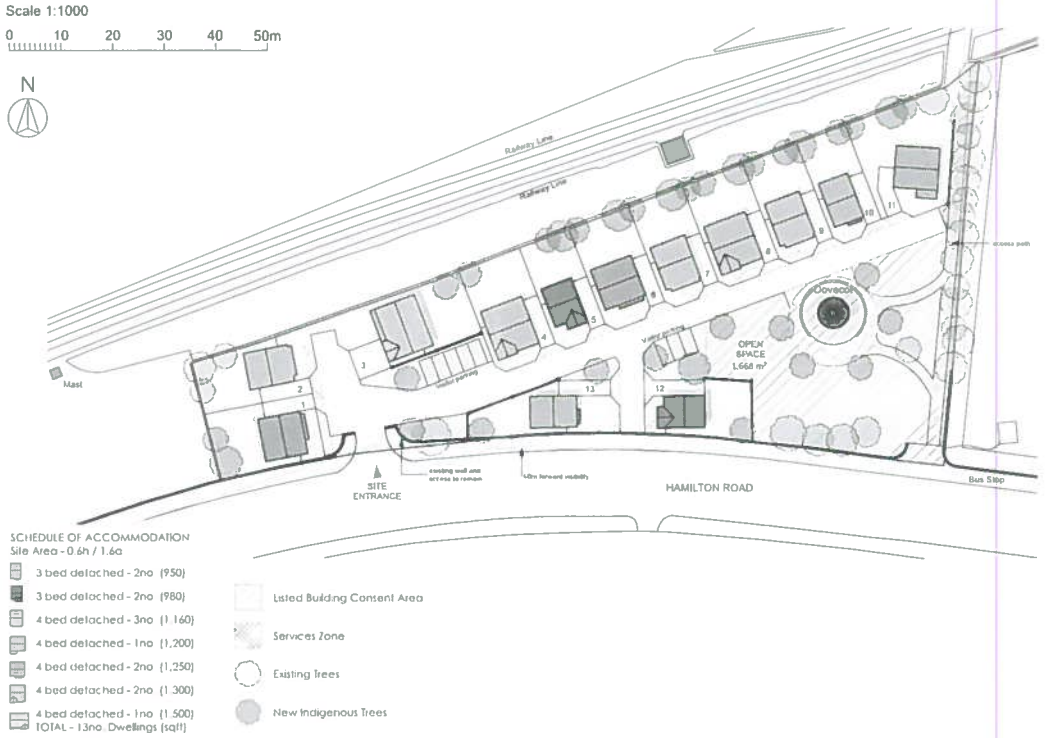
Improve on a underutilised site.

Renovate the site along with the Dovecot and ensure the development is well maintained to preserve and enhance the character and appearance of the listed structure in a greater context.

Employ high quality design with appropriate use of materials to respect its context, integrating with the landscape and existing features.

Follow sustainable design principles, ensuring energy efficiency to minimise the impact on the environment.

Enhance the visual amenity of the area without compromising the character or appearance of the green belt.



Site Proposal

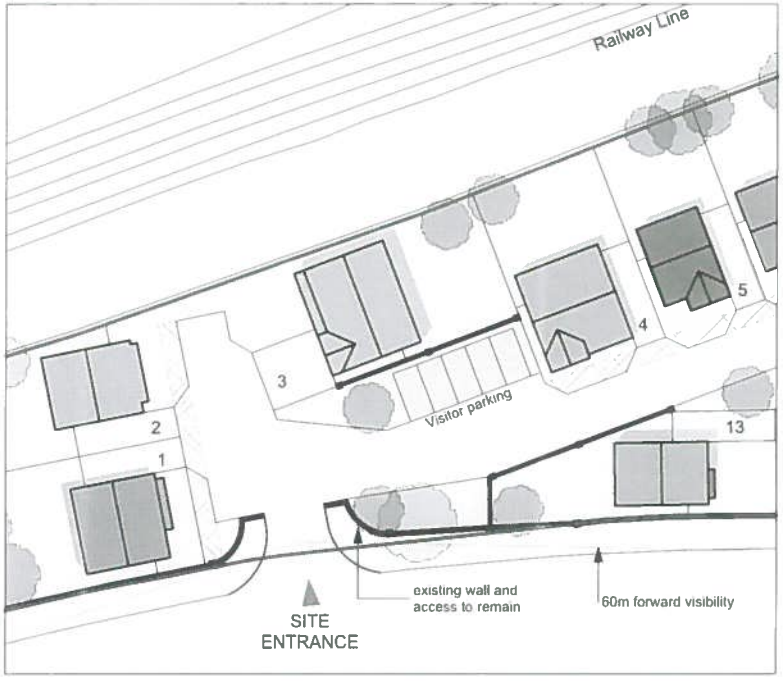
The site will consist of a simple housing arrangement arranged mainly along the Main Access road. The existing Dovecote will remain unaltered, with only necessary maintenance sensitively carried out.

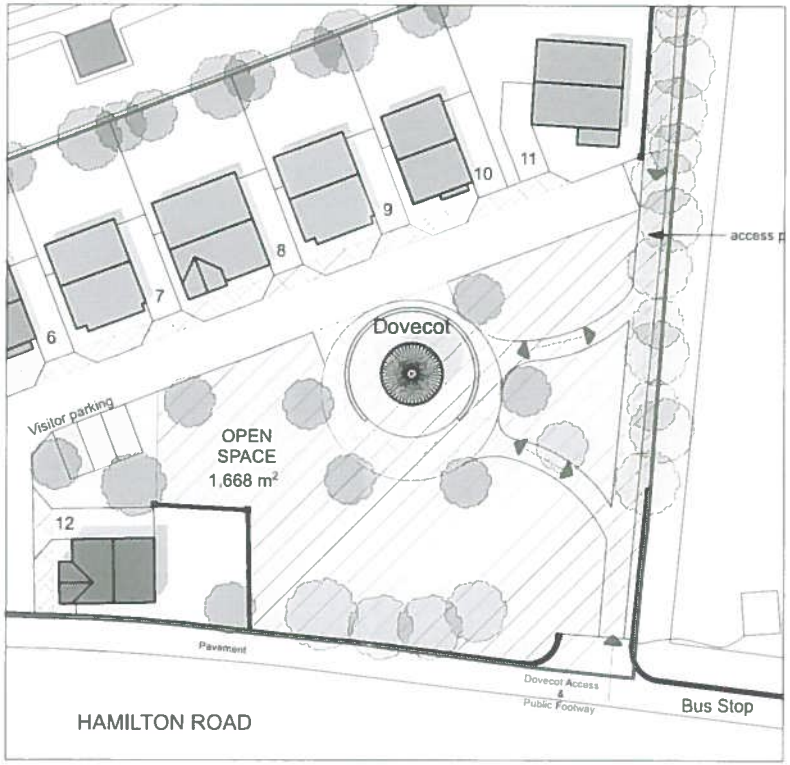
The only main alterations will come to the Dovecot's surrounding landscape. Changes to the surface material along with trees and plants will create a pleasant courtyard arrangement.

Due to the size of the site, it was important to consider the most efficient access to the properties. Given that a solid wall currently exists along Hamilton Road, with feature accesses, it was felt that re-using these features would most benefit the integration of the new proposals.

Public Access to the Dovecote will remain from Burntbroom Road, and Hamilton Road.

A quality design solution is the expressed objective of the Applicant. He has experience in developing similar plots and wants to continue his tradition of building quality developments

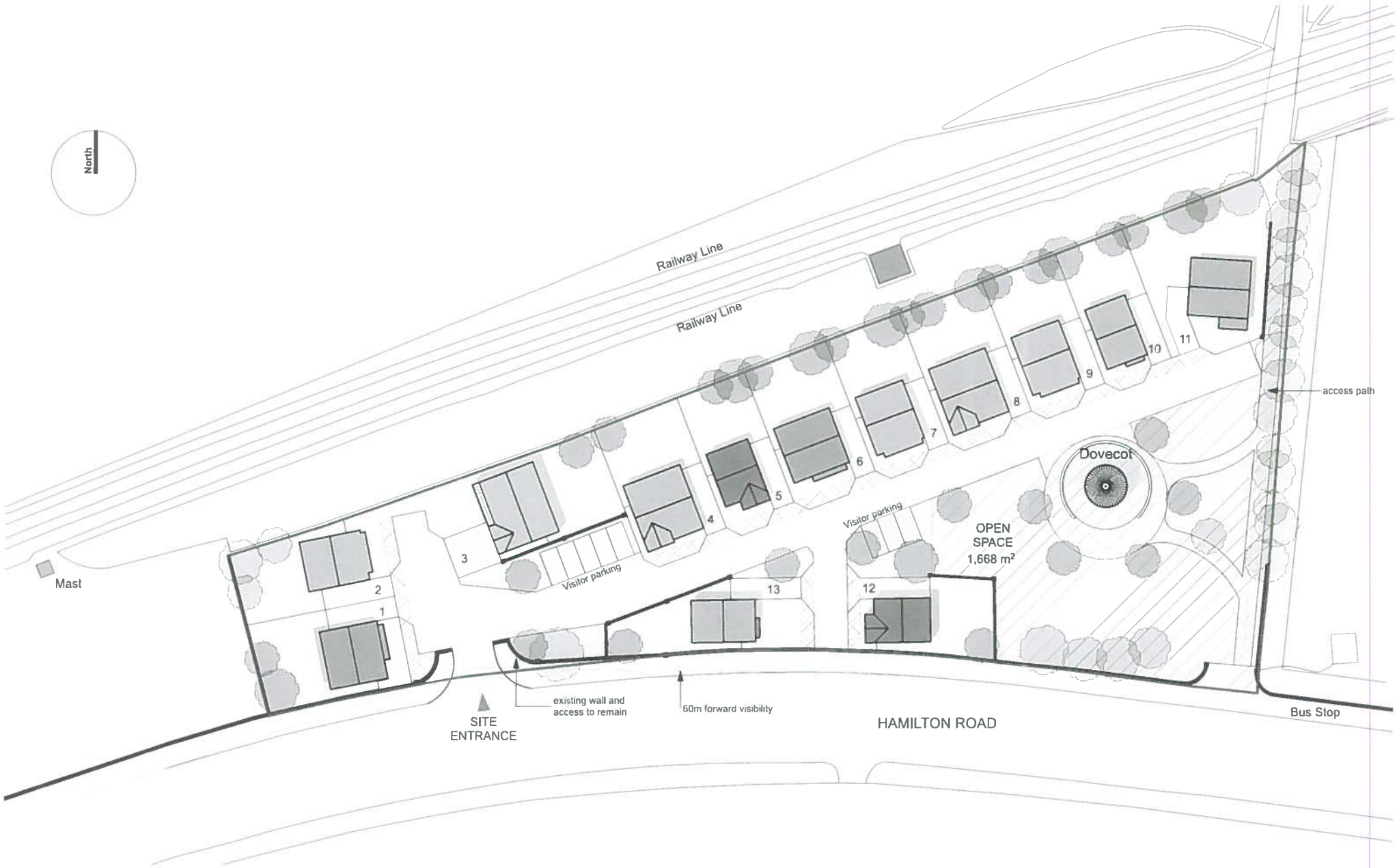




Form and Materials

It is proposed that the scale, simple plan and traditional form of the dwellings will make them suitable for the allocated plot sizes and create generous levels of outdoor space within each plot.

The existing wall that currently divides the site from Hamilton Road will remain intact and suitably maintained, adding to the exclusive character of the site.



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Hamilton Road, Mount Vernon for Mr Alan McArthur
Proposal Layout

DATE:
3065/12

Environmental

The Applicant is committed to seeking a broad sustainable design whilst creating the optimum layout for each Dwelling.

The sustainable development, will meet the needs of the present without compromising the ability of future generations to meet their own needs. We see long life and flexibility as key factors in achieving such sustainability.

The aim is to produce high quality design that enhances the health and well being of users as well as responding to the context.

Energy, environmental performance and life-cycle design parameters are key elements of the design process. These parameters have been introduced at the early stages of the development where they can have their greatest impact on the energy and environmental performance of a building.

In consciously recognising the Developers environmental obligations the following design aims will be adhered to...

- Design the building to promote satisfaction, well-being and value to users.
- Respond to site-specific conditions.
- Make best possible use of natural lighting and of appropriate technologies.
- Be economical with use of power, fuel & water and employ passive controls over active measures.
- Embrace and enhance the building fabric.

These aims are broken down under the following headings...

Site

- Maximise use of existing site without altering its form.
- Consider environmental aspects of construction activities and design these in such way that adverse effects are minimized during the works.

Water & Drainage

- Connect to existing drainage system.
- Employ fittings that offer economical water consumption.

Energy

- Maximise energy efficiency and so minimise the impact on consumption of energy (esp. carbon based energy).
- Consider the embodied energy and environmental costs of materials such as transportation, energy, waste and pollution associated with producing materials and recyclability

Materials

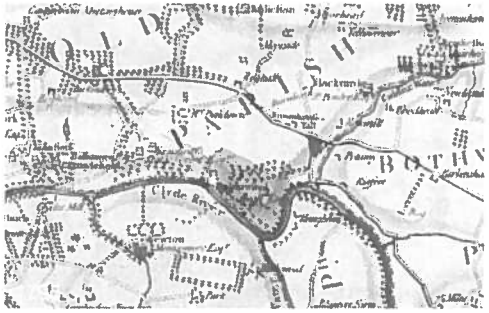
- Select materials with a view to minimising noxious emissions, either with respect to release over time, in manufacture or in disposal.
- Employ materials and methods that minimise wastage.
  So far as economically possible, exercise preference to source locally and thus minimise transport costs and the adverse effects of transportation such as pollution, noise, damage to road surface and adjacent property.

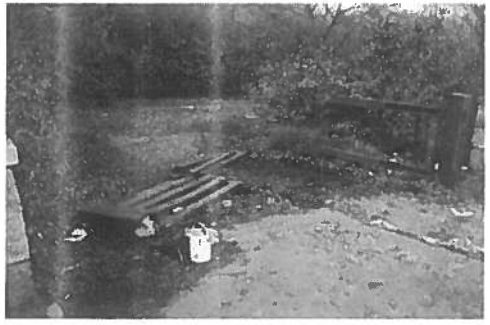
History

'Doocot' : Scottish term for a dovecot.
Origins : Ancient examples in Egypt and Roman occupied Europe. Prominent in Scottish estates as the inhabiting birds provided meat, eggs and fertiliser for the crops.

Many of these, including Daldowie doocot, have an A-listed status since they represent the architecture of the location and era, and serve as a symbol of the wealth and memory of estates.

Daldowie Doocot : Built 1745 to serve the estate of the Bogle family. The estate was demolished after the war and was replaced by a crematorium and later a sewage works, meaning the doocot was the only reminder of the estate which once occupied the area. However. by the late 90s it its survival was at risk due to vandalism and neglect, so £500,000 was raised and it was moved piece by piece to a new location almost 1km to the north **(right)**. The small park was dedicated as a tourist attraction, however its disconnection from the grandeur of the estate resulted in it very quickly becoming derelict and it is now difficult to access. The lack of attention resulted in damage to the property **(below)**, however the doocot remains in fine condition.





Approach

A sensitive masterplan aims to encourage views of the Daldowie Doocot to encourage public knowledge and interaction. The only angle visible from the road **(below)** will be enhanced by similar viewpoints as one drives or walks past the site. More inviting public access on the east of the site aims to encourage the public into a redefined park containing the doocot. The presence of a bus stop adjacent to this entrance both provides travellers with a pleasant place to wait as well as good public transport for residents.

East Approach as Existing

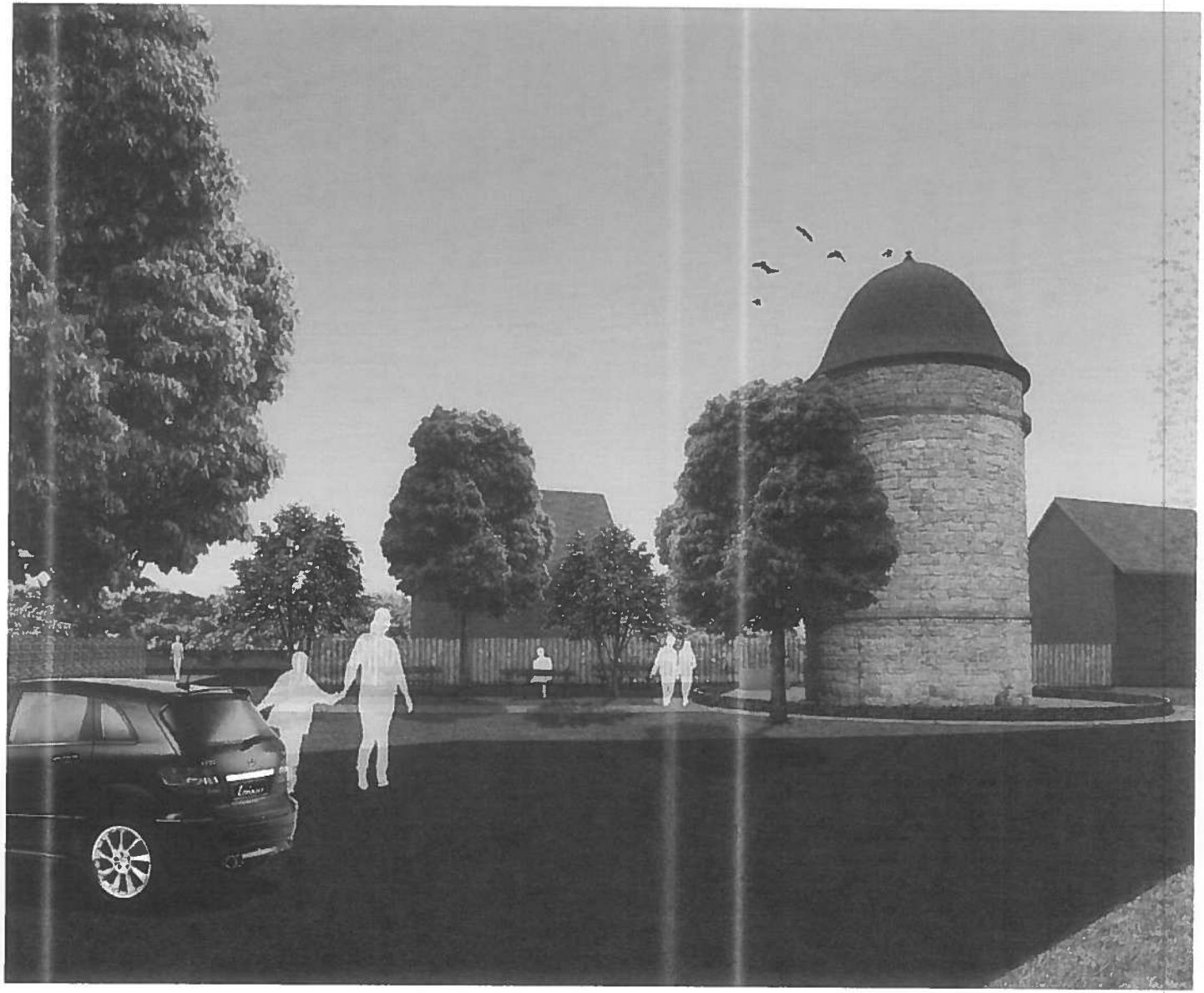
East Approach as Proposed

Interior Space

The basis of our proposition is the rehabilitation of the park containing the doocot.

In its current state the doocot sits within an overgrown green space with a derelict feel **(below)**. The minimal access is now locked to cars and the vast density of trees restricts views.
The proposed **(right)** aims to create a defined public space around Daldowie Doocot for the local residents and visitors alike.

An ambience of life from everyday residents will encourage visitors to the area which aims to enhance the existing green space, offering seating and historical information.



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Hamilton Road, Mount Vernon for Mr Alan McArthur
Interior

DATE:
3065/16

with
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Engineers Planning Stage Summary Report

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Job No. 17.0895
December 2017

Project Summary

The development seeks to introduce a combination of 13 three and four bed residential properties.

Flood Risk

The Flood Extent Map, available via the SEPA website, indicates that the site is located out with the area deemed to be at risk of flooding associated with the nearby water courses. This does not constitute a comprehensive flood risk assessment.

However, the same maps show that there is a risk of Surface Water Flooding near the site. Land Drainage will be installed to help alleviate any issues. The proposed surface water drainage strategy for the site will include Sustainable Urban Drainage Systems (SuDS) so that any increase in surface water flows from roofs and areas of hard-standing will be attenuated during storm events.

DIA/Drainage/SUDS Layout

DNA sketch 17.0895-SK01-RevA shows the initial proposed drainage layout.

Foul drainage and surface water is to be discharged direct to the existing public combined sewer which is located approximately 220m East of the site. This is dependent on available capacity at the time of the proposed connection.

Other methods of discharging surface water have been investigated, however there is no space on the proposed site layout to accommodate the level of soakaway area that would be required.

Contaminated Land

The site has largely been unused in the past 150 years. It is unlikely that there will be any gross site contamination on the site but the developer is advised to use caution when breaking ground and advise of any issues encountered.

with
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Flood Risk Assessment

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Job No. 17.0895
December 2017

Introduction

David Narro Associates have been appointed with Jewitt & Wilkie Architects by PPCA to carry out a drainage assessment for the development proposal of Hamilton Road. The residential development is in Uddingston, Glasgow and lies approximately 800m north of the River Clyde.

The site is currently empty. The development seeks to introduce a combination of 13 three and four bed residential properties.

Desktop Study

As part of the planning submission, a desktop investigation and appraisal of the site was carried out. This desktop study included what was in effect a Level 1 Flood Risk Assessment (based on the definition in CIRIA report C624).

On the basis of SEPA's Indicative Flood Map, part of the proposed development is within an area likely to be suspect to surface water flooding.

Summary of Level 1 Flood Risk Assessment
(based on CIRIA C624 Flowchart 1 – Table 1.4)

	Yes	No
Development at risk of fluvial flooding		✓
Development at risk of flooding from the sea		✓
Development at risk of flooding from estuaries/watercourses affected by tidelocking		✓
Development at risk of groundwater flooding		✓
Development at risk of overland flow flooding	✓	
Development at risk of flooding from artificial drainage systems		✓
Development at risk of flooding due to infrastructure failure		✓

Following Flowchart 1 as detailed in CIRIA C624 Part C, the initial site assessment also concluded that:

The development is not located in close proximity to any pre-existing flood defence structures and therefore the proposals will not affect access to any flood defence structure or to any surrounding watercourses for maintenance.

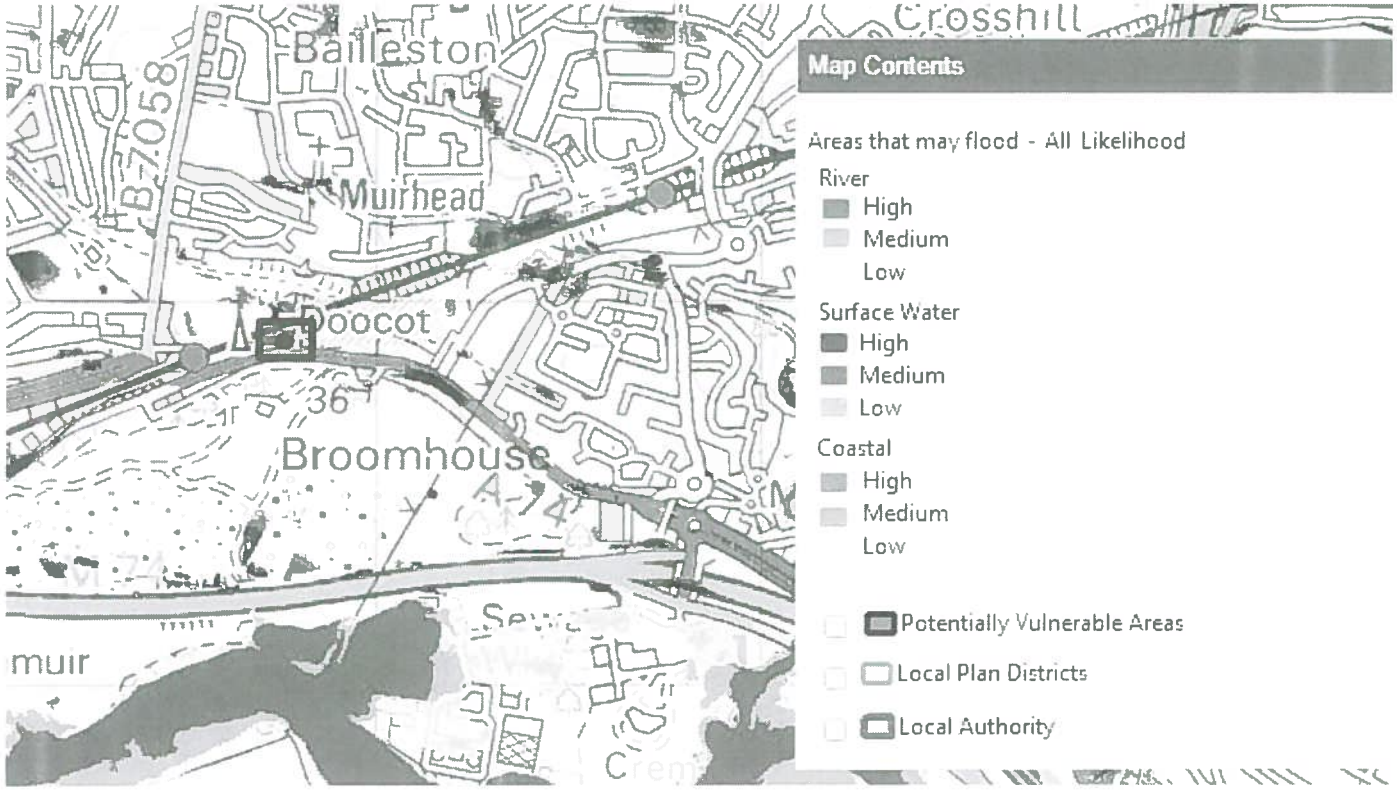
There is unlikely to be any significant increase in the rate of runoff from the site due to the development that would increase the risk of downstream flooding. The proposed surface water drainage strategy for the site will include Sustainable Urban Drainage Systems (SuDS) so that any increase in surface water flows from roofs and areas of hard-standing will be attenuated during storm events.

Conclusion

The increased rate of surface runoff and overland flow will be controlled through SuDS systems that will concentrate surface water to a specific discharge point. The proposals are also out with the projected flood water perimeter with a significant buffer in terms of both level and distance. The development will improve the Surface Water drainage within the area and decrease the likelihood of any surface water flooding. The level 1 assessment concludes no need for further investigation.

Extract from SEPA Flood Risk Map

(http://map.sepa.org.uk/floodmap/map.htm)



Site Location

Extended Phase I Habitat Survey

For Proposed Development Site

Hamilton Road

Mount Vernon

Glasgow

G71 7SL

October 2017

Prepared for Jewitt & Wilkie Architects on behalf of Alan McArther

by

Acorna Ecology Ltd.

Executive Summary

Acorna Ecology Ltd. was commissioned in October 2017 to carry out an extended Phase I habitat survey with protected species walkover survey on land at Hamilton Road, Mount Vernon as part of baseline information to support a planning application for residential development. The survey was completed on 18th October 2017. The extended Phase I Habitat survey considered not only habitats and species of plant present but also the potential presence of relevant European Protected Species (bats), Badgers, and potential breeding birds, with particular reference to those species with enhanced statutory protection.

Plants and Habitats

Habitats and species were mostly typical of those found on brownfield vacant land with no notable species found within the Application Site.

Bats

Tree roosting bats are not an ecological constraint for any developmental work as no mature trees were present either in the site or within 30m of it. Following a high due regard for the possibility that bats could roost in the Dovecote building we recommended that a series of two bat presence/absence surveys should be completed during the active bat season May – September, with the findings to be presented in a separate report.

Badger

There was no evidence of Badgers within the Application Site or 30m buffer zone, so they are not an ecological constraint for development.

Breeding Birds

Breeding birds may be a minor constraint (unconfirmed due to the time of year of survey) so we do recommend that to maintain an overall high due regard for the potential for breeding birds to be present any site preparation works such as building demolition, vegetation removal or soil stripping of rough ground is done between mid-August and March to avoid the bird breeding season, and so remove any possibility of breeding birds being an ecological constraint.

If it is not possible to complete site preparation during the recommended period any breeding bird presence that may be a constraint can be confirmed by a walkover survey by an ecologist to pinpoint any breeding bird activity and establish any immediate exclusion areas where site preparation works would be delayed until breeding by the birds was complete – this would then allow site preparation works in the rest of the site to continue without disruption.

Contents

1. Introduction

Acorna Ecology Ltd. was commissioned in October 2017 to carry out an extended Phase I habitat survey with protected species walkover survey on land at Hamilton Road, Mount Vernon (NS 66748 62897) as part of baseline information to support a planning application for residential development. The survey was completed on 18th October 2017. The Application Site (Figure 1.) was comprised of the listed Daldowie Dovecote building, associated hard standing, rank grassland with some invasion by young trees, hedgerows, scrub, and mature treeline. The Application Site was bounded by Hamilton Road and public footpath to the south, railway to the north, woodland to the west, and vacant former pasture land to the east.

2. Scope of Assessment and Survey

The extended Phase I Habitat survey considered not only habitats and species of plant present but also the potential presence of relevant European Protected Species (bats), Badgers, and potential breeding birds, with particular reference to those species with enhanced statutory protection. Surveys took place within the land ownership only, due to legal access constraints but the survey provided a minimum 30m buffer around the site as far as was possible by visual means where access was not possible but larger appropriate buffer zones where land had access agreed.

3. Relevant Policy and Guidance

This ecological assessment has been undertaken with regard to the legislative requirements given in the following:

- The Conservation (Natural Habitats &c.) Regulations 1994 (The Habitats Regulations);
- The Conservation (Natural Habitats &c.) Amendment (Scotland) Regulations as amended (2004, 2007, 2008, 2011, and 2012);
- Nature Conservation (Scotland) Act, 2004;
- Wildlife and Countryside Act 1981 (and subsequent amendment through The Conservation (Natural Habitats &c.) Amendment (Scotland) Regulations 2007, 2009, & 2011);
- Wildlife & Natural Environment (Scotland) Act (2011);
- Protection of Badgers Act, 1992 (and subsequent amendment through The Nature Conservation (Scotland) Act 2004);
- Wild Mammals (Protection) Act, 1996;
- The Convention on the Conservation of European Wildlife and Natural Habitats (The Berne Convention), 1979;
- The Land Reform (Scotland) Act, 2003;
- Scottish Planning Policy (June 2014) replaces NPPG14 and SPP (February 2010);
- The Glasgow Local Biodiversity Action Plan (LBAP);
- The UK Biodiversity Action Plan (UK BAP), revised priority list 2007; and the
- Scottish Biodiversity List 2007

3.1. Biodiversity Status

The UK Biodiversity Action Plan (BAP) is the UK Government's commitment to the Convention on Biological Diversity signed in 1992. It is comprised of two types of Action Plans developed to set priorities for nationally and locally important habitats and wildlife:

Species Action Plans

- Produced for UK BAP Priority Species: information on the threats facing 382 species and action plan targets to achieve a positive conservation status;

- Grouped Species Action Plans - common policies, actions and targets for similar species, for example for Eyebrights, or Commercial Marine Fish. There are nine grouped action plans;

- Species Statements - overview of the status of species and broad policies developed to conserve them for two groups of species.

Several bat species are UK BAP priority species with action plans. Soprano Pipistrelles are a UK Biodiversity Action Plan priority species but Common Pipistrelle bats have now been removed from the list (2007). Daubenton's bat is a species of UK conservation concern.

Habitat Action Plans

- Broad Habitat Statements - summary descriptions of 28 natural, semi-natural and urban habitats and the current issues affecting the habitat and broad policies to address them; and

- UK BAP Priority Habitat Action Plans - detailed descriptions for 45 habitats falling within the Broad Habitat classification and detailed actions and targets for conserving these habitats.

Local Biodiversity Action Plans

Each Local Biodiversity Action Plan (LBAP) partnership, usually but not always at the local authority level identifies and establishes actions to conserve local priorities and also link this action to the delivery of national Species and Habitat Action Plan targets wherever possible. Grouped action plans at this level include bats, and Waders, for example.

The Soprano Pipistrelle and the Common Pipistrelle are both are still key species in the Glasgow LBAP, despite the removal of the Common Pipistrelle from the UK Biodiversity Action Plan priority species list in 2007, while the Badger is a species of conservation concern in the Glasgow LBAP.

3.2. Notable Habitats and Plants

Notable habitats in the UK are protected by statutory designation as Special Areas of Conservation if their value is recognised internationally, Sites of Special Scientific Interest (SSSI) if have a national value, or as Local Nature Reserves (LNR) if valued within a local authority area. The Wildlife and Countryside Act 1981 transposes European legislation conferring protection on such habitats: Sections 28 to 33 of Part 2 of the Wildlife and Countryside Act detail the law regarding SSSIs. Sections 34 to 53 deal with other protected areas within Great Britain.

Several plant species are classed as European Protected Species and are listed in Annex IV of the EC Habitats Directive, and in the UK on Schedule IV of the Conservation (Natural Habitats &c.) Regulations 1994 (The Habitats Regulations). In addition, there are a number of species protected by the Wildlife & Countryside Act 1981, which makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants. It also contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

The most problematic invasive, non-native plants were listed on Schedule 9 of the Wildlife & Countryside Act 1981. Under section 14(2) of the Act it was an offence to plant or otherwise cause to grow any species of plant listed on Schedule 9. Due to identification of a whole host of additional problematic invasive species a draft list of species for addition to the Schedule was prepared in 2007 and consulted on.

Invasive species presence across ownership boundaries raised issues with liability at many sites where any scheduled invasive plant species have knowingly been allowed to spread onto neighbouring properties as it was illegal to allow them to spread thus. The relatively recent Wildlife & Natural Environment (Scotland) Act (2011) significantly amended the Wildlife and Countryside Act in Scotland, and has removed ambiguity on liability by simplifying the issue of invasive non-native species in the wild and avoided the need for addition to a revised list by simply making it an offence to plant or cause **any** non-native plant species to grow in the wild. This change in policy has brought Scotland to the forefront of invasive species and control by demonstrating a high recognition of the issues invasive plant species are causing including high costs for control and eradication.

Some invasive species are more onerous to deal with than others, for example, Japanese Knotweed may take three or more years to eradicate, and any waste containing Japanese Knotweed is classed as controlled waste, and cannot be used for exemptions under Waste Management Licensing. For off-site disposal it must be buried in a licensed landfill site at a depth of at least 5m. Section 34 of the Environmental Protection Act 1990 places a duty of care on all waste producers to ensure that any wastes are disposed of safely and that a written description of the wastes, and any specific harmful properties, is provided to the site operator. Failure to appropriately dispose of any material containing Japanese Knotweed or several other invasive species may lead to prosecution under Sections 33 and 34 of the Environmental Protection Act 1990 and Section 14 of the WCA 1981. The Nature Conservation (Scotland) Act 2004 increased the penalties available to someone committing a Section 14 offence. Penalties on summary conviction were increased to include imprisonment for up to six months and/or a fine not exceeding £40,000. On conviction on indictment, the penalties are an unlimited fine (i.e. whatever the court feels to be commensurate with the offence) and/or a 2 year prison sentence.

3.3. European Protected Species: The Conservation (Natural Habitats &c.) Regulations 1994 (The Habitats Regulations)

Full consideration of European Protected Species (EPS) must be given as part of the planning application process, not as an issue to be dealt with at a later stage.

As stated previously, several plant species are classed as European Protected Species and are listed in Annex IV of the EC Habitats Directive, and in the UK on Schedule IV of the Conservation (Natural Habitats &c.) Regulations 1994 (The Habitats Regulations). Full consideration of European Protected Species (EPS) must be given as part of the planning application process, not as an issue to be dealt with at a later stage. The European Protected Species of potential relevance to this survey area were the following nine species of plant:

Creeping Marshwort	*Apium repens*
Early Gentian	*Gentianella anglica*
Fen Orchid	*Liparis loeselii*
Floating-leaved water Plantain	*Luronium natans*
Lilarney Fern	*Trichomanes speciosum*
Lady's Slipper	*Cypripedium calceolus*
Slender Naiad	*Najas flexilis*
Shore Dock	*Rumex rupestris*
Yellow Marsh Saxifrage	*Saxifraga hirculus*

The European Protected Species of animal of potential relevance to this survey area were bat species found in the Central Belt of Scotland.

European Protected Species are protected in Annex IVa in the EC Habitats and Species Directive, which is transposed into UK legislation by the Conservation (Natural Habitats &c.) Regulations 1994 (Schedule II of The Habitats Regulations). The full details of this legislation can be viewed at:

http://www.opsi.gov.uk/SI/si1994/Uksi_19942716_en_4.htm

This legislation was amended on the 14th February 2007 (The Conservation (Natural Habitats &c.) Amendment (Scotland) Regulations 2007.), and explanatory guidance on this was published by the Scottish Government in April 2007. The amendment removed all EPS from Schedule 5 of the Wildlife & Countryside Act 1981. There are therefore now no defences in the WCA 1981 whatsoever for any actions impacting on EPS, and protection is afforded by the following legislation only:

Under Regulation 39 of the Conservation (Natural Habitats &c.) Regulations 1994 (The Habitats Regulations) it is now a criminal offence (subject to specific exceptions) to:

(a) deliberately or recklessly to capture, injure or kill a wild animal of a European protected species; (only defences are mercy killing, capture for tending a disabled animal or circumstances where the animal is captive bred and lawfully held).

(b) deliberately or recklessly–

(i) to harass a wild animal or group of wild animals of a European protected species;

(ii) to disturb such an animal while it is occupying a structure or place which it uses for shelter or protection;

(iii) to disturb such an animal while it is rearing or otherwise caring for its young;

(iv) to obstruct access to a breeding site or resting place of such an animal, or otherwise to deny the animal use of the breeding site or resting place;

(v) to disturb such an animal in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs; or

(vi) to disturb such an animal in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;

(c) deliberately or recklessly to take or destroy the eggs of such an animal; or

(d) to damage or destroy a breeding site or resting place of such an animal.

It should be noted that only the offence of damaging or destroying a breeding site or resting place of an EPS is a strict liability offence. The remaining offences are offences only where they are carried out "deliberately" or "recklessly".

In Scotland licenses may be granted by Scottish Natural Heritage (SNH) to permit certain activities that would otherwise be illegal due to their potential impact on EPS or their places of shelter/breeding, whether or not they are present in these refuges. This includes for developmental work. Under Regulation 44 of The Habitats Regulations, the provisions in Regulation 39 (protection of animals) do not apply to anything done for any of the purposes defined in Regulation 44 provided that any action is carried out "under and in accordance with the terms of a licence granted by the appropriate authority".

Three tests must be satisfied before a development licence for disturbance of an EPS or damage to a site/destruction of a site used by EPS will be granted. Note: A license application will fail unless all three tests are satisfied.

- Test 1 - the licence application must demonstrably relate to one of the purposes specified in Regulation 44(2). This regulation states that licences may be granted by SNH where the activities to be carried out under any proposed licence are for the purpose of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment";
- Test 2 - Regulation 44(3)(a) states that a licence may not be granted unless Scottish Natural Heritage is satisfied "that there is no satisfactory alternative"; and
- Test 3 - Regulation 44(3) (b) states that a licence cannot be granted unless Scottish Natural Heritage is satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

Note: Breach of Licensing Conditions
A new regulation 46A came into force on 15th May 2007. This now makes it an offence to breach any conditions attached to a licence. Licence conditions should therefore be adhered to at all times.

3.4. Additional Legal Protection for Bats

- Additional protection is afforded through the Bern Convention (1979), enacted in Scotland through the Nature Conservation Act (Scotland) 2004;
- Appendix III, the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1980), Appendix 2; and
- The Bonn Convention's Agreement on the Conservation of Bats in Europe (London, 1991).

It is also a legal obligation in Scotland to consult with SNH before you do anything that might affect bats or their roosts such as:

- Removal of hollow, old, or decaying trees;
- Blocking, filling, or installing grilles over old mines or caves; and
- Building, alteration, maintenance, or re-roofing

In all cases where bats are found to occupy trees or buildings and there is a developmental issue, SNH must be informed before any development takes place. A licence to permit development may then be obtained from SNH if appropriate.

3.5. Badger
In the UK, Badgers are protected under the Protection of Badgers Act 1992 (c.51), which repeals the previous Badgers Acts of 1973 and 1991, and certain sections of other relevant acts such as The Wildlife and Countryside Act 1981, The Environmental Protection Act 1990, The Animals (Scientific Procedures) Act 1986, The Natural Heritage (Scotland) Act 1991, and The Criminal Justice Act 1991. The Protection of Badgers Act 1992 was further amended and strengthened through the Nature Conservation Act (Scotland) 2004.

The 1992 Act makes it an offence to:

- Wilfully kill, injure, catch, or take a Badger from the wild (or attempt to);

- Cruelly ill-treat a Badger, digging for Badgers, using Badger tongs, using a firearm other than permitted (under the exceptions regarding humane dispatch of an injured animal) within the Act;
- Damage, destroy or obstruct access to any part of a Badger sett (whether occupied or unoccupied);
- Disturb a Badger while it is occupying a sett, either by intent or by negligence;
- Dig a Badger sett;
- Cause a dog to enter a Badger sett;
- Sell or offer for sale a live Badger, have possession or control of a live Badger. Be in possession of a live or dead Badger or any part of one; and
- Mark a Badger or attach any ring, tag, or other marking device to a Badger.

Note: A Badger sett is defined within the Act as "any structure or place which displays signs indicating current use by a Badger" where current use means "any sett within an occupied Badger territory regardless of when it may have last been used".

It is also a legal obligation to obtain a licence from Scottish Natural Heritage before you do anything that might affect Badgers or their setts, for example for:

- Development purposes [as defined under the Town & Country Planning (Scotland) Act 1997]; and
- Alteration or maintenance of existing buildings where Badgers are found.

It is also a legal obligation in Scotland to consult with SNH before you do anything that might impact Badger setts, whether currently occupied or not.

Despite the above legislative protection, Badgers are not a UK Biodiversity priority species for conservation and are only considered of UK conservation concern.

3.6. Breeding Birds

All breeding birds have basic statutory protection under the Wildlife & Countryside Act 1981. In addition, a number of species that are rare or uncommon are afforded enhanced statutory protection during the breeding season by inclusion on Schedule One of the Wildlife & Countryside Act 1981, which protects adults in places of rest, their eggs, and young.

- All breeding birds in the UK are protected through Sections 1-8 (referring to Schedules 1 to 4) of the Wildlife & Countryside Act [WCA] (enacting the Bern Convention and the Birds Directive), and subsequent amendments through the Nature Conservation (Scotland) Act 2004. With certain exceptions, all wild birds, their eggs and dependent young are protected from intentional killing, injuring and taking; they cannot be in anyone's possession, whether live or dead, and nests (whilst being built or in use) cannot intentionally be taken, damaged or destroyed. A general licence permits control of some species with landowner consent.
- Schedule 1 of the WCA is a list of nationally rare breeding birds for which all offences carry special (higher) penalties. The legislation also makes it an additional offence to intentionally or recklessly disturb adults or the dependent young of these species, at any stage of their breeding.
- Schedule 2 is a list of traditionally hunted birds for which protection does not apply outside a "close season".

- European legislation provides additional legal protection as European Protected Species for a number of species of high conservation concern.

'The Population Status of Birds in the UK' was originally produced in 2002, and listed the UK status of 247 species of bird. Of these 40 were "red-listed" and 121 "Amber-listed" as species of conservation concern, and 86 species "Green-listed". This listing did not provide additional legal protection for these species but highlighted those of concern for nature conservation purposes. The lists have been updated several times and were updated a fourth time in 2015 (Eaton et al. 2015), resulting in re-designation of the UK status of 247 species of bird: 67 are now "red-listed" and 96 "Amber-listed" as species of conservation concern, while only 81 species are "Green-listed".

4. Desk Study

A desk-based review of sites designated for their nature conservation interest was completed in October 2017.

4.1. Sites with Statutory Nature Conservation Designations

Records were obtained from the Scottish Natural Heritage (SNH) Sitelink database: There are no sites with a statutory nature conservation designation within the Application Site or near enough that any redevelopment of site may impact it. The proposed development is therefore not considered to have potential for any significant adverse impacts on any designated sites so they are not considered further in this report.

4.2. Sites with Non-Statutory Nature Conservation Designations

Sites of Importance for Nature Conservation or similar were searched for in the adopted Local Plan, and Scottish Wildlife Trust records: There are no Sites with Non-Statutory Nature Conservation Designations in proximity to the Application Site other than the River Clyde City-wide Site of Importance for Nature Conservation (SINC). The proposed development site is therefore not considered to have potential for any significant adverse impacts on any designated sites so they are not considered further in this report.

4.3. Protected Species Records

The NBN Atlas (NBN) was consulted for relevant species records from datasets posted by SNH/JNCC on (Acorna Ecology has written permission to cite data from SNH data sets (Colin McLeod), and from the Mammal Society:

The following datasets on the NBN Atlas were checked:

- JNCC collation of taxon designations" provided by Joint Nature Conservation Committee;
- SNH Species Repository;
- Compilation of records of 12 Article 17 terrestrial mammal species in Scotland; and
- SNH Bat Casework records 1970-2007.

Bats: one record of a count of emerging bats at a domestic dwelling near to the Application Site (July 2016, SNH Casework, and five other records of Pipistrelles within 3km (three records of Common Pipistrelle, one of Pipistrellus sp., and one of Soprano Pipistrelle);

Otter: four records within 3km but none closer than 1km;

Badger: four records within 3km including one road casualty between 2013 and 2015;

Water Vole: two records within 1-2km north of the Application Site;

In addition, the author of this report has personal knowledge also listed below:

Otter: Recent records along the Clyde (2010 – 2017) tend to be further than 3km (3- 6km) but as the species travels widely it will pass along the Clyde within 1.5km of the Application Site;

Badger: at least five setts known within 1km (pers. obs. 2016 - 2017). Badger status is confidential in the wider area due to the sensitivity of these records, so numbers of sets are not accurately reported just a minimum noted.

5. Bats in Scotland

5.1. Background Information

Five species of bat are relatively widespread in Central Scotland:

- Common Pipistrelle Bat (*Pipistrellus pipistrellus*) 45 kHz;
- Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*) 55 kHz;
- Daubenton's Bat (*Myotis daubentonii*);
- Brown Long-eared Bat (*Plecotus auritus*);
- Natterer's Bat (*Myotis nattereri*); and

Another four also occur in Central Scotland but tend to have restricted distributions, or less is known about their distribution:

- Noctule Bat (*Nyctalus noctula*) (more of a southern Scottish distribution but recorded in West Lothian, Midlothian, and East Dunbartonshire);
- Nathusius's Pipistrelle Bat (*Pipistrellus nathusii*) 38 kHz –(Stirlingshire, Perth & Kinross, and Midlothian);
- Whiskered Bat (*Myotis mystacinus*) – within the Lanarkshire and Midlothian areas; and
- Leislers Bat (*Nyctalus leisleri*) (more of a southern Scottish distribution but known southwest of Glasgow).

5.2. Bat Roost Types

Nine main types of roost have been identified (Collins 2016). These are:

- Day roosts (March – November but more-so in the summer): used for resting during the day, and may be occupied daily by solitary or small numbers of males, or may be used infrequently as part of a chain of roost sites alternated daily but are rarely occupied at night. Whole colonies of some species such the Leisler's bat will change roost during the day including taking young with them;
- Night roosts (March – November): a place where bats rest or shelter during the night but are rarely present during the day. Can be used by solitary bats or entire colonies, and are often indicated by large accumulations of insect remains and some droppings;

- Feeding roosts (May – November): a place where individual bats or small groups may rest or feed during the night between bouts of foraging, in times when weather changes, or just for a temporary rest. May be used by solitary bats to whole colonies but are rarely used during the day;

- Transitional/occasional roosts (spring or autumn generally but may be used April-October): Some roosts may be transitional, when small numbers are present for a limited period, usually during the spring and autumn.

- Swarming sites (August – November) tend to be around caves and mines and may be used for hibernation as well as being important for mating, with large numbers of male and female bats gathering from late summer to autumn.

- Mating roosts (September – October): where mating takes place from late summer and may continue through the winter;

- Maternity roosts (May - August): the most obvious roost type. These consist almost exclusively of females, most of which give birth and raise a single young but sometimes may include males in some species of bats. These colonies usually disperse by the autumn, although some species may remain in one roost all year round;

- Hibernation roosts (October – March); roost sizes may vary from individual to groups but must have a high humidity and constant cool temperature above freezing but generally less than 4°C; and

- Satellite roosts (May – August): alternative roosts near to maternity roosts used by a few breeding females or small groups of females throughout the breeding season;

Note: swarming sites (August – November) tend to be around caves and mines and may be used for hibernation as well as gathering for mating.

In Scotland, most species of bats roost by concealing themselves in crevices and are not easy to find. The presence of droppings is a key sign to their presence but numbers of droppings vary widely and even some large roosts have little evidence of droppings to indicate their presence. Hibernating bats however leave little or no trace of their presence. Other possible signs are a characteristic odour like ammonia. In addition, a clean or polished area at a place through which light can enter may suggest an entrance/exit hole.

5.3. Bats and Trees: Features of Potential Value for Use by Roosting Bats

Trees may provide safe dry places for bats to roost, although some bats prefer to roost in buildings when suitable buildings are present. Some bats remain roost faithful for prolonged periods, while others may have several alternate roost sites, and others may range much further using roosts several kilometres apart as weather conditions, food availability, and seasons change. Potential roost sites in trees may include:

- Crevices in bark:

- Gaps under loose bark on dead branches or trunks;

- Rotted knot holes;

- Hollow trunks;

- Cracks, splits etc. in stems and branches;

- Rotted-out branches;
- Growth deformities, compression forks, cankers;
- Gaps between overlapping branches;
- Dense ivy coverage;
- Woodpecker and Squirrel holes;
- Bird nesting boxes/bat boxes already present; and
- Crow, Magpie, and Buzzard nests.

5.4. Bats and Buildings: Features of Potential Value for Use by Roosting Bats

Buildings may provide safe dry places for bats to roost, although some bats prefer to roost in trees even when suitable buildings are present. Some bats remain roost faithful for prolonged periods, while others may have several alternate roost sites in a steading or housing estate, and others may range much further using roosts several kilometres apart as weather conditions, food availability, and seasons change. Outbuildings and barns are often used as night roosts and shelters. Potential roost sites may be within the following:

Walls:

- Behind cladding, external tiles or weatherboarding;
- Gaps in mortar/stonework allowing access inside the cavity wall spaces;
- At the top of solid walls;
- In window frames or windowsills;
- Behind loose render;
- Behind loose wall slates; and
- Potentially in any existing bat boxes already present on the building

Note Bat droppings may be found on the ground, garden furniture or other external objects such as bins and cars, or on windows and stuck to walls may also serve to focus attention on specific areas of a building to look for a roost.

Eaves:

- Between soffit and bargeboard; and
- Behind bargeboards or fascias

Roofs and lofts:

- Space under ridge tiles;
- Between under-felt or boards and tiles or slates;
- Inside roof space at ridge ends or roof junctions;

- Inside roof space in gaps between timber and brickwork of chimneys;
- The junction of roof timbers, especially where ridge and hip beams meet;
- The top of gable end or dividing walls;
- Lower corners of the eaves;
- Between loft insulation and ceiling; and
- Space between joist and ceiling.
- The top of chimney breasts;
- Ridge and hip beams and other roof beams;
- Mortise and tenon joints;
- All beams (free-hanging bats);
- Behind purlins; and
- Under lead/tin flashing

Within rooms in residential buildings

- The floor and surfaces of any furniture or other objects;
- Behind wooden panelling;
- In lintels above doors and windows;
- Behind window shutters and curtains;
- Behind pictures, posters, furniture, peeling paintwork,
- Peeling wallpaper, lifted plaster and boarded-up windows; and
- Inside cupboards and in chimneys accessible from fireplaces.

In agricultural buildings

- Gaps in mortar/stonework allowing access inside the rubble-filled cavity of the walls from inside the building;
- Wall top;
- Between exposed roofing tiles at the ridge where no sarking is present;
- Crevices between timbers or between timbers and walls/roof; and
- In lintels above doors and windows

Note: The above lists are not exhaustive – the surveyor should use professional judgement based on experience to decide where inspection is necessary.

6. Survey Methods

6.1. Notable Plants, Habitats & Scheduled Invasive Plants

The Phase I Habitat walkover survey was completed within the Application Site following the standard methodology and definitions used to map and describe habitats as per the Joint Nature Conservancy Committee guidelines (JNCC, 2010). Key locations of botanical interest were identified and target notes recorded where appropriate.

The objectives of this Phase I survey were to:

i. Provide a baseline assessment of habitat distribution and extent within the boundaries of the area;

ii. Provide a preliminary evaluation of the ecological value of the habitats;

iii. Record any notable species; and

iv. Record any non-native plants listed on Section 14(2) of Schedule 9 of the Wildlife & Countryside Act 1981.

6.2. Bat Roost Potential

All methodology followed Bat Conservation Trust Bat Surveys: Good Practice Guidelines (Collins 2016). Note on the Bat Survey Guidelines from Bat Conservation Trust (January 2016):

"Professional judgement and surveyor experience: The guidelines are not a prescription for professional bat work. They do not aim to override professional judgement and cannot be used to replace experience. Deviations from the methods described are acceptable providing the ecological rationale is clear and the ecologist is suitably qualified and experienced. In some cases it may be necessary to support such decisions with evidence, particularly if they may lead to legal challenge."

6.2.1. Preliminary Ground Level Assessment of Trees for Bat Roost Potential

The aim of this survey was to determine if any trees within the Application Site had potential value for use by roosting bats or evidence of any actual bat presence by a detailed inspection of the exterior of the tree from ground level. The survey looked for features that bats could use for roosting (PRFs) and categorised the trees according to their individual potential value for use by roosting bats (Table 6.2. below). Mature trees within the site were checked for PRFs such as crevices, holes, splits, tears, and ivy that could be used by bats to enter roosting sites such as those listed above, along with field signs of bat occupancy such as urine streaking, grease marks, smooth or worn surfaces, or droppings caught on bark or on webs. Where appropriate, inspections were made using binoculars.

Trees with no bat roost potential were not recorded individually.

6.2.2. Preliminary Ground Level External Assessment of Building for Use by Bats

The aim of this survey was to determine if the building within the Application Site had potential value for use by roosting bats or evidence of any actual bat presence by a detailed inspection of the exterior of the building. The survey looked for features that bats could use for roosting (PRFs) and evidence of actual field signs of bat presence and categorised the building according to its potential value for use by roosting bats (Table 6.2. below).

The building was assessed externally during daylight to look for access points that could potentially be used by bats to enter crevices and any features that bats could use for roosting (PRFs) such as under

loose or missing panels or cracks and crevices, loose flashing etc. on the building. Each potential access point was examined (with binoculars if not accessible for close examination) for signs indicative of use by bats such as droppings, urine streaking, polished, or worn surfaces, or staining marks at the potential entry point. The ground along the walls was also checked for dropping accumulations, and walls and windows were also checked for the presence of occasional droppings. Internal access was not possible: the building was secured.

Table 6.2. Tree/Building suitability assessed according to the Categories listed in the BCT Guidelines (Collins 2016)

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[a] and / or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation[b]). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential[c]
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions[a] and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions[a] and surrounding habitat.

a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015, in Collins 2016). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

6.3. Badgers

Field survey methodology followed Harris et al. (1989). Badgers leave many different signs of their occurrence, so are relatively easy to detect, these include:

- Badger setts may be large networks of connected tunnels and chambers with several entrances that are usually shaped like a flattened arch and 20-30cm high and 25-35cm across, or have a single entrance to either a small burrow or large network of tunnels. Bones in and around the entrance, usually indicate Fox activity (rank fox smell may be noticeable). Fox earths have smaller entrances, but foxes may occupy Badger setts even when Badgers are in residence;
- Scraps of fresh bedding that have been dragged in (often grassy material) may be found around the sett entrance. There may also be scraps of old bedding that has been dragged out;
- Day nests are piles of bedding above ground that are used by Badgers occasionally;

- Badgers are clean animals and create spoil heaps outside the main sett, which may contain old bedding, bits of fur, and perhaps small bones. They also use latrines, and will have one or more that are used until the hole is full, and then they start another;
- Badger droppings are very varied depending on the diet (black and slimy means a diet rich in worms, but cereal grains, seeds, and hard parts of insects may be seen). The smell and texture are very distinctive; as is the usual deposition in small oblong latrines either by the sett or at strategic locations on the territory boundary (different individuals have different home ranges within the clan territory). Occasionally droppings are not deposited in latrines but left lying on the ground;
- Clear footprints will show a prominent central pad, either four or five toes and claw marks, and may be found leading to and from the sett, as well as on Badger trails. The front foot usually has longer claws than the back foot, and the prints may overlap, with the back print partially obscuring the front;
- Badger Hairs may be found caught on fences, on brambles or other thorny plants as well as in old bedding outside setts. The guard hairs are 7.5-10cm long, distinctly wiry to the touch, and are mainly white/off-white with a distinctive black band near the white tip. Shorter belly hairs may also be found but are finer and less wiry so are harder to confirm as Badger unless guard hairs or another field sign is found;
- Scratch marks on trees and rocks, fence-posts, wooden greenhouses, barns, or even garden furniture. Scratch marks often show a series of four or five parallel deep gouges, but sometimes lighter parallel lines of scratches are left where Badger claws have clipped something they have scrambled over (such as logs obstructing a Badger trail);
- Badgers have their own traditional networks of regularly used trails both through woodland and across fields that may have been used for many years, and may be worn to a clearly visible rut in the soil, with any new plant growth flattened. Prints may be evident on these trails and where boundary features or obstacles cross the route, Badger hairs may be found caught (for example, on barbed wire, low thorny branches, wooden fences, etc. Closer to the sett, these trails may be muddy through constant use;
- Ground disturbance from foraging Badgers may include round/oval snuffle holes a few cm deep when they forage for worms (50% of lowland Badger diet (especially on lawns and golf-courses). Signs of digging for roots, bulbs such as pignut, and tubers. Beetles and grubs may also be eaten, and the remains of wasp nests torn out of the ground are a sign of Badgers in an area. Badgers usually dig down through the top to avoid getting stung. Bark ripped from rotting logs or tree trunks may also be signs of foraging and grub extraction; and
- On cold, still, winter days, steam may rise from active Badger sett entrances.

Land within the Application Site was searched for evidence of Badgers during the Phase I habitat survey, and a minimum 30m buffer zone was also surveyed where accessible (land ownership constraints but viewed with the aid of binoculars).

6.4. Potential for Breeding Birds

The Phase I habitat survey was completed outwith the breeding bird season but the surveyor was able to assess the Site for its use by/potential use by breeding birds based on habitats present, supported by over 30 years' experience of bird surveys and habitat use by breeding birds.

6.5. Limitations

There were no significant constraints on any of the survey work as completed.

7. Results

7.1. Notable Plants, Habitats & Scheduled Invasive Plants

7.1.1. Notable Plants

No notable plants were found within the Application Site but a total of 46 species of plants were noted (Appendix 1.).

7.1.2. Habitats

The Application Site had 12 Phase I habitat types present (bearing in mind a number were artificial such as building, hard standing, wall, and path): Figure 1. illustrates habitats and target note location). No nationally notable examples of any habitat were found within the Application Site.
Habitat types found were unremarkable.

A1.1.1 Semi-natural broad-leaved woodland – small area of woodland at west end of site;

A1.1.2 Broad-leaved plantation woodland – woodland strip along northern boundary of Application Site, has occasional conifer present but predominantly broad-leaved so not classed as mixed woodland. Dominated by poplar sp.:

A2.2 Scattered scrub – young tree invasion on grassland area in centre of site, dominated by goat willow and silver birch, with some gean. Also some mature scrub adjacent to access at west end of site;

B2.2 Semi-improved neutral grassland – area of unmanaged grassland in east central part of site with species-rich nature typified by crested dog's trail grass, black or common knapweed, common spotted orchid;

C3.1 Tall ruderals – extensive tall ruderal component to vegetation growing along site margins adjacent to southern hedgerow;

J1.3 Ephemeral/short perennial – weedy colonising species on hard standing and path margins;

J1.4 Introduced shrub – component of hedgerow along southern boundary of site;

J2.1.2 Intact species-poor hedge – along southern boundary of site;

J2.2.2 Species-poor defunct hedge – old outgrown leggy hawthorn hedge along east boundary of site;

J2.3.5 Wall – wall along southern boundary adjacent to public path on Hamilton Road and retaining wall to east of Dovecote;

J3.6 Building (Dovecote); and

J5. Other habitat – hard standing at west end and adjacent to Dovecote, and public footpath at east end of site.

7.1.3. Scheduled Invasive Plants

No scheduled invasive plants were found within the Application Site or within 7m of its boundaries.

7.2. Bat Roost Potential

7.2.1. Preliminary Ground Level Assessment of Trees for Bat Roost Potential

There were no mature trees within the Application Site or along its boundary potentially suitable for use by roosting bats.

7.2.2. Preliminary Ground Level External Assessment of Building for Use by Bats
Daldowie Dovecote was reasonably well-maintained as an historic listed building built from sandstone and with a slate roof. It was well-pointed in general but had some crevices present along the wall head above and below the capping stones, and the domed roof had gaps under raised slates, and gaps under the lead/tin flashing on the peak of the roof. It also had numerous openings formerly for access by Doves (see Plates). Overall bat roost potential was considered to be **Moderate**.

7.3. Badgers
There was no evidence of any Badger field sign or resting place within the Application Site. Several burrows on the adjacent railway embankment could not be verified as Rabbit, Fox, or Badger due to lack of access to inspect them but had mounds of earth at their entrances smaller than that expected for Badger burrows (and no evidence of bedding), so are considered most likely to be either rabbit or perhaps Fox (see Plates).

7.4. Potential for Breeding Birds
The Application Site generally had low potential value for breeding birds with opportunities presented by the dense hedgerow along the southern boundary, and less so within hawthorn hedging and trees. The Dovecote perhaps offers some potential for use by Starling but no evidence of former use by this species was noted.

8. Conclusions

8.1. Plants and Habitats
Habitats and species are typical of those found on urban brownfield sites in the Glasgow area and are not considered a constraint for development. Loss of the semi-improved neutral grassland is anticipated but it is a small area that may have been deliberately established, and with the natural successful due to scrub invasion would soon be lost due to habitat modification. Whatever its origins the area is so small and isolated that mitigation is considered unimportant as this extent of habitat is not valued at a national, regional or even local level but only at the site level. Development may bring opportunity to create other habitat or manage the remaining habitats more appropriately instead. Any other habitat loss is also considered to be insignificant due to the lack of extent as well as location.

8.2. Bat Roost Potential
8.2.1. Preliminary Ground Level Assessment of Trees for Bat Roost Potential
Tree roosting bats are not an ecological constraint for any developmental work as no mature trees had any PRF either in the site or within 30m of it.

8.2.2. Preliminary Ground Level External Assessment of Buildings for Use by Bats
Following a high due regard for the possibility that bats could roost in the building we recommend that a series of two bat presence/absence surveys should be completed. The surveys must follow the new bat survey guidelines or any subsequent updated guidelines and:

i. Consist of one dusk and one pre-dawn survey (or two dusk if dawn temperatures are poor) spread at least two weeks between each survey;

ii. Be completed between May and September (with at least one done between May and August); and

iii. Dusk surveys be completed on dry nights of 10°C or more at dusk (no minimum temperature requirement for pre-dawn surveys)

These surveys are yet to be commissioned but the findings should be presented in a separate report when they are done.

8.3. Badger

There was no evidence of Badgers within the Application Site or 30m buffer zone, so they are not an ecological constraint for development. Badgers are known in the wider area (within 1.5km), may forage more than 1km from their setts, and may be present along the adjacent railway so we recommend that the development of the site should follow best practice measures to safeguard Badgers. This will minimise the potential for harm to any foraging or commuting Badgers that could inadvertently pass through the site during development.

Best Practice Measures to Safeguard Badgers

- Toolbox talks on the potential presence of Badgers within the wider area will be provided to all contractors, and the potential for Badgers to occur within the development site should also be pointed out;
- Any soil materials stockpiled for an extended period of time could offer burrowing habitat for mammals such as Badgers, so if any soils are stored they should be checked for the presence of any excavations by mammals prior to removal or re-working;
- Any pipe compounds should be secured so that wild mammals cannot enter pipe stacks at night;
- No pipes will be left open ended in trenches and accessible to wild mammals overnight;
- Any trenches/excavations remaining open overnight that are deeper than 1.5m will have escape ramps provided in case wild mammals fall in, or will have at least one graded slope that any mammals could use to get out again;
- SEPA guidelines will be followed and high standards will be maintained with regard to the prevention of water pollution;
- The use of white light directed towards the railway embankment should be avoided as far as practical both during development and for the completed development: Any lighting should be hooded and face away from the embankment. This will reduce the chances of disturbing any foraging wild mammals or their prey. Ideally additional screening native hedgerow/trees should be established between the development and the embankment to reduce the impact of light associated with residential use; and
- Contractors should moderate speed on the local roads to reduce the potential for any road kills to occur.

8.4. Potential Breeding Birds

Breeding birds may be a minor constraint (unconfirmed) so we do recommend that to maintain an overall high due regard for the potential for breeding birds to be present any site preparation works such as vegetation removal or soil stripping of rough ground is done between mid-August and mid-March to avoid the bird breeding season, and so remove any possibility of breeding birds being an ecological constraint.

If it is not possible to complete site preparation during the recommended period any breeding bird presence that may be a constraint can be confirmed by a walkover survey by an ecologist to pinpoint any breeding bird activity and establish any immediate exclusion areas where site preparation works

would be delayed until breeding by the birds was complete – this would then allow site preparation works in the rest of the site to continue without disruption.

9. References/relevant reading

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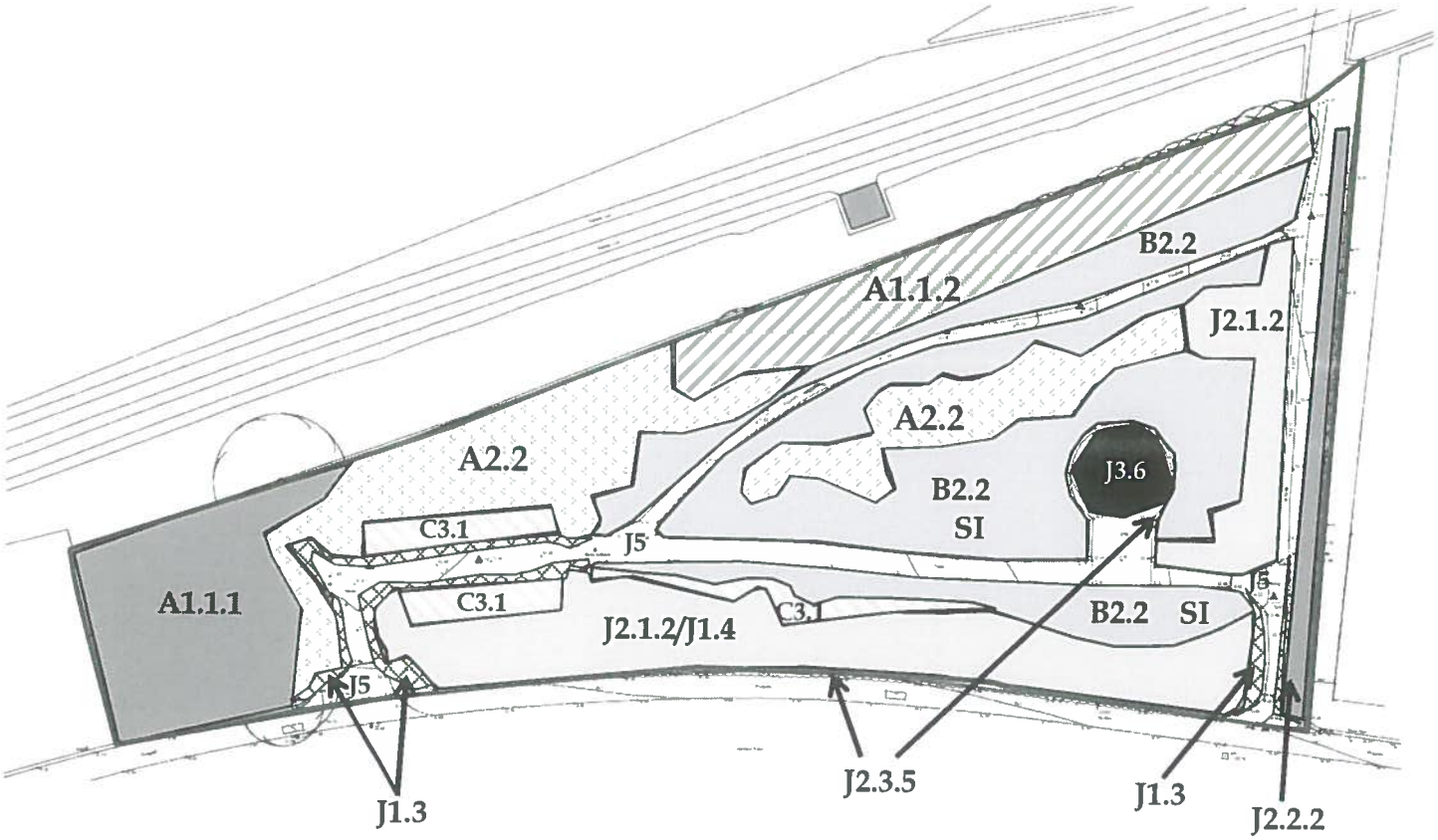
Figure 1. Application Site boundary and Phase I habitats



Key

	Application site boundary	J1.3	Ephemeral/short perennial
A1.1.1	Semi-natural broad-leaved woodland	J1.4	Introduced shrub
A1.1.2	Broad-leaved plantation woodland	J2.1.2	Intact species-poor hedge
A2.2	Scattered scrub	J2.2.2	Species-poor defunct hedge
B2.2	Semi-improved neutral grassland	J2.3.5	Wall
C3.1	Tall ruderals	J3.6	Building (Dovecote)
		J5.	Other habitat (hard standing and tracks

Appendix 1. Phase I habitat plant species list

Common name	Scientific name
Beech	*Fagus sylvatica*
Poplar	*Populussp.*
Bramble	*Rubus fruticosus agg.*
Broad-leaved Helleborine	*Epipactis helleborine*
Broad-leaved Willowherb	*Epilobium montanum*
Cherry sp.	*Prunus sp.*
Cock's-foot	*Dactylis glomerata*
Common Bent	*Agrostis capillaris*
Common Knapweed	*Centaurea nigra*
Common Male Fern	*Dryopteris filix-mas*
Common Mouse-ear	*Cerastium fontanum*
Common Nettle	*Urtica dioica*
Common Ragwort	*Senecio jacobaea*
Common Spotted Orchid	*Dactylorhiza fuchsii*
Creeping Buttercup	*Ranunculus repens*
Creeping Thistle	*Cirsium arvense*
Dandelion	*Taraxacum officinale agg.*
Dog Rose	*Rosa canina*
Elder	*Sambucus nigra*
Goat Willow	*Salix caprea*
Greater Birdsfoot Trefoil	*Lotus pedunculatus*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Horse-chestnut	*Aesculus hippocastanum*
Lady's Bedstraw	*Galium verum*
Lime	*Tilia x vulgaris*
Meadowsweet	*Filipendula ulmaria*
Nipplewort	*Lapsana communis*
Oxeye Daisy	*Leucanthemum vulgare*
Raspberry	*Rubus idaeus*
Red Bartsia	*Odontites verna*
Red Clover	*Trifolium pratense*
Ribwort Plantain	*Plantago lanceolata*
Rosebay Willowherb	*Chamerion angustifolium*
Rowan	*Sorbus aucuparia*
Selfheal	*Prunella vulgaris*
Sheep's Fescue	*Festuca ovina*
Silver Birch	*Betula pendula*
St john's wort	*Hypericum maculatum ssp. maculatum*
Sweet Vernal Grass	*Anthoxanthum odoratum*

Common name	Scientific name
Sycamore	*Acer pseudoplatanus*
White Clover	*Trifolium repens*
Wood Avens	*Geum urbanum*
Yarrow	*Achillea millefolium*
Yorkshire-fog	*Holcus lanatus*

Appendix 2. Plates

Plate 1. Western tip of site with tall ruderals and trees

Plate 2. Western end of site former access road looking east to the Dovecote

Plate 3. Eastern end of site looking south along public footpath with site boundary to left of image

Plate 4. Ephemeral habitat encroaching path in site

Plate 5. East end of site looking west (south boundary to left of image behind hedgerow)

Plate 6. Semi-improved neutral grassland with tall poplars to rear along northern boundary of site

Plate 7. Short grass by Dovecote

Plate 8. Dovecote and hard standing with dwarf wall

Plate 9. Dovecote showing crevices at wall head and gaps under slates

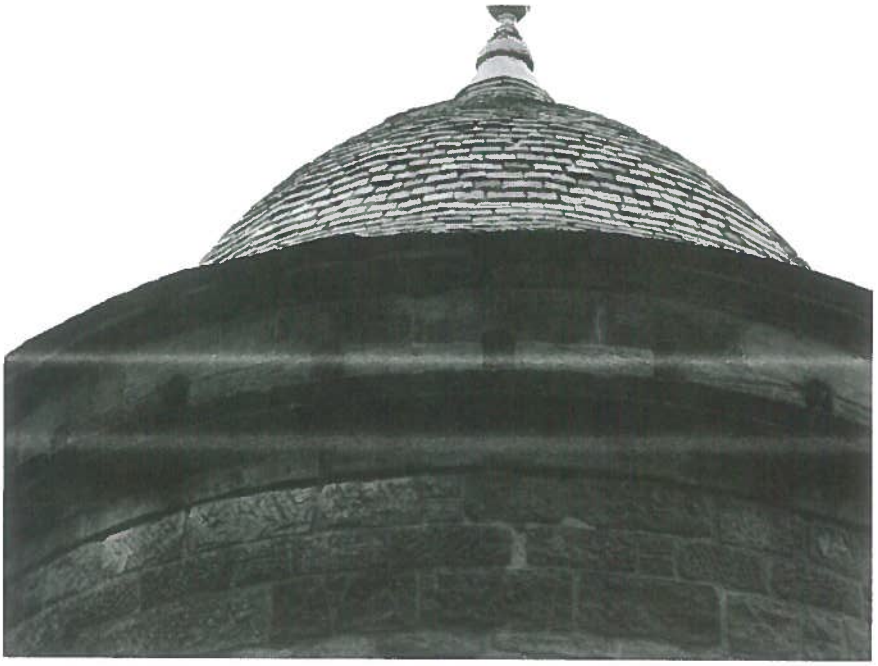


Plate 10. Loose soils at burrow on embankment to north of site Fox? Rabbit?

Proposed residential development – Daldowie Dovecot, Hamilton Road

Noise Impact Assessment

KSG Acoustics Ltd.

Prepared for
Jewitt and Wilkie Architects

24 November 2017

Project reference 1621/R1

KSG Acoustics Ltd.
SC467501
[redacted]

Contents

Proposed residential development – Daldowie Dovecot, Hamilton Road

Noise Impact Assessment

1. Introduction

KSG Acoustics has been appointed by Jewitt and Wilkie Architects to provide a noise impact assessment (NIA) pertaining to a proposed residential development around Daldowie Dovecot, Hamilton Road, Mount Vernon. This report considers the potential for adverse noise impacts associated with rail, road traffic and commercial noise and, where required, outlines appropriate mitigation measures to ensure that the appropriate standards are met.

2. Site description

The proposed development site is located immediately north of the A74, Hamilton Road, and to the east of Mt. Vernon station. The site encompasses the Daldowie Dovecot, a Category-A listed building, relocated to the site at the turn of the century. The site is bounded to the north by the passenger railway line between Mt. Vernon and Baillieston stations.

The dominant noise sources affecting the proposed development site are road traffic noise from Hamilton Road and intermittent rail noise from passenger train movements between Mt. Vernon and Baillieston stations.

The Dogs Trust has premises to the east with the kennels located close to Daldowie Road to the east at a minimum of 220m from the closest proposed build lines. In the intervening area, there is a field used to exercise the dogs during the day; the area closest to the proposed development is rough and undulating and surrounded by a significantly high fence. No barking dogs were audible on the site throughout the survey period.

The area south of Hamilton Road and north of the M74 is occupied by Patersons of Greenoakhill. The south section comprises a sand quarry with HGV access taken from Hamilton Road to the east of the site opposite the Dogs Trust buildings. There is also a haul route that runs parallel to Hamilton Road and opposite the proposed development that facilitates HGV access to the depot some 290m south west of the site. There is no direct line

of sight from the proposed development on to any of the operations undertaken on this industrial site, with the exception of HGV travelling at slow speed along the haul route and intermittent use of a street cleaning vehicle. There is a tree-covered bund beyond the haul route that provides effective mitigation of industrial noise from the site beyond, plus the road traffic noise is an efficient broad band masking source for any residual industrial noise.

The surrounding area has a precedent for residential development with existing dwellings to the north, east and south east. It is understood that there are a number of other residential developments proposed along Hamilton Road to the west, which are currently the subject of other unrelated planning applications.

3. Proposed development

The applicant proposes a development of 13 detached dwellings with private driveways and gardens. Although the current application is for Planning Permission in Principle (PPP), indicative drawings have been prepared which show site access may be taken from Hamilton Road in the west aspect of the development.

The proposed development site is at a lower local ground height than both Hamilton Road and the railway. Topographical studies indicate that the proposed dwellings may be approximately 2.0m below the local ground height of Hamilton Road. There is also an existing stone wall along the boundary with Hamilton Road of height approximately 1.3m relative to the kerb.

The closest proposed build lines to Hamilton Road are at a separation distance of approximately 5m from the nearside kerb. The indicative site plan shows the closest dwellings orientated such that the gable end faces the road with no habitable room windows on this aspect. Principle gardens are indicated along side the dwellings.

To the north of the site, the majority of dwellings are indicated with rear facades parallel to the railway line and principle gardens also to the rear, providing additional separation from the railway line. The separation distance between the closest proposed build lines and the nearside railhead is approximately 11m.

A full set of site plans has been submitted with the application and it is recommended that this report should be read in conjunction with these.

4. Assessment methodology and consultation

The following documents have been referred to in this report:

- Planning Advice Note (PAN) 1/2011 *Planning and Noise* and associated *Technical Advice Note* (TAN);
- Calculation of Road Traffic Noise (CRTN);
- *Converting the UK traffic noise index $L_{A10,18h}$ to EU noise indices for noise mapping* Abbott, P. G. and Nelson, P. M., (2002) TRL Limited;
- Calculation of Rail Noise (CRN);
- British Standard (BS) 8233: *Guidance on Sound Insulation and Noise Reduction for Buildings*; and
- World Health Organisation (WHO) *Guidelines for Community Noise*

PAN 1/2011 provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise. The associated TAN provides information and advice on noise impact assessment methods. PAN 1/2011 is the overarching guidance document in Scotland for the consideration of noise in the context of planning decisions. It highlights the principles of good acoustic design and a sensitive approach to new development. It does not provide any specific methodology that should be applied to the assessment of locations proposed for noise sensitive development however it does recommend the use of other guidance documents which should be used to construct an appropriate assessment. This report seeks to apply the principles underpinning the guidance document to assess the possible impacts of environmental noise on future sensitive development.

CRTN and the TRL publication *Converting the UK traffic noise index $L_{A10,18h}$ to EU noise indices for noise mapping* provide methodology for converting measured or predicted values of $L_{A10,18h}$ to equivalent $L_{Aeq,T}$ values for day time (0700 to 2300h) and night time (2300 to 0700h). These values have been used to determine the requirements for mitigation to protect internal and external habitable areas.

CRN sets out methodology for the prediction of noise from movements along railways. This method has been used to predict day and night time noise levels from the railway affecting

the closest indicative built elements and therefore to determine any requirements for additional mitigation.

BS8233 and the WHO document *Guidelines for Community Noise* both contain guidance with respect to suitable internal noise levels for internal and external habitable spaces. BS8233 also provides guidance with respect to the acoustic performance of façade elements and composites. Specific guidance from these documents is detailed throughout this report, where appropriate.

Consultation

Written and verbal consultation has been undertaken with the Environmental Health Officer (EHO) for Glasgow City Council (GCC) to agree standards and methodology for assessment.

The EHO confirmed that environmental noise affecting proposed habitable rooms should meet the design recommendations set out in BS8233 as follows:

- Bedrooms – 30dB $L_{Aeq,8h}$
- Living rooms – 35dB $L_{Aeq,16h}$

GCC consider a closed window standard with appropriate ventilation is acceptable for transportation noise sources, although windows should remain openable for rapid ventilation. For the assessment of any significant commercial noise sources, an open window solution is preferable.

Noise levels affecting outdoor habitable areas (gardens) during the day should not exceed the recommendations of the WHO in its publication *Guidelines for Community Noise*.

Noise associated with haulage traffic from Greenoakhill Sand Quarry

Environmental noise associated with heavy goods haulage and private road cleaning along the access to Greenoakhill Sand Quarry was observed during the noise impact survey. Consideration has been given to whether noise from this source is likely to impact adversely on the amenity of future occupants.

Discussion with the EHO confirmed the opinion that the contribution from this noise source has been captured in the 3 hour measurement of road traffic noise that has been used to inform the design of the glazing and ventilation solution for the closest habitable rooms.

Given that use of the haul route is limited to daytime hours, it is considered that no further independent assessment of this source is considered necessary.

5. Baseline noise data

Attended measurements of road traffic and rail noise have been undertaken to inform the assessment in accordance with the relevant methodology and standards.

Measurements were undertaken at the following locations:

- Location 1: South of the site and facing Hamilton Road at a distance of approximately 3.8m from the nearside kerb; and
- Location 2: On the opposite side of the rail embankment facing south towards the proposed site, and at a distance of approximate 11m from the nearside railhead.

Measurements were made using a 01dB Solo sound level meter (serial number 60502) fitted with ½ inch condenser microphone (serial number 59680) and a Rion NL-52 sound level meter (serial number 00821105) fitted with ½ inch condenser microphone (serial number 04086). The sound level meters were calibrated at the beginning and end of the measurement periods using a Bruel & Kjaer acoustic calibrator (serial number 909231) which had itself been calibrated against a reference system traceable to national and international standards; no drift in calibration occurred.

Weather conditions during the survey were suitable for the monitoring of environmental noise, being still, cold and dry.

Measurements were undertaken in the free field at a height of approximately 1.5m above local ground height.

Road traffic noise – A74 Hamilton Road

Levels of road traffic noise affecting the proposed development site from Hamilton Road have been established by measurement using the shortened methodology set out in CRTN; these measurements have been used to predict day and night time levels of environmental noise at the closest indicative build lines.

In accordance with CRTN, L_{A10} noise levels were measured over three consecutive one-hour periods. The measured L_{A10} values were arithmetically averaged to provide an $L_{A10,3h}$ and

converted into an $L_{Aeq,16h}$ daytime level and corresponding night time level ($L_{Aeq,8h}$). Night time levels have been estimated using the appropriate formula from the TRL Ltd research paper *Converting the UK traffic noise index $L_{A10,18h}$ to EU noise indices for noise mapping*. The following Table 1 presents one hour values at Measurement Location 1.

Table 1: Summary of measured road traffic noise data

Start time (h)	LA10,1h (dB)	LAeq,1h (dB)
1048	76.4	73.2
1148	76.4	72.9
1248	76.3	72.3

Table 2 below presents predicted levels of road traffic noise outside and inside the closest indicative habitable rooms at ground and first floor levels. Corrections have been applied for reduced angle of view on to the road from perpendicular habitable rooms (gable end facing the road), the difference in local ground height and the acoustic barrier effects of the existing stone wall along the boundary with Hamilton Road.

The final column details the minimum composite acoustic standard that would be required from the selected combination of glazing and ventilation elements for the closest habitable rooms. These parameters are discussed in more detail later in this report.

Table 2: A74 road traffic noise levels 7.3m from source relative to local ground height

Habitable room location	Period	External LAeq,T (dB)	Internal, windows open (LAeq,T)	Minimum composite Rw,Ctr (dB) for glazing and ventilation
Ground floor	Day (0700-2300h)	55	40	20
	Night (2300 - 0700h)	46	31	16
First floor	Day (0700-2300h)	62	47	27
	Night (2300 - 0700h)	52	37	22

Rail noise – Mt. Vernon to Baillieston

Attended measurements of rail pass-by events were undertaken at Measurement Location 2 as previously described. The following Table 3 presents a summary of the frequency of passenger trains in each direction as derived from the current Scotrail passenger timetable. Passenger train movements cease between 2344 and 0613h in both directions of travel.

Table 3: Summary of passenger train frequency

Number of trains	Daytime (0700-2300h)	Night time (2300 - 0700h)
Mt Vernon to Baillieston	32	3
Baillieston to Mt Vernon	32	3

Four passenger train pass-by events were captured in each direction, from which the average Sound Exposure Level (SEL) of trains travelling between Mount Vernon and Baillieston has been calculated.

Table 4: Summary of attended train pass-by events

Time (h)	Carriages	Direction	LAeq,T (dB)	T (s)	SEL (dB)
1110	3	Baillieston to Mt Vernon	61	8	70
1112	3	Mt Vernon to Baillieston	69	8	78
1139	3	Baillieston to Mt Vernon	56	7	65
1145	6	Mt Vernon to Baillieston	64	13	75
1212	6	Mt Vernon to Baillieston	66	11	76
1221	3	Baillieston to Mt Vernon	55	6	63
1245	3	Baillieston to Mt Vernon	57	8	66
1246	6	Mt Vernon to Baillieston	67	12	77

The following Table 5 presents the predicted day and night time levels of rail noise at the closest indicative build lines. These have been used to predict the likely levels of rail noise ingress to proposed ground and first floor habitable rooms and outdoor habitable areas.

Table 5 presents LAeq and LAFmax parameters, both externally and inside habitable rooms with windows open. The LAFmax parameter is included to account for the discrete nature of train pass-by events during the night time period. Although the majority of this period has

no train movements, it is recommended that glazing and ventilation selections are determined on the basis of this parameter to ensure good resting and sleeping conditions are achieved.

Although it is likely that a boundary fence will be included along the north garden boundaries of indicative plots 2 to 9, no acoustic benefits have been considered in these calculations. This is because the railway line is at height relative to the proposed dwellings and, as such, there would be little or no obscuring of the line of sight on to the railway from either ground or first floor as a result.

The final column details the minimum composite acoustic standard that would required from the selected combination of glazing and ventilation elements for the closest habitable rooms. These parameters are discussed in more detail later in this report.

Table 5: Predicted levels of day and night time rail noise 6m from the nearside railhead

Habitable room location	**Period**	**External (LAeq,T) (dB)**	**External LAFmax (dB)**	**Internal (windows open) (LAeq,T) (dB)**	**Minimum composite Rw,Ctr (dB) for glazing and ventilation**
Ground floor	Daytime (0700-2300h)	46	70	31	25
	Night time (2300 - 0700h)	39		24	
First floor	Daytime (0700-2300h)	49	73	34	28
	Night time (2300 - 0700h)	42		27	

6. Noise impact assessment

BS8233 recommends that, for resting and sleeping conditions, noise levels in bedrooms should not exceed 35dB $L_{Aeq,16h}$ during the day and 30dB $L_{Aeq,8h}$ at night. Living rooms should also not exceed 35dB $L_{Aeq,16h}$ during the day.

With respect to the acoustic attenuation afforded by a partially open window in a façade, BS8233 Annex G suggests that 15dB may be achieved, although it should be noted that the acoustic performance may vary with the frequency content of the noise and window type.

The WHO document *Guidelines for Community Noise* reinforces these recommendations, with an additional recommendation that discreet noise generating events should not exceed 45dB L_{AFmax} during night time hours. In the context of the proposed development site, this design recommendation should apply to night time train pass-by events only; road traffic noise is typically considered to be a more anonymous and continuous.

With regard to reasonable levels of environmental noise affecting external habitable areas (gardens) the WHO recommends that, *To prevent the majority of people being seriously annoyed during the daytime, the sound pressure level should not exceed 55dB LAeq*. This criterion has been applied to assess the suitability of predicted noise levels in gardens or other outdoor living areas.

Road traffic noise – south boundary

The results presented in Table 2 above indicate that the WHO recommendation for outdoor habitable spaces can just be met where principle gardens associated with the closest dwellings are located alongside the properties. Open areas and the area indicated for play will also therefore meet the WHO recommendations, as they are located at greater distance from the source.

Meeting the recommendation is reliant on the local ground height north of the existing boundary stone wall remaining at least 2m below the local ground height of the pavement. To achieve betterment, the height of the stone wall could be increased, or else, local ground heights on the site aspect should be further reduced to ensure that future properties obtain the maximum acoustic benefit.

Table 2 also indicates that the recommendations for habitable rooms detailed in BS8233 cannot be met with windows partially open for ventilation, therefore a closed window solution will be required.

Rail noise – north boundary

The results presented in Table 5 indicate that rail noise levels only just exceed the BS8233 recommended $L_{Aeq,T}$ inside ground floor habitable rooms during the daytime and meet the recommendations at both ground and first floor during night time periods with windows partially open for ventilation.

However, taking the L_{AFmax} parameter into consideration for the night time assessment indicates that internal levels during train pass-by events will exceed 45dB L_{AFmax} with windows partially open. As such, a closed window solution will be required for both ground and first floor habitable rooms facing towards the railway line.

7. Mitigation

Additional calculations should be undertaken at the detailed design stage to ensure that the selection of double glazing and acoustically treated trickle vents are sufficient such as to ensure that the recommended standards for resting and sleeping conditions are met.

Acoustics standards should be achieved in the context of the background ventilation requirements set out in the Buildings (Scotland) Regulations. A whole house ventilation design (dMEV) will allow the ventilation requirements to be met with the least number of trickle vents, which is beneficial from an acoustics perspective. All windows should remain openable for rapid ventilation.

Trickle vents will require to be acoustically treated and commensurate with the acoustic performance of the selected double glazing, with vents open. The minimum acoustic performance of both elements, when tested together, should achieve 20dB (ground floor) and 27dB (first floor) $R_{w,Ctr}$ in respect of road traffic noise from Hamilton Road affecting south facing or perpendicular habitable room windows and 25dB (ground floor) and 28dB (first floor) $R_{w,Ctr}$ in respect of rail noise affecting the closest north facing habitable room windows.

Final glazing and ventilation element selections should be checked by calculation prior to procurement.

If fences are to be included along the north boundary adjacent to the railway, they should be a close boarded and fabricated from material with a minimum surface density of 12 kg/m^2. All materials should be non-hygroscopic, rot proof and vermin proof. The fence should be constructed with longevity in mind and should be maintained such that its acoustic performance does not reduce with time. In order to avoid compromising any local acoustic benefits, there should be no air gaps through the structure, such as between the fence and the ground or between any individual panels or boards.

8. Conclusions

KSG Acoustics Ltd. has carried out a noise impact assessment in relation to a proposed residential development around the Daldowie Dovecot, Hamilton Road, Mt Vernon.

Consideration has been given to the potential adverse impacts of noise from road traffic from Hamilton Road and rail noise from the Mt. Vernon to Baillieston railway line.

Appropriate mitigation has been recommended to ensure that appropriate standards are met in habitable areas of future dwellings. Appropriately specified glazing and acoustically treated trickle vents are integral to the design to ensure that acceptable levels of transportation noise ingress to habitable rooms can be achieved.

For habitable rooms with a line of sight on to Hamilton Road, the minimum composite acoustic performance of the glazing and ventilation elements should be 27dB $R_{w,Ctr}$. The closest habitable rooms to the railway should achieve 28dB $R_{w,Ctr}$. These levels are achievable with standard double glazing and acoustic trickle ventilation components. Additional calculations should be undertaken during the procurement process to ensure that the elements selected are appropriate to meet the acoustic requirements throughout the development.

The predicted noise levels in principle gardens closest to Hamilton Road is just within the recommendations of the WHO, providing that the boundary wall remains in its current form and the proposed development is at 2m below the local ground height of the Hamilton Road kerb. To achieve betterment, of if the finished ground height of future build lines is changed, the wall height should be increased commensurately.

Providing the mitigation measures described are incorporated into the design, then the requisite acoustic standards should be achieved and environmental noise need not be material to a Planning decision.

Appendix A: Limitations of the report

This report has been prepared for the titled project or named part thereof and should not be used in whole or part and relied upon for any other project without the written authorisation of KSG Acoustics Limited. KSG Acoustics Limited accept no responsibility or liability for the consequences of this document if it is used for a purpose other than that for which it was commissioned. Persons wishing to use or rely upon this report for other purposes must seek written authority to do so from the owner of this report and/or KSG Acoustics Limited and agree to indemnify KSG Acoustics Limited for any and all loss or damage resulting therefrom. KSG Acoustics Limited accepts no responsibility or liability for this document to any other party other than the person by whom it was commissioned, subject to our standards Terms & Conditions. The findings and opinions expressed are relevant to the dates of the site works and should not be relied upon to represent conditions at substantially later dates. Opinions included therein are based on information gathered during the study and from our experience. If additional information becomes available which may affect our comments, conclusions or recommendations KSG Acoustics Limited reserve the right to review the information, reassess any new potential concerns and modify our opinions accordingly.

Scottish Water
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15th February 2018

David Narrow Associates
24 James Morrison Street
Glasgow
G1 5PE

Dear Mr Graham,

G71 Glasgow Hamilton Road Daldowie Dovecot
Pre-Development Enquiry Application – Network Assessment Required
Your Ref: 17.0895
Our Ref: 755245

Please quote our reference in all future correspondence

Thank you for your application regarding the above proposed development. Please note our reference number, which should be quoted on all future correspondence.

Following a capacity review we can now confirm the following:

Assessment of capacity at our treatment works:

There is currently sufficient capacity in the **Balmore** Water Treatment Works to service your development.

There is currently sufficient capacity in the **Daldowie** Waste Water Treatment works to service your development.

Assessment of our network:

Further studies are required to be carried out to determine if our existing water network can adequately service the demands of your development, or if any mitigation/enhancement work is necessary -

Water: A Flow and Pressure test (F&PT) is required for this development.

You may appoint your preferred consultant to undertake these works, or alternatively, if you wish Scottish Water to obtain a quote on your behalf we will arrange this via one of our commercial partners who will contact you directly.

Please contact me to confirm how you wish to proceed with these works.

Scottish Water is committed to assisting development in Scotland and has funding under our current investment period to upgrade our water and waste water treatment works however our regulations from the Scottish Executive for our current investment programme (2015-2021) state that should your development require Scottish Water networks to be upgraded this cost will have to be met by the developer; Scottish Water may contribute towards the cost of these works, including the required study, via Reasonable Cost Contribution regulations.

Please Note:

- **Please note the nearest point of connection for Foul to this proposed development is approximately 220m east of the development. Therefore the developer will require to confirm that the manhole is at a suitable depth to allow for a connection which will not result septicity issues.**

General Notes:

Scottish Water's current minimum level of service for water pressure is 1.0 bar or 10m head in the public main. Any property which cannot be adequately serviced using this pressure may require private pumping arrangements installed, subject to compliance with the current water byelaws.

Scottish Water is unable to reserve capacity and connections to the water & wastewater networks can only be granted on a first come first served basis. For this reason we may have to review our ability to serve the development on receipt of an application to connect.

If you have any general questions or require a site visit, please contact our Central Support Mailbox at DevelopmentOperations@scottishwater.co.uk where our team will be happy to assist you.

Yours sincerely

Megan Innes
Technical Analyst
Megan.Innes2@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

ARBORICULTURAL REPORT

subjects at

Daldowie dovecot, Mount Vernon

for

Alan McArthur
per Jewitt & Wilkie Architects

October 2017

Julian A Morris
B Sc, Dip Surv, Cert Pub Sect Man, Tech Cert Arb, PTI
Professional Tree Services

149 Langlea Avenue
Cambuslang
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Instruction

I have been instructed by Jewitt & Wilkie Architects on behalf of Alan McArthur, owner of the site at Daldowie dovecot to conduct an arboricultural survey and to report on several trees on the site.

Reproduction and assignation

This report has been prepared for the sole use of the client – no other party is entitled to rely or act upon it or to reproduce all or any part of it without the express prior written consent of the author. The author cannot be held liable for any third party claim arising.

By extension this report may be made available to the client's architect and to Glasgow City Council any other statutory consultees insofar as the report may be required for Planning matters.

Qualifications

BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* - requires tree surveys to be carried out by an Arboriculturist, defined as "a person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction".

This report has been written by Julian Morris, a professionally qualified arboriculturist holding the Arboricultural Association Technicians Certificate, the LANTRA Professional Tree Inspectors Certificate, a Bachelor of Science Degree, Certificate of Public Sector Administration and a Diploma in Surveying (with 20 years experience as a Chartered (MRICS) Surveyor in the property industry, and is also a registered QTRA user. He is also an NPTC qualified and experienced practising tree surgeon with a good working knowledge of trees, tree work and the procedures and costs involved therein.

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Purpose and scope of report

A report is required in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations* – recording the results of a tree survey, providing retention desirability categorisation and giving preliminary advice on appropriate Root Protection Areas ("RPAs") for all the trees or groups of trees.

This report is **not a tree hazard and risk assessment**, and any reporting on risk is restricted to instances (if any) where trees were observed that might present an imminent and serious hazard to life or property and, where these or other trees *present an lesser but still unacceptable risk to people or property, this will be reflected in the categorisation of the tree.* This report should not, therefore, be misconstrued as fully addressing the occupier's duty of care responsibilities at common law and under the Occupier Liability Acts. This is particularly true if and when the modes of occupation of the site and the positions of buildings and structures change.

Tree risk comes within into one of the Health & Safety Executive's three categories, 'Broadly Acceptable', 'Tolerable' or 'Unacceptable' and recommendations will only be made where the risk is assessed as 'Unacceptable'.

The trees have been assessed on the basis of the endemic weather patterns for the location. No general account can be taken of unseasonable extremes of weather, which would normally be insurable risks. The subject of climate change and its possible effects on any trees is outwith the scope of this report.

In this report, terms used that have Initial Capitals are proper nouns, have a recognised formal meaning or are defined in the Glossary appended to the report.

Practicalities

The site is identified on the drawings provided to me, and where required these drawings have been adapted by me to show only the trees recorded during my surveys.

I visited the site and inspected the trees on 26th and 27th September 2017.

The conditions were dry, mild, light breezes and varying between overcast and sunny.

The site is generally level, and its dominant feature is an old stone-built dovecot. The site is oriented approximately east to west, bounded on the north by the embankments of the Glasgow to Edinburgh train line and Mount Vernon station, on the south bythe A74 Hamilton Road, on the west by a field adjacent to the Dogs' Trust and on the east

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by a strip of rough woodland next to Mount Vernon station. The east and west boundaries are ill-defined, the fences having fallen into disrepair.

The site has a vehicular access from Hamilton Road, giving way to a car park which is disused.

To accord with BS5837, only trees with a stem diameter of 75 mm or more (or in the case of woodlands or substantial tree groups, only individual trees with stem diameters greater than 150 mm) have been recorded, including some offsite trees at the north west corner that overhang the site or are located beyond the site boundaries within a distance of up to 12 times their estimated stem diameter.

Every tree surveyed individually on-site has been affixed with a uniquely numbered tag. No older tags were found on the trees.

Due to operational railway land restrictions, steep unstable slopes and dense undergrowth, no access was taken to the railway embankment along the north of the site.

Soil and other ground conditions

Soil present around the base of trees was not removed and root collars have not been examined except where, and to the extent, they are already exposed. No sampling, examination or analysis of the soil was done. BS5837 suggests that a soil assessment should be undertaken by a competent person to inform any decisions relating to the root protection area (RPA), tree protection, new planting design and foundation design to take account of retained, removed and new trees.

General assumptions have been made in the course of the survey about likely ground conditions, related in part to observations of current tree vitality. Comment on ground conditions are restricted to when root and protection matters are likely to be sensitive to them.

Ground conditions, particularly shrinkable clays, relative to new planting design and foundation design to take account of retained, removed and new trees are beyond the scope of this report.

Other limitations

The survey was carried out in accordance with the Methodology set out in the Appendix to this report. This report is based on a visual inspection from ground level only.

No intrusive or destructive tests were carried out, the survey did not include exhaustive foliar examination (except for purposes of identifying the species) and the inspection was primarily visual and was conducted from the ground and no climbing was done.

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The trees have been assessed during [a single] visit, with the limitations that this brings, such as the opportunity to assess the reaction of the tree to a variety of wind strengths and directions or the presence of seasonal fungal Fruiting Bodies.

Deciduous trees and some conifers carry little or no leaf in winter, reducing the information available to assess vitality. Conversely trees in summer carry foliage that can restricts visibility of all its parts.

I have not checked with the relevant Local Authority as to the existence of Conservation Area designation which has the statutory effect of prohibiting certain tree works. Nor have I checked to see if all or any of the trees are also subject to a Tree Preservation Order which would impose even stricter statutory controls on tree work. Either status could indicate the Local Authority's position on the importance of the trees to the amenity of the area and should be adopted (unless and until varied by planning permission or revocation) in preference to the retention desirability expressed in this report.

Tree categorisation protocols

The purpose of the tree categorization method, as stated in BS5837, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

For a tree to qualify under any given category, it should fall within the scope of that Trees are categorised (A, B, C or U) by estimated remaining amenity contribution combined with quality and, for trees in categories A to C, one or more of the three subcategories (1, 2, 3) to reflect arboricultural and landscape qualities, and cultural values, respectively.

Where designers may be actively considering the benefits of trees it is considered unnecessary to make somewhat arbitrary distinctions between arboricultural and landscape values, except where a few trees that could be classified as 'veteran' were noted and have been classified B3 (conservation values), and the suffix has therefore otherwise been omitted.

The implications of the presence of veteran trees on the use of the surrounding land should be assessed at the earliest possible stage of the design process. Where such trees are to be retained, particular care should be taken in the design to accommodate them in a setting that aids their long-term retention.

In assessing the merit of the trees and their retention desirability I have not had regard to any specific design layout.

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Investigative Findings and categorisations

A total of over 110 trees or small groups were tagged and recorded, including 4 trees on adjacent land.

The investigative findings for the survey stage are summarised in the appendix to this report, together with a plot of the position of all the trees with (a) their crown spreads and (b) their root protection areas.

A significant discrepancy was noted between the number of trees qualifying to be recorded and the 50 trees plotted on the topographic survey. Te greatest difference in numbers came from lapsed hedgerow hawthorns and regenerating elms on the east boundary and staked specimen trees within dense shrubs along the south boundary.

Almost 30 of the trees recorded were hybrid poplars along the north boundary, closely spaced every 2 to 4 metres. These are beginning to sucker to the south of the line, which would in time produce a profusion of poplars.

Some less vigorous trees were found to be suppressed by taller neighbours. Generally group-edge trees had asymmetrical crowns growing out into adjacent space.

Root protection areas

The root protection area indicates the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority

Where there was no need to modify the root protection areas, the default circular RPAs suggested by BS5837 have been plotted for the trees, regardless of retention category.

Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically influenced by past or existing site conditions (e.g. the presence of roads, structures and known underground apparatus), a polygon of equivalent area has been produced. In due course this or circular RPAs may need to be modified further due to -

a) unseen underground apparatus, structures etc.;

b) topography and drainage;

c) the soil type and structure;

d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

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Tree Constraints above ground

A. Tree crowns

The spread of the canopies of the selected trees have generally been estimated at 4 cardinal points. By plotting these it is possible to define areas within which use of the site may be constrained by the presence of tree canopy. That said, the crown spreads do not fully represent the height at which crowns might constrain development. To aid with this I have provided the height and direction of the first significant branch.

B. Tree shade

As per the recommendations in BS5837, the shade from individual trees has been represented by segments proportional to the height of each tree. This, however, is a very coarse measure, as it does not take account of crown shape, crown density, species or whether the trees are deciduous. It can be said generally, though, that shading is worst on the north side of trees and/or where many crowns coalesce to form a dense barrier to light. Overlapping segments represent this situation.

The poplars on the north boundary are likely collectively to make daylighting to open spaces and/or windows inadequate for a distance of around 30 metres from the north boundary.

Daylighting assessments of individual retained trees or groups can be carried out on request.

Tree constraints below ground

The likely rooting now and required after development is reflected in the Root Protection Areas shown on the plan.

A degree of caution must be exercised, since the Root Protection Area is a composite of rooting requirements for support, water, nutrients and other factors – the removal of individual trees may expose the remaining trees to unaccustomed wind loads which the rooting of individual trees has not developed to withstand.

In such situations care should be taken not to damage the roots of retained trees as these may inter-mesh with those of removed trees. Crown reduction may also be required to reduce wind loads and avoid breakages that could disfigure or cause infection to trees and create unacceptable risks now or in the future. Conversely, some trees and tree species will not respond well to pruning. Advice on specific trees in the context of removals and development design can be provided on request.

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Risk reduction recommendations

No trees were found that might present an imminent and serious hazard to life or property.

Conclusions

A total of 113 on-site and off-site trees were recorded, measured and plotted.

All the trees have been recorded and categorised in accordance with BS5837.

No checks have been made on statutory restrictions on tree works.

No trees were found that might present an imminent and serious hazard to life or property.

The plans annexed to this report show, prior to selection of trees for retention (individually or by retention category) how use of the site is currently constrained by trees. Additional attention is drawn to shading by the poplars.

This report provides only a baseline for detailed design or tree retention proposals, for which further advice such as tree constraints above and below ground, arboricultural impact assessment and/or arboricultural method statements would be recommended as development proposals evolve.

Julian A. Morris

Signed 

Dated 2nd October 2017

Julian A Morris Professional Tree Services

149 Langlea Avenue, Cambuslang G72 8AN
0141 641 0245 jamorris@mail.com

Daldowie Dovecot, Mount Vernon

SCALE	DATE
1 : 500	29/09/2017

MAP FILENAME
Tree survey - spreads and categorisations

Map data shown may contain Ordnance Survey © products supplied by Near Technology Services Ltd. Email: info@neartechnology.co.uk
© Crown Copyright and database rights from date shown above.

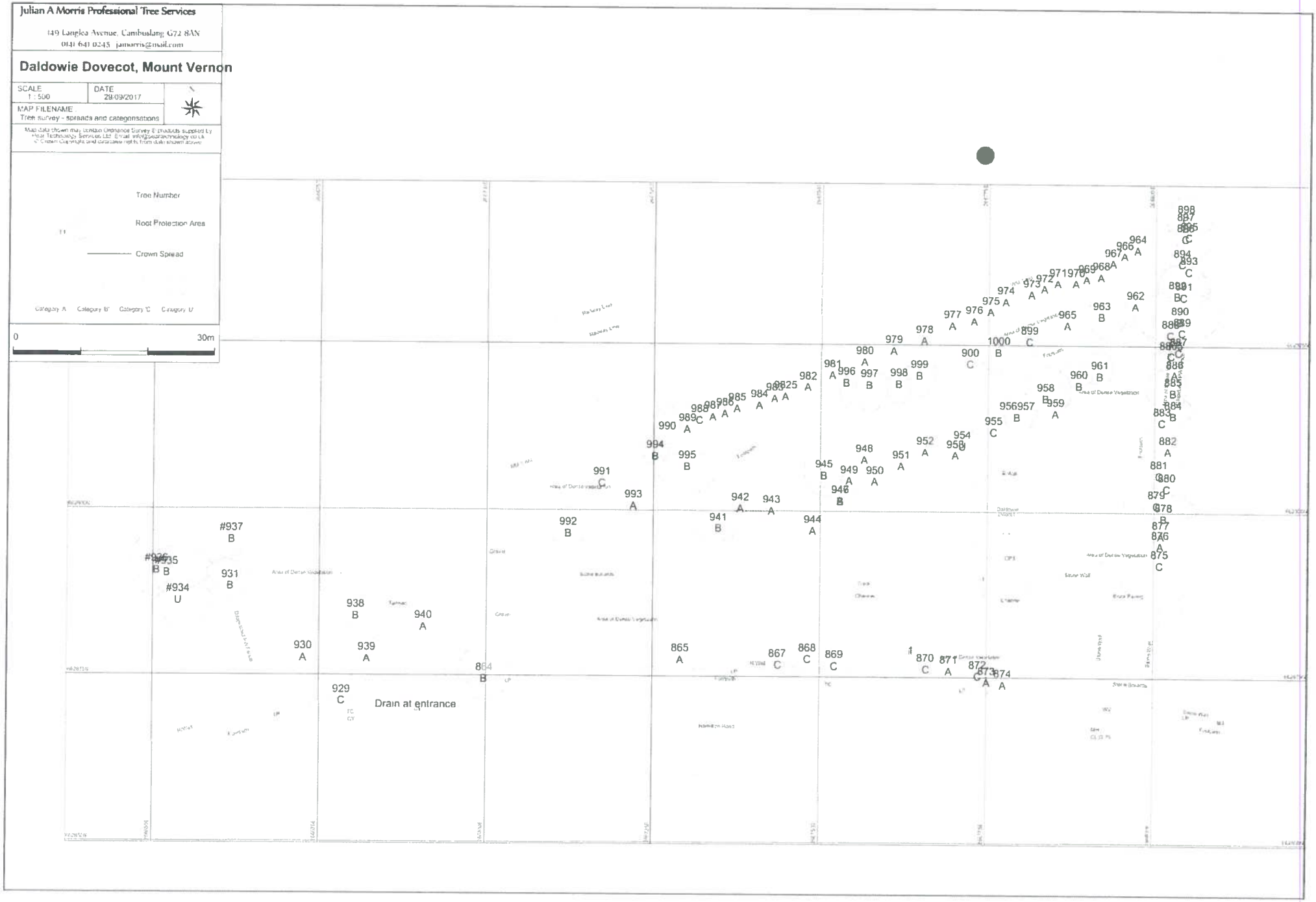
Tree Number

Root Protection Area

Crown Spread

Category A Category B Category C Category U

0 30m



LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag no.	Species	*Binomial*	Stems (if >1)	Dia. (mm)	Ht. (m)	Spread (m)				1st branch		Crown ht.(m)	Observations	Condition		Life - Stage	ERC (yrs)	Gradin
						N	E	S	W	ht	dir			physio.	struct.			
864	Sycamore	*Acer pseudoplatanus*	*2*	370	10	4	4	4	4	2	2	E	triple-stemmed by 2m. reasonably balanced crown largely defect-free	Good	Fair-good	Early-mature	>40 yrs	B
865	Common Lime	*Tilia europaea*		200	7	3				3	2	E	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
867	Wild Cherry	*Prunus avium*		150	4	0	3	5	2	2	2	S	very imbalanced crown to the south	Fair-good	Fair-good	Semi-mature	10 to 20 yrs	C
868	Bird Cherry	*Prunus padus*	*4*	300	7	3	3	3	3	2	2	S	multi-stemmed from base	Fair-good	Fair-good	Early-mature	20 to 40 yrs	C
869	Common Horse Chestnut	*Aesculus hippocastanum*	*2*	190	6	2	2	4	2	2	1	S	twin-stemmed from base. poor forks. decay on stem to the south	Fair	Fair	Semi-mature	10 to 20 yrs	C
870	Wild Cherry	*Prunus avium*		180	4	0	2	4	2	1.5	1.5	S	Very imbalanced crown to the south	Fair-good	Good	Semi-mature	20 to 40 yrs	C
871	Wild Cherry	*Prunus avium*		220	9	4	4	5	4	3	2	S	Good upright intact stem and balanced crown	Good	Good	Early-mature	>40 yrs	A
872	Wild Cherry	*Prunus avium*		130	4	1	2	4	1	1.5	1.5	S	Very imbalanced crown to the south.	Fair-good	Fair-good	Semi-mature	10 to 20 yrs	C
872	Common Beech	*Fagus sylvatica*		200	9	3	3	3	3	4	2	N	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
873	Wild Cherry	*Prunus avium*		230	9	4	4	4	4	4	2	NW	Good upright intact stem and balanced crown	Good	Good	Early-mature	>40 yrs	A
873	Common Hawthorn	*Crataegus monogyna*		140	4	2.5	3	3	2.5	0	0.5	S	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
874	Wild Cherry	*Prunus avium*		190	9	4	4	4	2	4	3	W	Good upright intact stem and balanced crown	Good	Good	Early-mature	>40 yrs	A
874	Wych Elm	*Ulmus glabra*	*3*	290	5	1	5	5	6	1	0	SW	triple-stemmed from base and spreading	Good	Fair	Semi-mature	10 to 20 yrs	C
875	Wych Elm	*Ulmus glabra*		130	5	1	0	2	5	3	2.5	SW	imbalanced crown sw	Fair-good	Fair-good	Semi-mature	10 to 20 yrs	C
876	Common Hawthorn	*Crataegus monogyna*	*2*	300	9	3	5	4	1	4	2	S	twin-stemmed from base. upright	Good	Good	Late-mature	>40 yrs	A
877	Common Hawthorn	*Crataegus monogyna*	*2*	360	9	3	5	4	5	4	3	W	twin-stemmed from base. dry cavity to the west.	Fair-good	Fair-good	Late-mature	20 to 40 yrs	A3
878	Common Hawthorn	*Crataegus monogyna*	*3*	260	8	3	5	1	3	4			triple-stemmed	Good	Good	Early-mature	>40 yrs	B
879	Wych Elm	*Ulmus glabra*	*2*	140	6	2	0	2	5	2			twin-stemmed regeneration	Fair-good	Fair-good	Semi-mature	10 to 20 yrs	C

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149 Langlea Avenue, Cambuslang, G72 8AN

For abbreviations see Glossary

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
880	Wych Elm	*Ulmus glabra*	*3*	300	9	3	5	2	5	3			triple-stemmed regeneration	Good	Fair-good	Semi-mature	10 to 20 yrs	C
881	Wych Elm	*Ulmus glabra*	*2*	260	9	3	4	1	6	3			multi-stemmed regeneration two principal stems	Fair-good	Fair-good	Semi-mature	10 to 20 yrs	C
882	Common Hawthorn	*Crataegus monogyna*	*1*	300	8	4	3	2	3	3.5			Upright reasonably balanced crown. cavity 2m.	Good	Fair-good	Late-mature	20 to 40 yrs	A3
883	Wych Elm	*Ulmus glabra*	*3*	170	5	4	5	2	5	4			Sprawling regeneration	Fair-good	Fair	Semi-mature	10 to 20 yrs	C
884	Common Hawthorn	*Crataegus monogyna*	*2*	280	7	2	3	2	2	4			Stems degrading. thin crown	Poor	Fair	Late-mature	10 to 20 yrs	B3
885	Common Hawthorn	*Crataegus monogyna*	*2*	250	6	3	2	4	4	3			twin-stemmed from base. lower small diameter deadwood and thinning crown	Fair	Fair-good	Late-mature	20 to 40 yrs	B
886	Common Hawthorn	*Crataegus monogyna*	*3*	360	7	3	5	2	2	4			triple-stemmed . ivy to mid-crown.	Good	Good	Late-mature	>40 yrs	A
886.5	Wych Elm	*Ulmus glabra*		110	5	1	0	3	5	3			stem leaning sw	Good	Fair-good	Young	10 to 20 yrs	C
887	Wych Elm	*Ulmus glabra*	*5*	240	9	3	5	2	5	3			Sprawling multi-stemmed regeneration	Good	Fair	Semi-mature	10 to 20 yrs	C
888	Wych Elm	*Ulmus glabra*	*2*	190	9	1	1	4	6	3			twin-stemmed regeneration	Good	Fair	Semi-mature	10 to 20 yrs	C
889	Wych Elm	*Ulmus glabra*	*2*	230	8	2	0	3	6	3			Sprawling twin-stemmed regeneration	Good	Fair-good	Semi-mature	10 to 20 yrs	C
890	Wych Elm	*Ulmus glabra*	*6*	360	9	4	6	4	7	3			multi-stemmed regeneration	Good	Fair-good	Early-mature	20 to 40 yrs	B
891	Wych Elm	*Ulmus glabra*	*1*	160	8	2	4	2	0	5			stem leaning slightly to the east	Good	Good	Semi-mature	10 to 20 yrs	C
892	Common Hawthorn	*Crataegus monogyna*	*2*	250	6	4	5	1	3	3			Basal cavity to the west. main stem leaning and imbalanced crown to the east	Fair-good	Fair	Late-mature	20 to 40 yrs	B
893	Common Hawthorn	*Crataegus monogyna*	*3*	220	6	4	2	0	3	2			multi-stemmed by 1m leaning to the north. suppressed	Fair	Fair	Early-mature	10 to 20 yrs	C
894	Wych Elm	*Ulmus glabra*		160	9	1	2	2	2	6			good upright intact stem. small high crown.	Good	Good	Semi-mature	10 to 20 yrs	C
895	Wych Elm	*Ulmus glabra*	*2*	220	9	3	4	4	2	4			twin-stemmed regeneration from basal compression fork.	Good	Fair	Semi-mature	10 to 20 yrs	C
896	Wych Elm	*Ulmus glabra*		170	9	1	4	4	3	5			good upright intact stem and reasonably balanced crown.	Good	Good	Semi-mature	10 to 20 yrs	C
897	Wych Elm	*Ulmus glabra*		230	10	4	4	2	3	3			good upright intact stem and reasonably balanced crown	Good	Good	Semi-mature	20 to 40 yrs	B

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
898	Wych Elm	*Ulmus glabra*	*6*	260	10	5	5	2	5	3			Sprawling multi-stemmed regeneration	Good	Fair-good	Semi-mature	10 to 20 yrs	C
899	Wild Cherry	*Prunus avium*		190	9	0	2	3	2	5	4	S	imbalanced crown to the south. suppressed to the north.	Fair	Fair	Semi-mature	20 to 40 yrs	C
900	Swedish Whitebeam	*Sorbus intermedia*		150	6	0	1	3	1	1	2	S	Suppressed. thin imbalanced crown to the south	Fair	Good	Semi-mature	10 to 20 yrs	C
929	Sycamore	*Acer pseudoplatanus*	*2*	450	14	3	5	5	5	3			Touching wall. twin-stemmed from base.substem to the west very decayed with ffbies in stem cavity. very imbalanced crown to the south ovr.	Fair	Fair	Early-mature	10 to 20 yrs	C
930	Sycamore	*Acer pseudoplatanus*		1100	22	8	10	8	8	2	2	N	fair upright intact stem and balanced crown largely defect-free.	Good	Good	Late-mature	>40 yrs	A
931	Plum	*Prunus sp.*	*2*	150	6	3	3	3	4	1	2	S	Much lower small diameter deadwood.	Fair	Good	Early-mature	20 to 40 yrs	B
931	Common Hawthorn	*Crataegus monogyna*	*2*	14	6	2	2	2	3	1	1	W	Intertwined twin-stemmed from base.	Good	Good	Semi-mature	>40 yrs	B
938	Goat Willow	*Salix caprea*	*4*	290	7	2	6	5	1	3	2	E	multi-stemmed , imbalanced crown to the east.	Good	Good	Early-mature	20 to 40 yrs	B
939	Goat Willow	*Salix caprea*	*2*	270	7	2	5	5	0	4	3	S	stem leaning se. imbalanced crown se.	Good	Good	Early-mature	20 to 40 yrs	A
940	Common Lime	*Tilia europaea*		160	6	3	3	2	3	2	2	SW	good upright intact stem and bx	Good	Good	Semi-mature	>40 yrs	A
941	Wild Cherry	*Prunus avium*		160	7	4	3	3	4		1	N	good upright intact stem and balanced crown largely defect-free	Fair	Good	Semi-mature	>40 yrs	B
942	Common Ash	*Fraxinus excelsior*		200	12	4	2	4	3	1	1	SE	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
943	Common Horse Chestnut	*Aesculus hippocastanum*		230	10	4	5	4	4	2	2.5	N	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
944	Swedish Whitebeam	*Sorbus intermedia*		150	5	2.5	3	3	3	2	2	W	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
945	Bird Cherry	*Prunus padus*	*4*	330	8	4	3	4	3	0	1	N	multi-stemmed from base. balanced crown.	Good	Fair	Semi-mature	>40 yrs	B
946	Common Ash	*Fraxinus excelsior*		190	12	3	3	4	3	1	1.5	S	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
947	Cherry	*Prunus avium*	*2*	120	5	2	2.5	3.5	3	0	1	S	Tight inequal compression fork at 1. stem leaning slightly se. reasonably balanced crown.	Good	Fair	Semi-mature	20 to 40 yrs	B

Julian A Morris Professional Tree Services, 149 Langlea Avenue, Cambuslang, G72 8AN
For abbreviations see Glossary

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
948	Common Ash	*Fraxinus excelsior*		160	11	4	3	3	3	1	2	N	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
949	Common Pear	*Pyrus communis*		160	6	2	3	3	3	2	2	S	good upright intact stem. slightly imbalanced crown to the south with lower small diameter deadwood	Good	Good	Semi-mature	>40 yrs	A
950	Wild Cherry	*Prunus avium*		200	9	3	3	5	3	0	1	S	Good upright intact stem and balanced crown	Good	Good	Early-mature	>40 yrs	A
951	Common Lime	*Tilia europaea*		180	9	5	3	5	4	0	0	S	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
952	Wild Cherry	*Prunus avium*		220	11	4	3	2	4	0	1	W	Slight lean to the north.	Good	Good	Early-mature	>40 yrs	A
953	Common Lime	*Tilia europaea*		200	9	4	4	5	3	0	0	S	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
954	Swedish Whitebeam	*Sorbus intermedia*	*2*	140	5	2	2	1	0	1	0.5	N	Suppressed . almost dead	Poor	Good	Semi-mature	<10 yrs	U
955	Swedish Whitebeam	*Sorbus intermedia*		160	6	3	2	3	2		3	N	Stem cavity 1m se. reasonably balanced crown.	Fair	Good	Semi-mature	10 to 20 yrs	C
956/7	Swedish Whitebeam	*Sorbus intermedia*		160	6	3	3	3	2	2	2.5	SW	Several stem abrasions otherwise fair upright intact stem and balanced crown	Fair-good	Good	Semi-mature	20 to 40 yrs	B
958	Bird Cherry	*Prunus padus*	*2*	190	9	4	4	3	3	1	1	S	twin-stemmed from good fork at 1m. slight lean ne	Good	Fair-good	Early-mature	20 to 40 yrs	B
959	Common Lime	*Tilia europaea*		200	9	3	4	4	3	0	0	NE	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
960	Common Hawthorn	*Crataegus monogyna*		80	6.5	3	2	1	3	0	1	NE	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	B
961	Common Hawthorn	*Crataegus monogyna*	*4*	150	6	3	2	2	2.5	0	0	N	multi-stemmed from base. balanced crown	Good	Good	Semi-mature	>40 yrs	B
962	Common Hawthorn	*Crataegus monogyna*		130	7	2	2	2.5	1.5	1	1	SW	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	A
963	Wild Cherry	*Prunus avium*		160	10	2	4	4	2	3	2	SW	Good upright intact stem and balanced crown	Fair-good	Good	Semi-mature	>40 yrs	B
964	Poplar	*Populus x sp.*		470	22	5	5	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
965	Wild Cherry	*Prunus avium*		200	10	3	3	5	3	1	1	SW	Good upright intact stem and balanced crown	Good	Good	Early-mature	>40 yrs	A
966	Poplar	*Populus x sp.*		400	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
967	Poplar	*Populus x sp.*		420	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A

Julian A Morris Professional Tree Services, 149 Langlea Avenue, Cambuslang, G72 8AN

For abbreviations see Glossary

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
968	Poplar	*Populus x sp.*		220	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
969	Poplar	*Populus x sp.*		340	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
970	Poplar	*Populus x sp.*		310	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
971	Poplar	*Populus x sp.*		300	23	5	3	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
972	Poplar	*Populus x sp.*		400	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
973	Poplar	*Populus x sp.*		200	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
974	Poplar	*Populus x sp.*		390	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
975	Poplar	*Populus x sp.*		370	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
976	Poplar	*Populus x sp.*		400	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
977	Poplar	*Populus x sp.*		350	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
978	Poplar	*Populus x sp.*		400	23	5	3	5	3	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
979	Poplar	*Populus x sp.*		350	23	5	3	5	3	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
980	Poplar	*Populus x sp.*		420	23	5	3	5	3	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
981	Poplar	*Populus x sp.*		350	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
982	Poplar	*Populus x sp.*		440	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
982.5	Poplar	*Populus x sp.*		320	23	5	3	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
983	Poplar	*Populus x sp.*		370	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
984	Poplar	*Populus x sp.*		290	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
985	Poplar	*Populus x sp.*		320	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A

Julian A Morris Professional Tree Services,
149 Langlea Avenue, Cambuslang, G72 8AN

For abbreviations see Glossary

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
986	Poplar	*Populus x sp.*		340	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
987	Poplar	*Populus x sp.*		350	23	5	2	5	2	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
988	Poplar	*Populus x sp.*		280	23	5	2	5	2	8			cavity in basal split to the south.	Fari	Fair	Early-mature	10 to 20 yrs	C
989	Poplar	*Populus x sp.*		500	23	5	2	5	5	8			Good upright intact stem. Minor lower deadwood.	Good	Good	Early-mature	>40 yrs	A
990	Portugese Laurel	*Prunus lusitanica*	*20*	150	8	4	2	2	2	4			Group of upright along fence. 6m n to s					
991	Western Hemlock	*Tsuga heterophylla*		130	9	2	2	2	2	7	7	N	good upright intact stem clear to 7m	Fair	Good	Young	>40 yrs	C
992	Common Ash	*Fraxinus excelsior*		140	10	3	3	3	3	3	3	N	Good upright intact stem and balanced crown	Good	Good	Semi-mature	>40 yrs	B
993	Swedish Whitebeam	*Sorbus intermedia*		170	6	3	4	4	4	2	2	E	Good upright intact stem and balanced crown	Fair-good	Good	Semi-mature	>40 yrs	A
994	Western Hemlock	*Tsuga heterophylla*		110	10	1	2	2	2	1	1	S	Good upright intact stem and balanced crown	Good	Good	Young	>40 yrs	B
995	Hybrid Black Poplar	*Populus x canadensis*	*5*	200	15	1	5	5	5	0	1	S	Line of 5	Good	Good	Early-mature	>40 yrs	B
996	Wild Cherry	*Prunus avium*		150	9	0	1	5	1	2	1	SE	stem leaning slightly to the south. twin-stemmed by 2m. imbalanced crown to the south. suppressed.	Fair-good	Fair-good	Early-mature	20 to 40 yrs	B
997	Poplar	*Populus x sp.*		200	14	1	3	5	2	1	2	SE	Slightly imbalanced crown to the south	Good	Good	Semi-mature	>40 yrs	B
998	Wild Cherry	*Prunus avium*		230	9	0	2	4	2	2	2	S	Slightly imbalanced crown to the south. becoming suppressed	Fair-good	Fair-good	Early-mature	20 to 40 yrs	B
999	Wild Cherry	*Prunus avium*		150	10	1	2.5	4	2	0	2	SE	twin-stemmed by 2m. imbalanced crown to the south	Fair-good	Fair-good	Semi-mature	20 to 40 yrs	B
1000	Poplar	*Populus x sp.*		150	13	0	1	4	3	1	2	S	imbalanced crown to the south	Good	Good	Semi-mature	>40 yrs	B
#934	Rowan	*Sorbus aucuparia*	*2*	420	7	2	5	5	3	1	2	E	twin-stemmed . small diameter deadwood. stem splits.	Poor	Fair	Late-mature	<10 yrs	U
#935	Sycamore	*Acer pseudoplatanus*		290	12	3	7	4	2	0	0	SE	stem leaning se. imbalanced crown se.	Good	Good	Early-mature	>40 yrs	B
#936	Goat Willow	*Salix caprea*		280	10	5	2	5	4	5	3	SW		Good	Good	Early-mature	20 to 40 yrs	B

LOCATION: Daldowie dovecot, Mount Vernon **DATE:** September 2017

Tag	Species	*Binomial*	Stems	Dia.	Ht.	Spread (m)				1st branch		Crown	Observations	Condition		Life -	ERC	Gradin
no.			(if >1)	(mm)	(m)	N	E	S	W	ht	dir	ht.(m)		physio.	struct.	Stage	(yrs)	
#937	Common Hawthorn	*Crataegus monogyna*	2	210	8	0	2	4	3	1	1	S	twin-stemmed from 0.5m. on slope. imbalanced crown to the south.	Fair	Good	Early-mature	20 to 40 yrs	B

Julian A Morris Professional Tree Services,
149 Langlea Avenue, Cambuslang, G72 8AN

For abbreviations see Glossary

Julian A Morris Professional Tree Services

149 Langlea Avenue, Cambuslang G72 8AN
0141 641 0243 jamorris@mail.com

Daldowie Dovecot, Mount Vernon

SCALE	DATE
1 : 500	02/10/2017

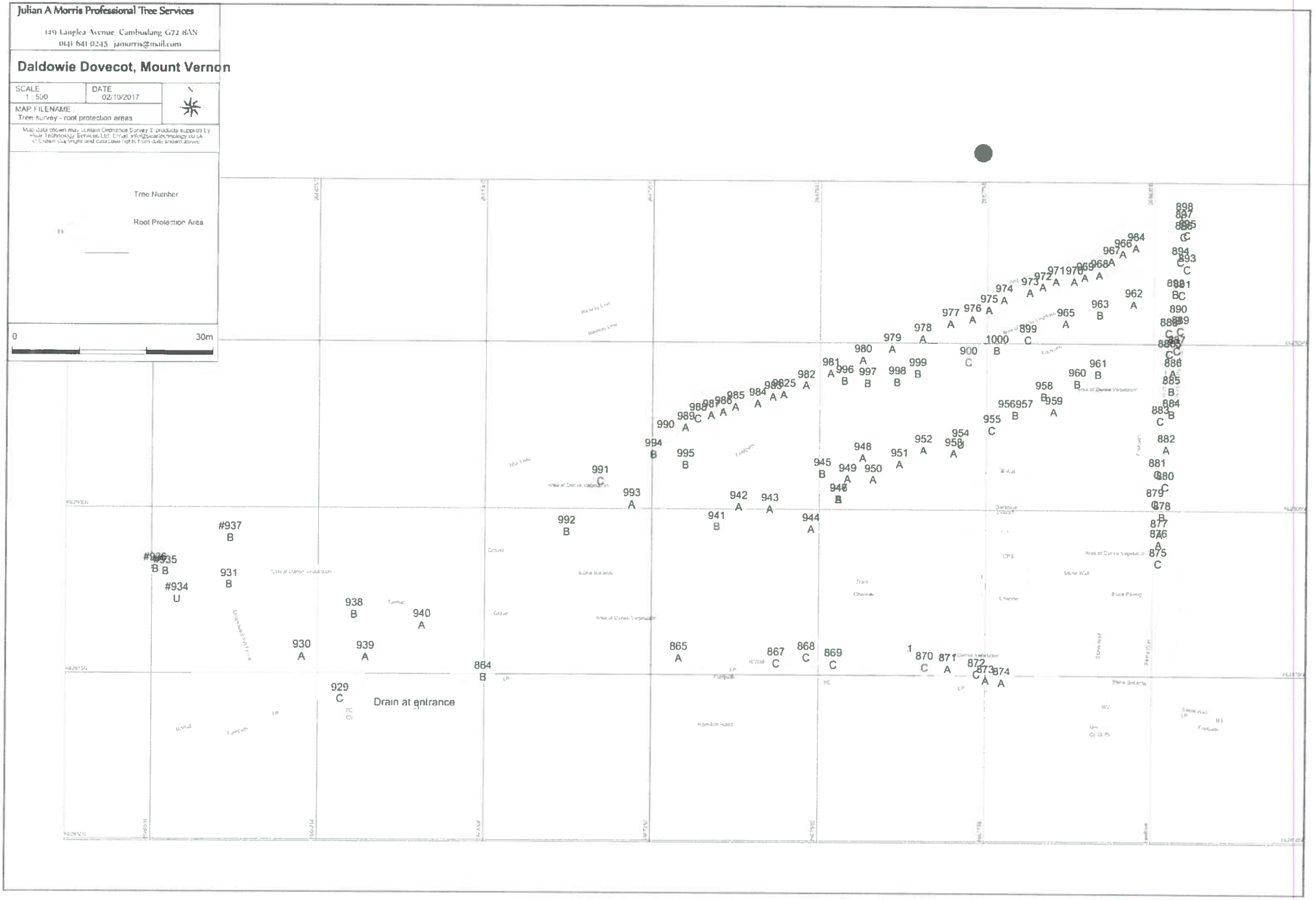
MAP FILENAME
Tree survey - root protection areas

Map data shown may contain Ordnance Survey © products supplied by Aqua Technology Services Ltd. Email: info@aquatechnology.co.uk © Crown copyright and database rights from data shown above.

Tree Number

Root Protection Area

0 30m



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APPENDIX 2 - GLOSSARY OF TERMS

Adaptive growth: An increase in wood production in localised areas in response to a decrease in wood strength or external loading to maintain an even distribution of forces across the structure.
Adventitious/epicormic growth: New growth arising from dormant or new buds directly from main branches/stems or trunks.
Bracing: The installation of cables, ropes and/or belts to reduce the probability of failure of one or more parts of the tree structure due to weakened elements under excessive movement.
Callus: Undifferentiated tissue initiated as a result of wounding and which become specialised tissues of the repair over time.
Cavity: A void within the solid structure of the tree, normally associated with decay or deterioration of the woody tissues.
Co-dominant stems: Two or more, generally upright, stems of roughly equal size and vigour competing with each other for dominance.
Conservation Area: A designation made under the Planning Acts in the interest of preserving or enhancing the special architectural or historic character or appearance of an area, making it an offence except in specific circumstances to carry out work to or remove a tree, or to wilfully damage or destroy it, with prior written notification to the Local Planning Authority
Crown: The foliage bearing section of the tree formed by its branches and not including any clear stem/trunk.
Crown Lifting: The removal of the lowest branches and/or preparing of lower branches for future removal.
Crown Reduction: The reduction in height and/or spread of the crown (the foliage bearing portions) of a tree.
Crown Spreads: The extent of the live crown, measured from the centre of the base of the canopy, in each of the four cardinal points (in the order north, east, south, west)
Crown Thinning: The removal of a portion of smaller/tertiary branches, usually at the outer crown, to produce a uniform density of foliage around an evenly spaced branch structure.
Condition:

Good	Generally free from defects and in good health
Fair	Reasonably healthy but defects are present that may adversely affect Estimated Remaining Contribution but that may be addressed in the short term by minor intervention
Poor	In decline and/or defective requiring major intervention
Dead	No signs of life or so little that death is inevitable

Decline: Lack of vitality such as reduced leaf size, colour or density.
Diameter: More fully known as Diameter at Breast Height (1.5m). See Methodology
Dormant: The inactive condition of a tree, usually during the coldest months of the year when there is little or no growth and leaves of deciduous trees have been shed.
Dieback: No signs of life on branch tips due to age or external influences.
Duty of Care: the common law and Occupier's Liability Acts law which can be paraphrased as such care as in all the circumstances of the case is reasonable to see that a person will not suffer injury or damage by reason of any danger (which is due to the state of the premises) and to prevent or minimize the known risk of damage or injury to one's neighbour or to his property.
Duty Holder: the person on whom the Duty of Care rests
Epicormic Growth: See Adventitious Growth
Estimated Remaining Contribution: This is the contribution in years that the tree in substantially its current form (or better) is expected to continue to make an arboricultural or landscape contribution. This may or may not be the equivalent to the biological life expectancy, often being shorter than the latter because any tree may become so diseased or dangerous as to present an unacceptable risk if it is left standing. However, it may be longer than the latter if the tree might remain alive even if cut to the ground, and continue to live for a considerable time. Also referred to in BS5837 less meaningfully as **'estimated remaining life expectancy'** The first four categories correspond with the categories suggested in BS5837 –

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40+ years	corresponding with BS 5837 40+ years
20 to 40 years	corresponding with BS 5837 20+ years
10 to 20 years	corresponding with BS 5837 10+ years
0 to 10 years	corresponding with BS5837 less than 10 years

Fruiting bodies: The fruiting body is the spore bearing, reproductive structure of that fungus.

Life Stage:

NP	newly planted	Not fully established and capable of being transplanted or easily replaced
Y	Young	Establishing, usually with good vigour
EM	Early mature	Established, usually vigorous and increasing in height
M	Mature	Fully established around half their species' life expectancy, generally good vigour and achieving full height potential but crown still spreading
LM	Late mature	Moderate vigour, no additional height expected and growth rate slowing
OM	Over-mature	Fully mature, in last quarter of life expectancy, vigour decreasing
V	Veteran	See Veteran definition
A	Ancient	Beyond maturity, old in comparison with other trees of the same species; showing Veteran (see below) values and characteristics because of age rather than past events

Planning Acts: Primary Planning legislation in Scotland relevant to trees and their protection, principally the Town & Country Planning (Scotland) Act 1997, the Planning etc. (Scotland) Act 2006 and The Town and Country Planning (Tree Preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010.

Pollard: The removal of the top of a young tree at a prescribed height to encourage multistem branching from that point, repeated on a cyclical basis always retaining the initial pollard point.

Quality/Value Category: As defined and used by BS5837

A	Trees of high quality and value
B	Trees of moderate quality and value
C	Trees of low quality and value
1	Mainly Arboricultural values
2	Mainly landscape values
3	Mainly cultural values, including conservation

Retrenchment pruning: A form of reduction intended to encourage development of lower shoots and emulate the natural process of tree aging.

Risk Category: In accordance with the Health & Safety Executive's general parameters

Lower than 1:1,000,000 'Acceptable'
Between 1:1,000,000 and 1:10,000 'Tolerable' for Involuntary Risk
Between 1:10,000 and 1:1,000 'Tolerable' for Voluntary Risk
Higher than 1:1,000 'Unacceptable'

Root Protection Area (RPA) layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority

Species: Unless otherwise stated the Linnaean binomial name of the species is stated for the avoidance of any ambiguity arising from varying usage of common names. The most prevalent common name is also given to aid lay identification.

Tree Preservation Order: An Order made under the Planning Acts in the interests of the amenity of an area making it an offence except in specific circumstances to carry out work to or remove a tree, or to wilfully damage or destroy it, with prior written consent from the Local Planning Authority

Veteran: A survivor that has developed some of the habitat features such as wounds or decay found on an ancient tree, not necessarily as a consequence of time, but of past events or its environment. It may look old relative to other trees of the same species. Such trees may be valued, notwithstanding risk, for their character, ecological, historic or cultural significance.

Vitality: The degree of physiological and biochemical processes (life functions) within a tree.

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APPENDIX 3 - SURVEY METHODOLOGY

Each tree is inspected initially from a distance to ensure closer inspection would be safe. Each tree qualifying to be recorded is tagged sequentially with a uniquely numbered aluminium tag, nailed to the tree with an alloy nail as near as practicable on the north of the main stem at around 1.8 metres above ground level.

The height is estimated by (i) measuring a fixed distance from the base equal to at least the height of the tree (ii) by the use of a clinometer the angles to the top and bottom of the tree are noted and (iii) by trigonometry the height of the tree is calculated

Distances are measured using calibrated paces, adjusted where necessary for the terrain. Diameters of stem are measured using a diameter tape which measures circumference ('girth') and gives the equivalent average diameter. Where trees are multistemmed from below 1.5m, either the diameter at a lower representative point, or the equivalent stem diameter of the total cross sectional area calculated at breast height, is given. All diameter measurements are taken in accordance with BS5837, unless otherwise stated.

The tree species is identified from knowledge supported by Johnson and Moore (see Fuller Citation at Appendix 5) using bark, buds, twigs, fruit, flowers, form and habit.

Binoculars are used where appropriate to examine visible features and structures above 5 metres in height. A hand lens is used to examine small features and to help narrow down the list of possible species of any pathogen growths on the tree.

The position of trees is captured on site using a Geographic Information System and the trees' attributes are recorded as a map layer. These are brought into the report as an Excel spreadsheet, and into the tree survey plan as set of vector layers for processing and use. The position of trees is modified manually where there are clear discrepancies. The data includes a 16 digit Ordnance Survey grid reference, but care should be taken in relying on this figure for anything other than indicative relative position; the strength and position of satellite signals used by GPS is variable in quantity, strength and quality, and reflections from buildings, fences or vehicles can result in aberrations. Generally 1.5 metre accuracy is achieved.

Whilst it is not possible without laboratory examination and testing to confirm definitive identifications of pests, diseases and fungal infections, all reasonable attempts are made to eliminate possibilities and in most cases a species or genus or a common name can be state with a reasonable degree of confidence that the implications arising from the identification will be appropriate to the other outcomes of the report such as risk assessment, recommendations and life expectancy.

Soundings will be taken either with a rubber mallet or a nylon-tipped hammer to ascertain the existence and likely extent of cavities or other invisible decay.

Cavities will be inspected visually with a torch only insofar as this is reasonably possible from the ground, removing only enough of loose material as is necessary to reach conclusions about the extent and nature of decay or defects.

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APPENDIX 4 - FULLER CITATION OF TEXTS IF REFERRED TO

Strouts and Winter (1994) *Diagnosis of ill-health in trees*

Mattheck and Breloer (1994) – *The body language of trees*

Roberts, Jackson and Smith (2006) – *Tree Roots in the Built Environment*

British Standards Institute (2011) – *BS3998: Recommendations for tree work*

British Standards Institute (2012) – *BS5837: Trees in relation to design, demolition and construction - Recommendations.*

Johnson and Moore (2004) – *Collins Tree Guide*

White, John and Forestry Commission (1998) - *Estimating the Age of Large and Veteran Trees in Britain' - Forestry Commission Information Note*

Schwartze, Engels and Mattheck (2000) - *Fungal Strategies of Wood Decay in Trees*

Mynors (2002) – *The Law of Trees, Forests and Hedgerows*

Health & Safety Executive (2001) - *Reducing Risk, Protecting People*

Helliwell *per* Arboricultural Association (2008) – *Guidance Note 4: Visual Amenity Valuation of Trees and Woodlands*

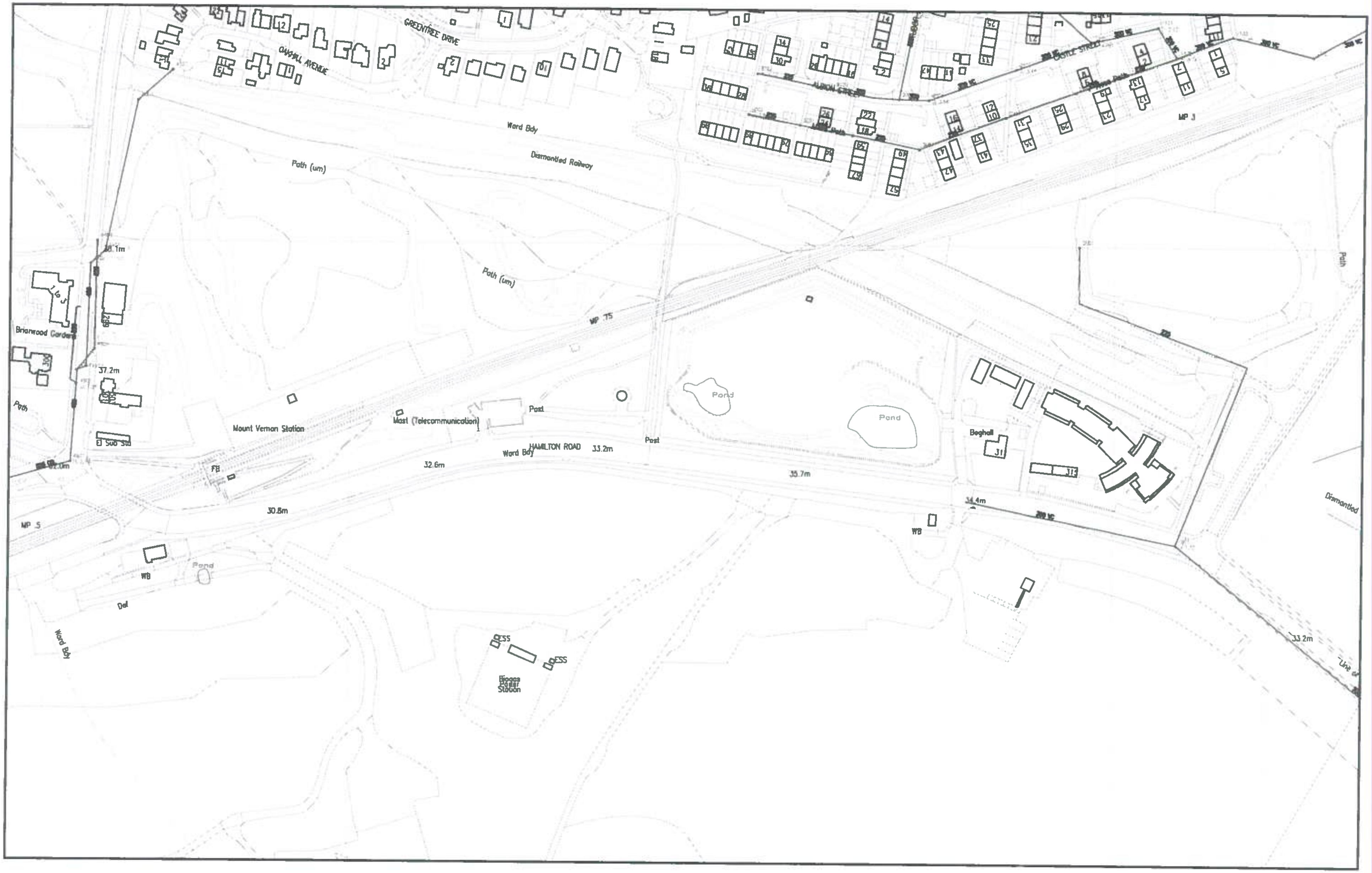
British Standards Institute (2008) – *BS8206-2: Lighting for buildings. Code of practice for daylighting*

Littlefair, Paul, BRE (2011) – *Site Layout Planning for Daylight and Sunlight*

British Standards Institute (2015) BS8596 *Surveying for bats in trees and woodland – guide*

British Standards Institute (2015) *Microguide to surveying for bats in trees and woodland*

Statutory Nature Conservation Organisations/ Bat Conservation Trust (2015) – *Method Statement for the Appropriate Use of Endoscopes by Arborists*



OP/DKMUW742

Wastewater Plan

0 — 236 metres

Scale: 1:2500

The representation of physical assets and the boundaries of areas in which Scottish Water and others have an interest does not necessarily imply their true positions. For further details contact the appropriate District Office.

Date Plotted: 28/11/2017

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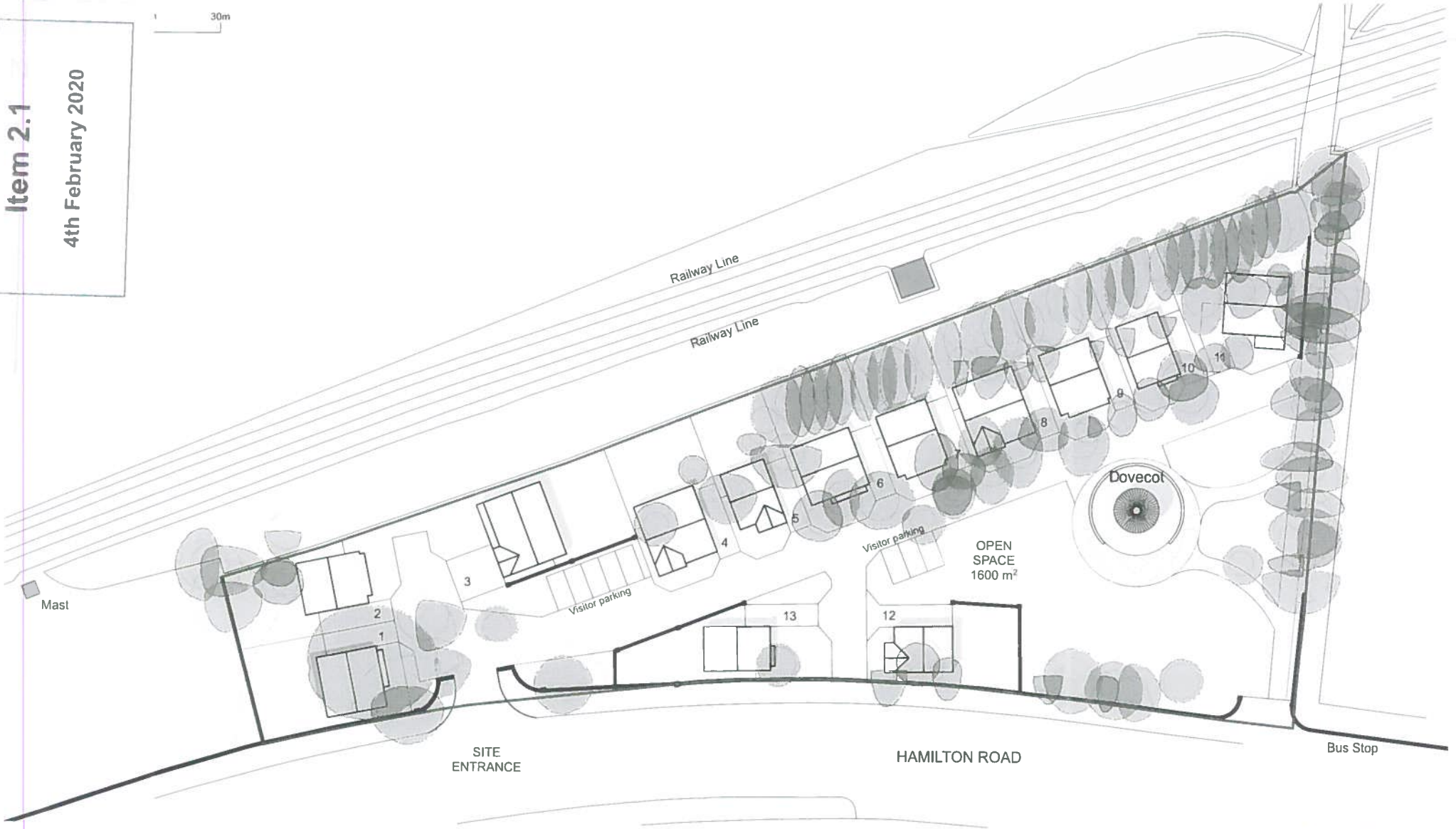
Scottish Water
Castle House,
6 Castle Drive,
Dunfermline,
KY11 8GG
Tel No: 0845 601 8855

Item 2.1
4th February 2020

SCALE 1:500

30m



TREE SURVEY CATEGORY

A	40+ years	C	no effort to retain	root protection area
B	20-40 years	U	no effort to retain	

PROPOSED TREE RETENTION

retain

remove

Rev A 05.01.18 FB
Alternative Housing layout following meeting with Planning Officer.

DRAWING TITLE
Proposed Site Plan - Tree Survey

JOB TITLE
Hamilton Road, Mount Vernon
for
Mr Alan McArthur

Jewitt and Wilkie architects
38 New City Road
Glasgow - G4 9JT
0141 352 6929
info@jawarchitects.co.uk
www.jawarchitects.co.uk

Do not scale for construction purposes. All dimensions to be checked on site prior to commencement of work.

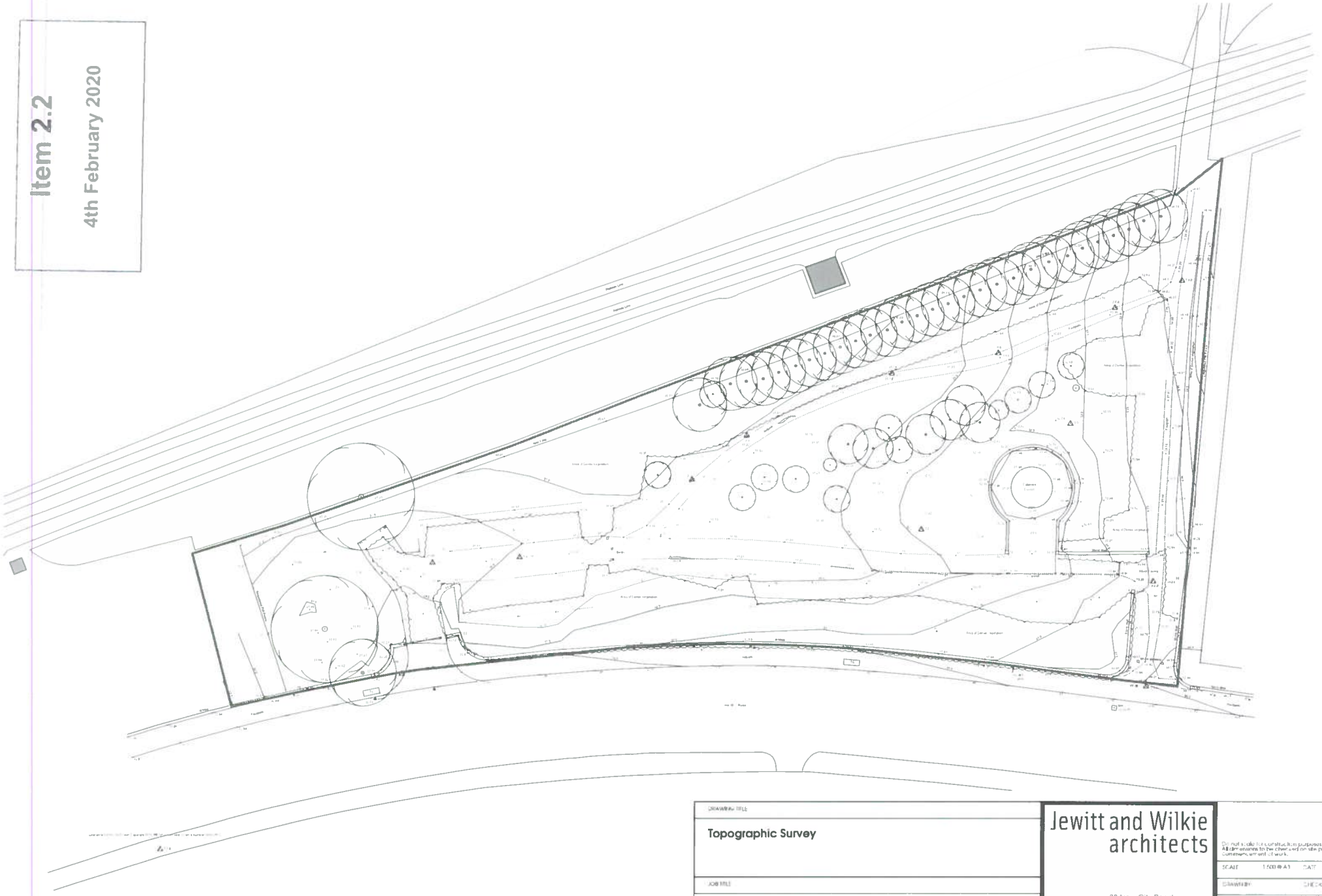
SCALE 1:500 @ A3 DATE

DRAWN BY CHECKED BY

DRAWING NO.
3065/F/201-A

Item 2.2

4th February 2020



DRAWING TITLE

Topographic Survey

JOB TITLE

Hamilton Road, Mount Vernon
for
Mr Alan McArther

Jewitt and Wilkie architects

38 New City Road
Glasgow - G4 9JT
0141 352 6929

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www.jawarchitects.co.uk

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SCALE 1:500@A3 DATE

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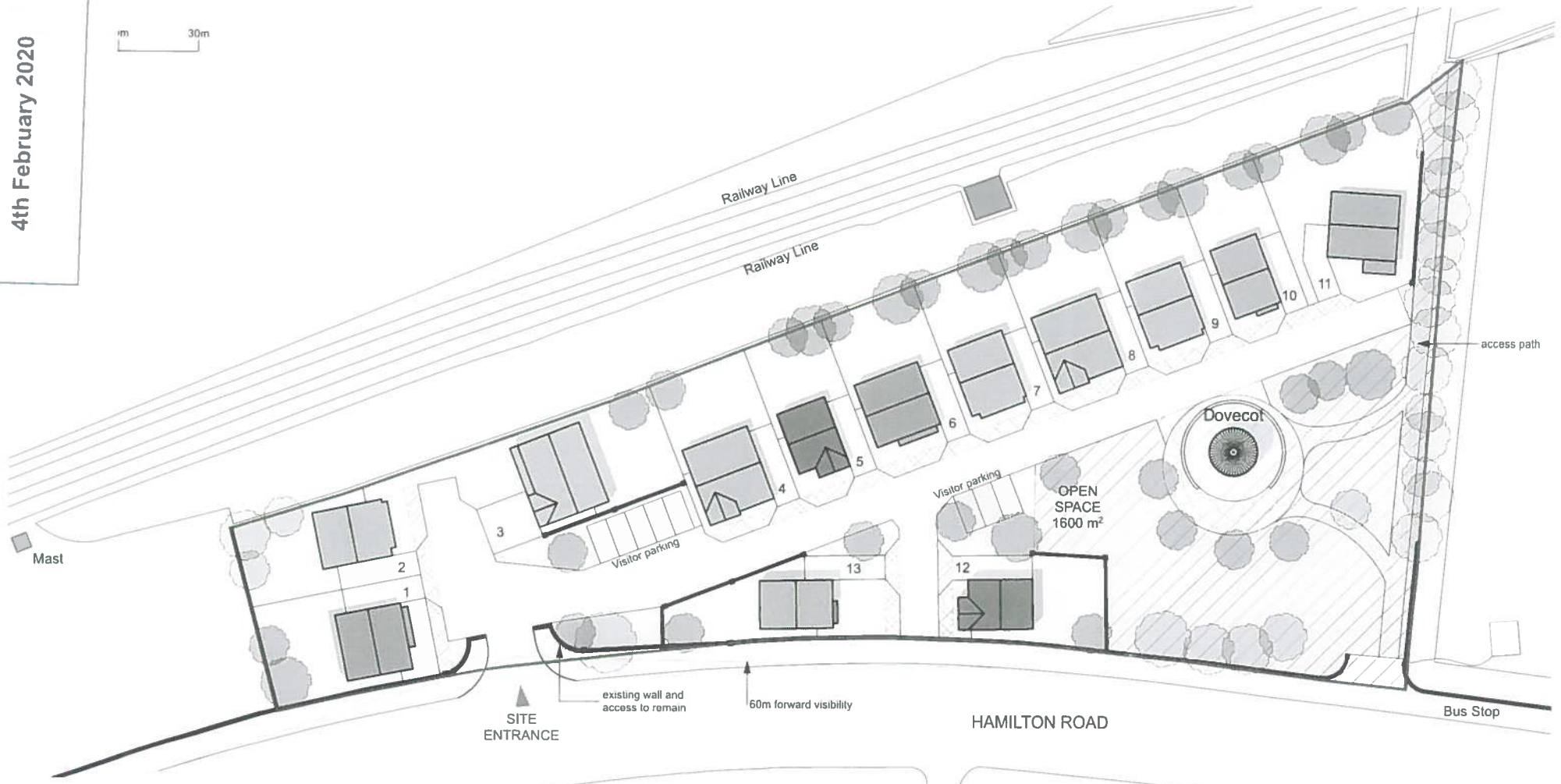
DRAWING NO

3065/P/101

Item 2.3

4th February 2020



SCHEDULE OF ACCOMMODATION
Site Area - 0.6h / 1.6a

- 3 bed detached - 2no. (950)
- 3 bed detached - 2no. (980)
- 4 bed detached - 3no. (1,160)
- 4 bed detached - 1no. (1,200)
- 4 bed detached - 2no. (1,250)
- 4 bed detached - 2no. (1,300)
- 4 bed detached - 1no. (1,500)

TOTAL - 13no. Dwellings (sqft)

- Listed Building Consent Area
- Services Zone
- Existing Trees
- New Indigenous Trees

Rev A 05.01.18 FB
Alternative Housing layout following meeting with Planning Officer.

DRAWING TITLE
Proposed Housing Layout

JOB TITLE
Hamilton Road, Mount Vernon
for
Mr Alan McArthur

Jewitt and Wilkie architects
38 New City Road
Glasgow - G4 9JT
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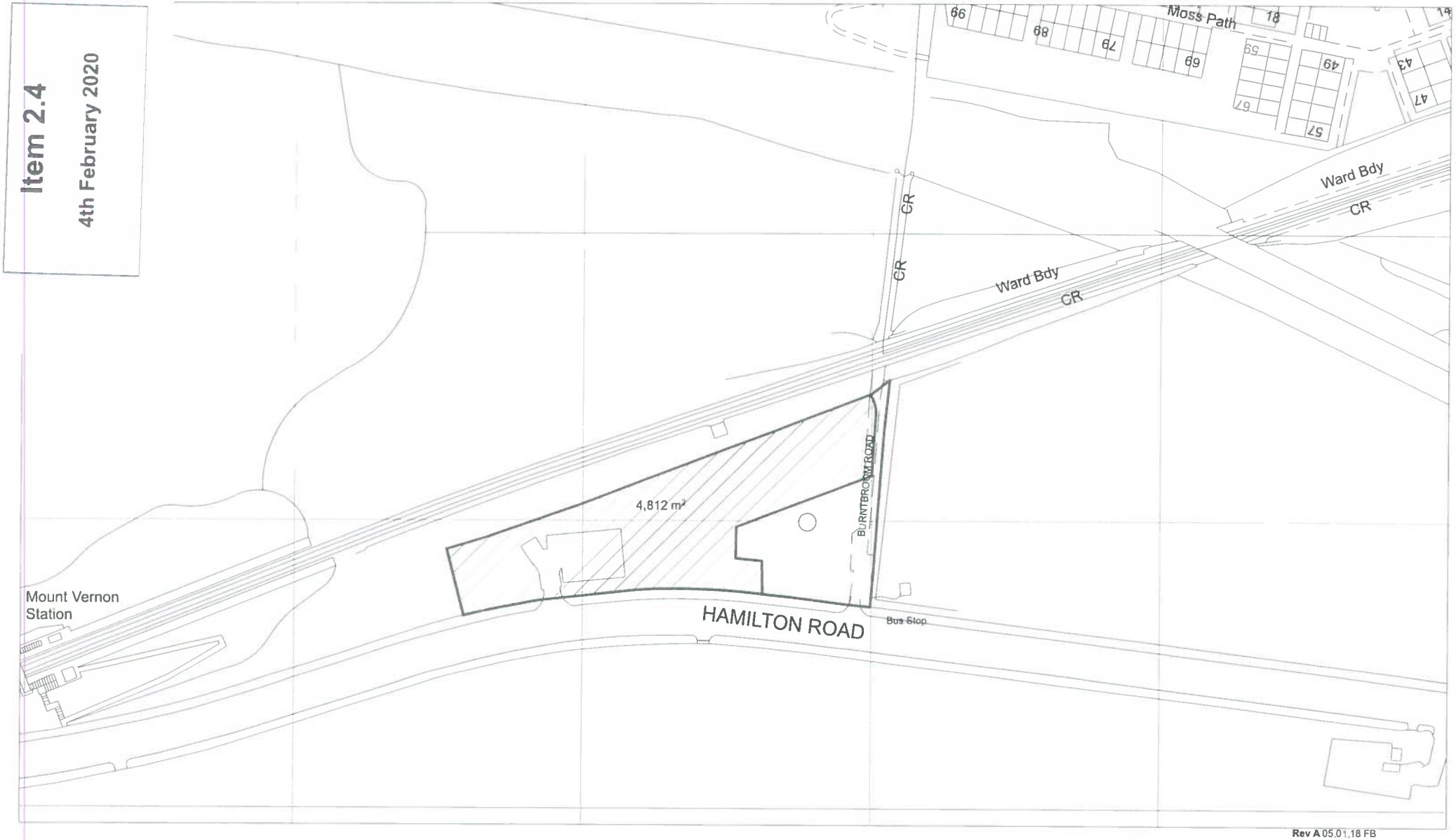
info@jawarchitects.co.uk
www.jawarchitects.co.uk

Do not scale for construction purposes. All dimensions to be checked on site prior to commencement of work.

SCALE 1:500 @ A3 DATE October 2017
DRAWN BY FB CHECKED BY JJ
DRAWING NO
3065/F/200-A

Item 2.4

4th February 2020



EXISTING SITE - DALDOWIE DOVECOT

Extent of Site for Housing Development

SCALE 1:1250 0 10 20 30 40 50m

Rev A 05.01.18 FB
Alternative Housing layout following meeting with Planning Officer.

DRAWING TITLE
Existing Site Plan

JOB TITLE
Hamilton Road, Mount Vernon
for
Mr Alan McArthur

Jewitt and Wilkie architects
38 New City Road
Glasgow - G4 9JT
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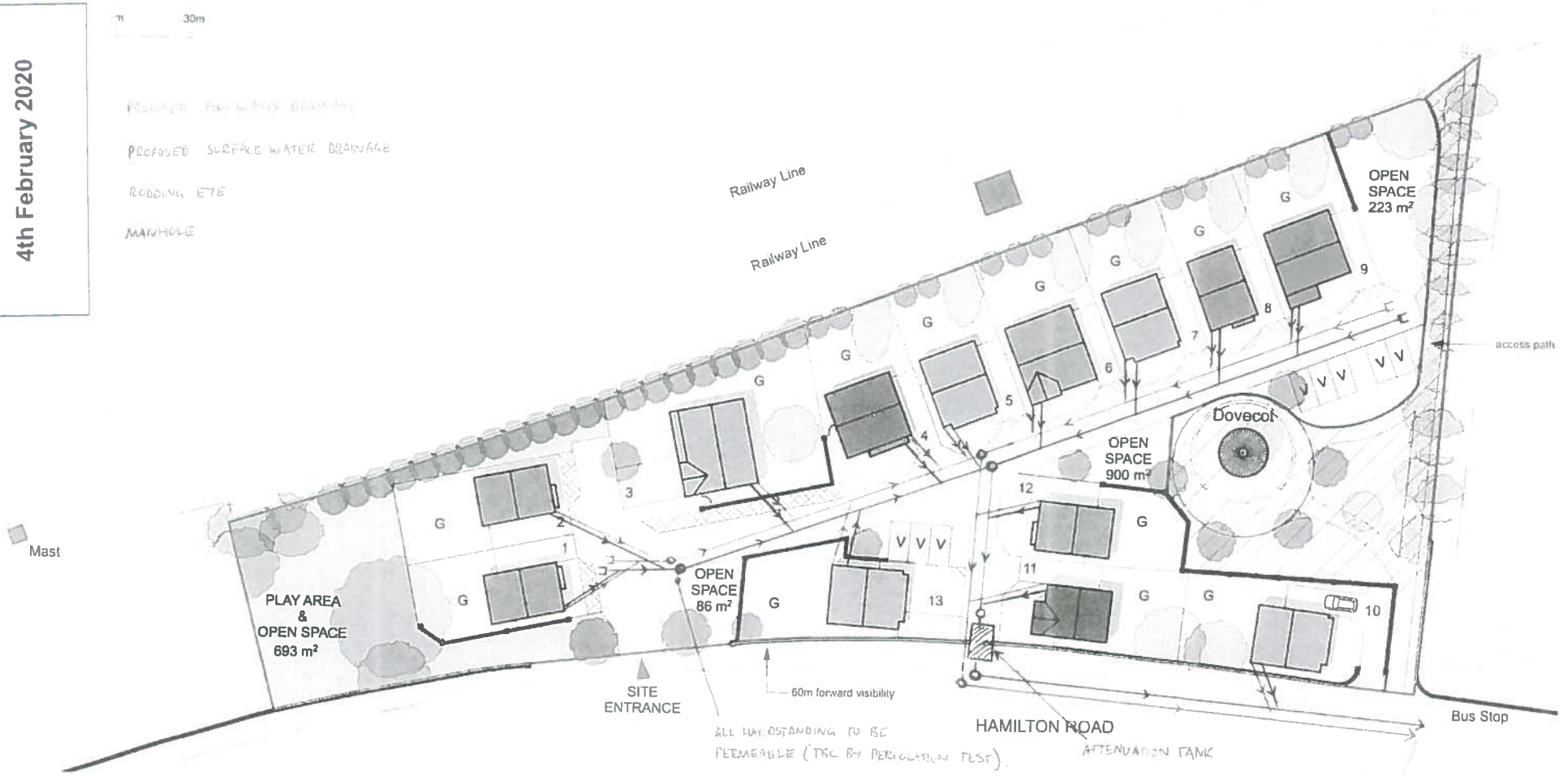
www.jwarchitects.co.uk

Do not scale for construction purposes. All dimensions to be checked on site prior to commencement of work.

SCALE 1:1250 @ A3 DATE October 2017
DRAWN BY FB CHECKED BY JJ
DRAWING NO.
3065/F/210-A

Item 2.5

4th February 2020



SCHEDULE OF ACCOMMODATION
Site Area - 0.6h / 1.6a

- 3 bed detached - 4no. (950)
- 3 bed detached - 1no. (980)
- 4 bed detached - 4no. (1,160)
- 4 bed detached - 1no. (1,200)
- 4 bed detached - 1no. (1,250)
- 4 bed detached - 1no. (1,300)
- 4 bed detached - 1no. (1,500)

TOTAL - 13no. Dwellings (sqft)

- Listed Building Consent Area
- Services Zone
- Existing Trees
- New Trees

17 0315 - SK01 - REV A
DRAINAGE SCHEME DESIGN
DEC 17

Proposed Housing Layout

Hamilton Road, Mount Vernon
for
Mr Alan McArthur

Jewitt and Wilkie architects

3065/F/200

Item 3.1

4th February 2020

Item 3.2

4th February 2020

Item 3.3

4th February 2020

Item 3.4

4th February 2020

Item 3.5

4th February 2020

Item 3.6

4th February 2020

Item 3.7

4th February 2020

Item 3.8

4th February 2020

Item 3.9

4th February 2020