Appendix 1

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

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

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

1:10,000 Raster Mapping

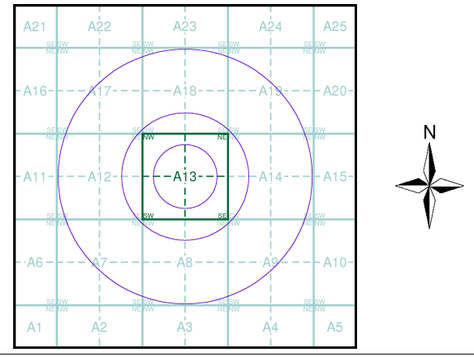
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community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

FAIRHURST

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Kincardineshire	1:10,560	1868	3
Aberdeenshire	1:10,560	1869	4
Aberdeenshire	1:10,560	1902 - 1904	5
Aberdeenshire	1:10,560	1928	6
Aberdeenshire	1:10,560	1938	7
Historical Aerial Photography	1:10,560	1944	8
Ordnance Survey Plan	1:10,000	1959	9
Ordnance Survey Plan	1:10,000	1967 - 1968	10
Ordnance Survey Plan	1:10,000	1974	11
Aberdeen	1:10,000	1981	12
Ordnance Survey Plan	1:10,000	1984 - 1988	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2016	16

Historical Map - Slice A



Order Details

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Customer Ref:	106859
National Grid Reference:	390450, 803220
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

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Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale

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

243,8 Values for prominent elevations

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

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

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

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

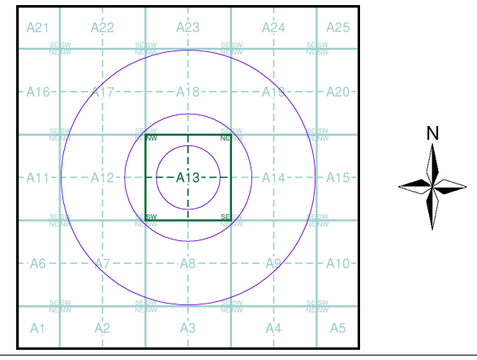
- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual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

Key to Numbers on Mapping

FAIRHURST

Historical Mapping & Photography included:

Russian Map - Slice A



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FAIRHURST

Kincardineshire

Published 1868

Source map scale - 1:10,560

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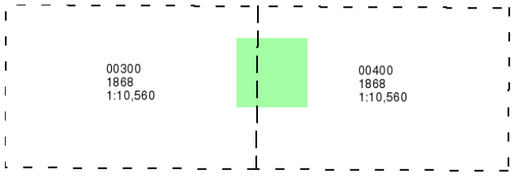
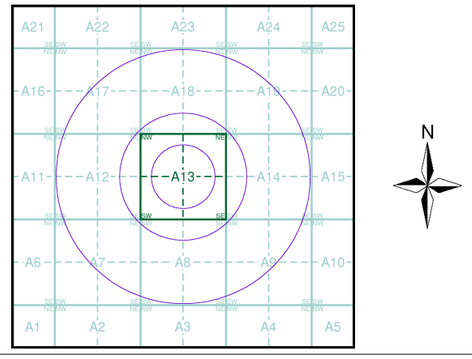
Map Name(s) and Date(s)



Historical Map - Slice A



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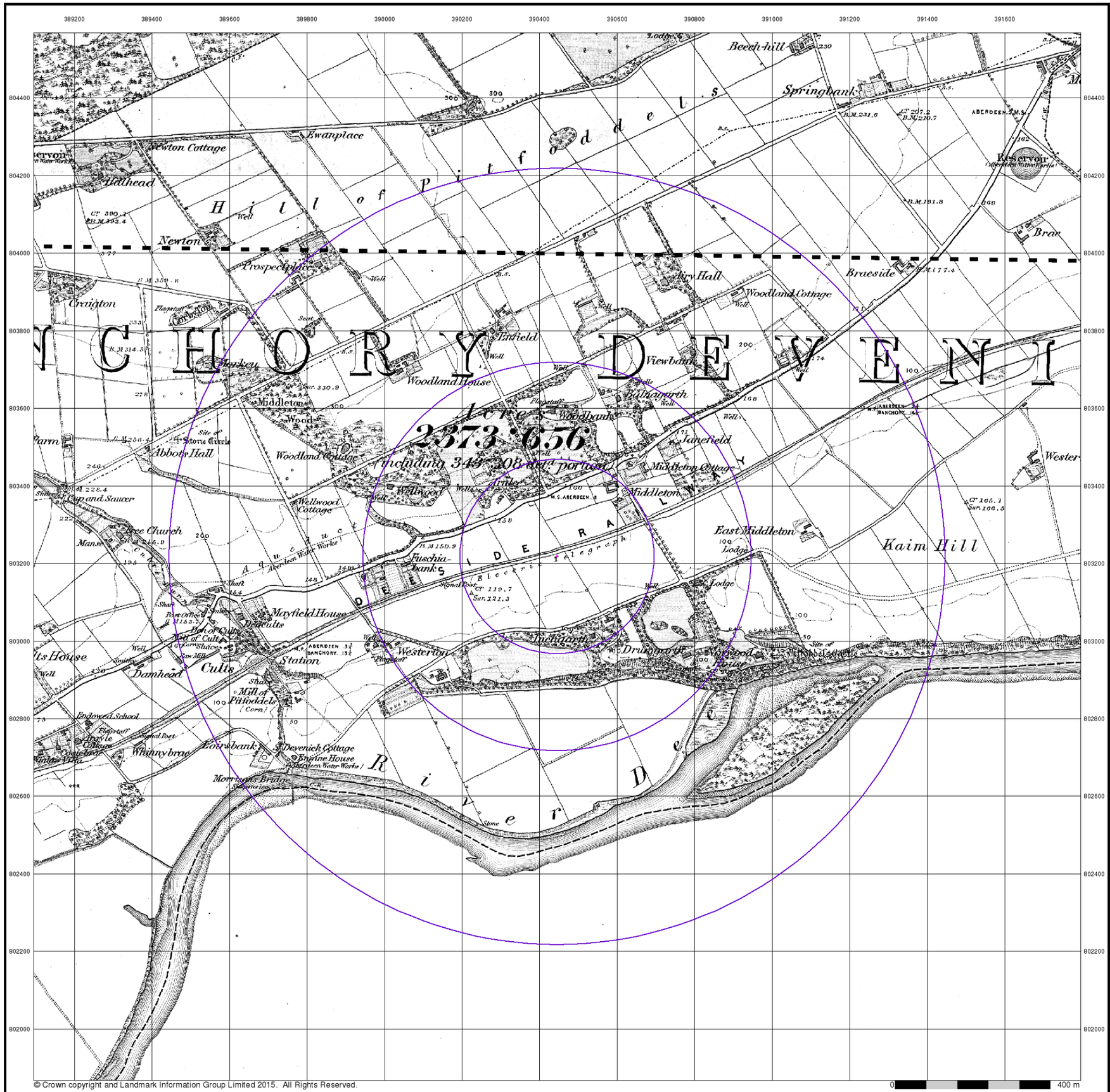

FAIRHURST

Aberdeenshire

Published 1869

Source map scale - 1:10,560

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Map Name(s) and Date(s)

Historical Map - Slice A

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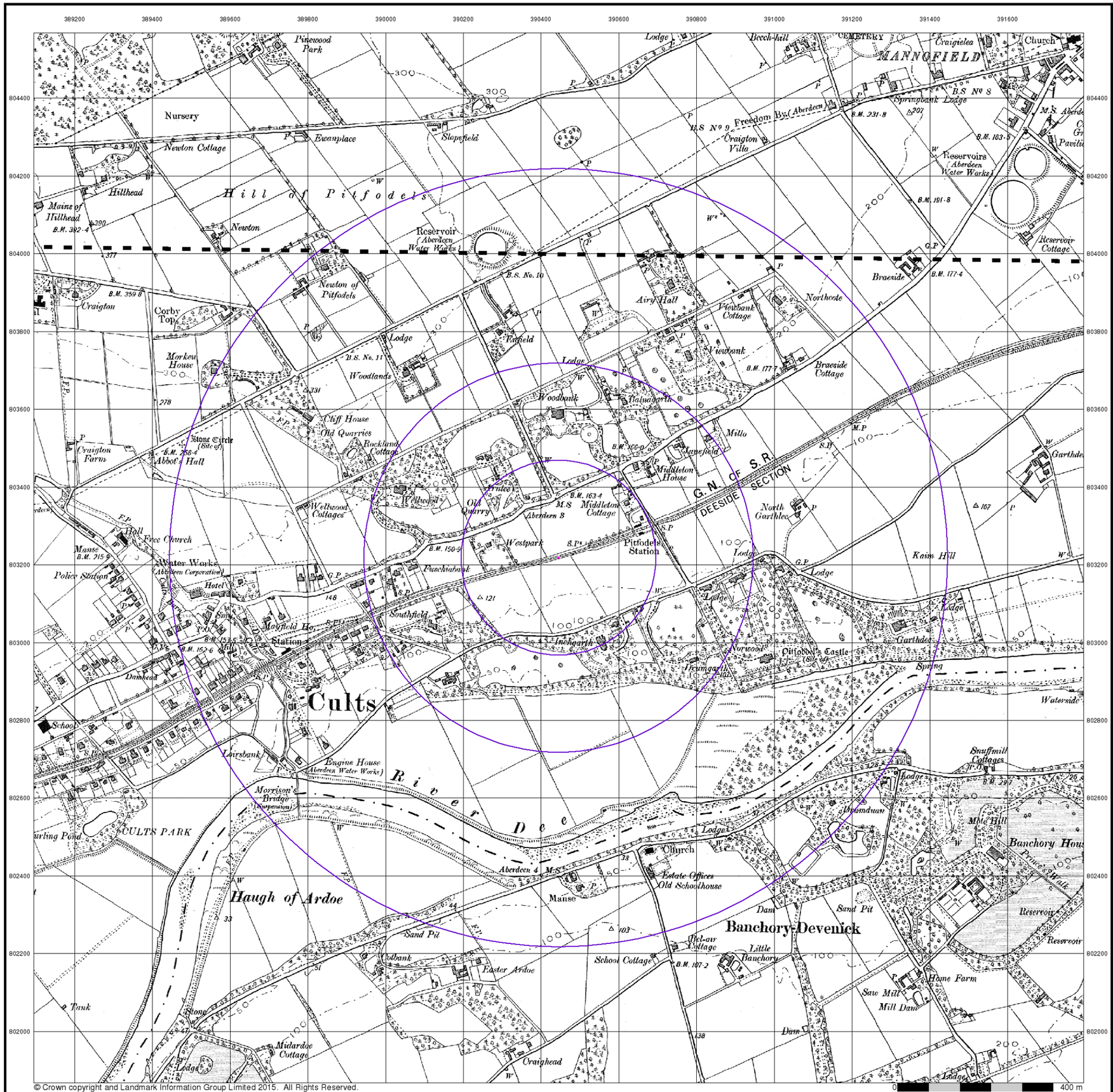

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FAIRHURST

Aberdeenshire

Published 1902 - 1904

Source map scale - 1:10,560

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Map Name(s) and Date(s)

Historical Map - Slice A

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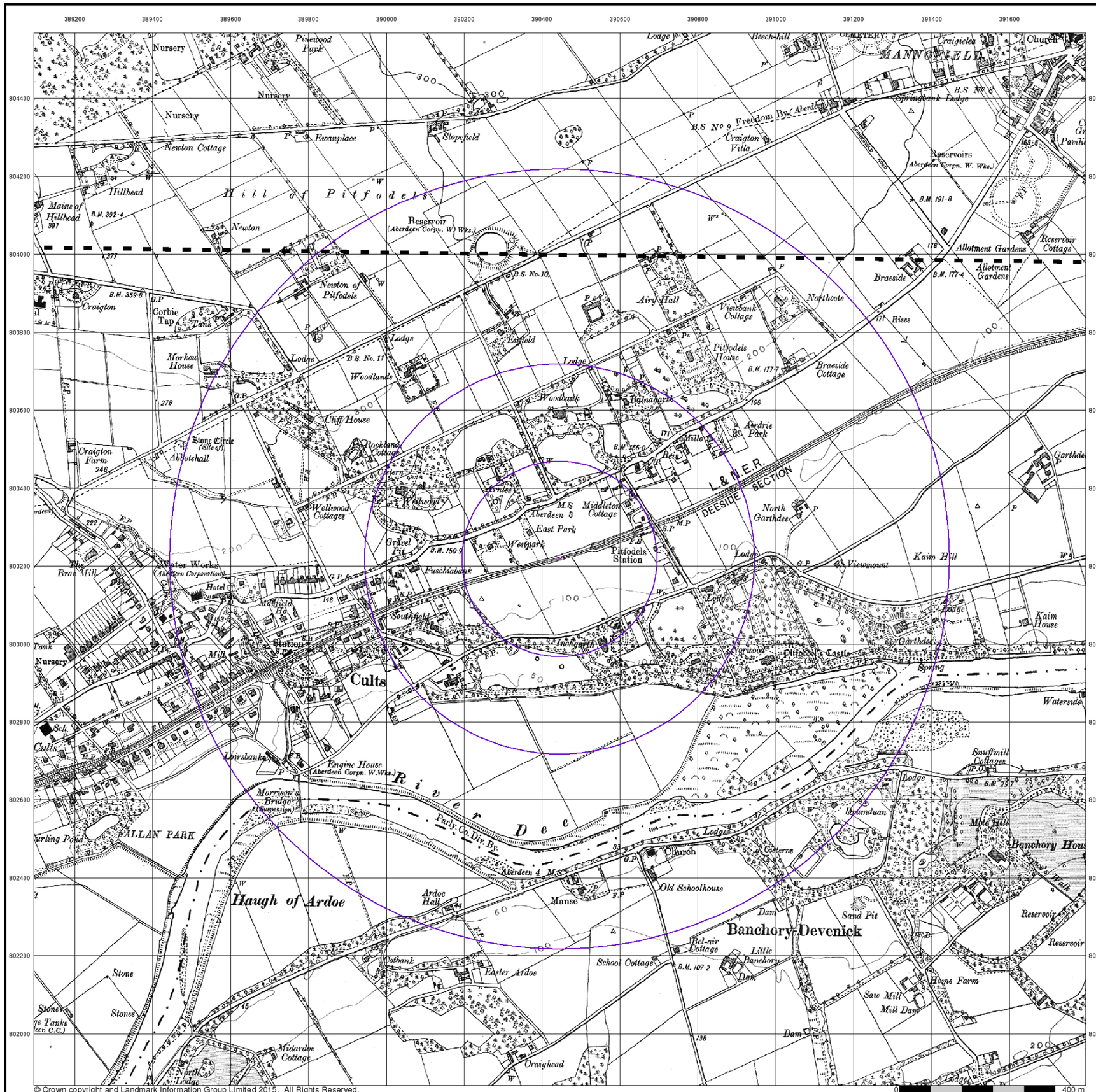

FAIRHURST

Aberdeenshire

Published 1928

Source map scale - 1:10,560

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Map Name(s) and Date(s)

Historical Map - Slice A

N

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Order Number:	100675691_1_1
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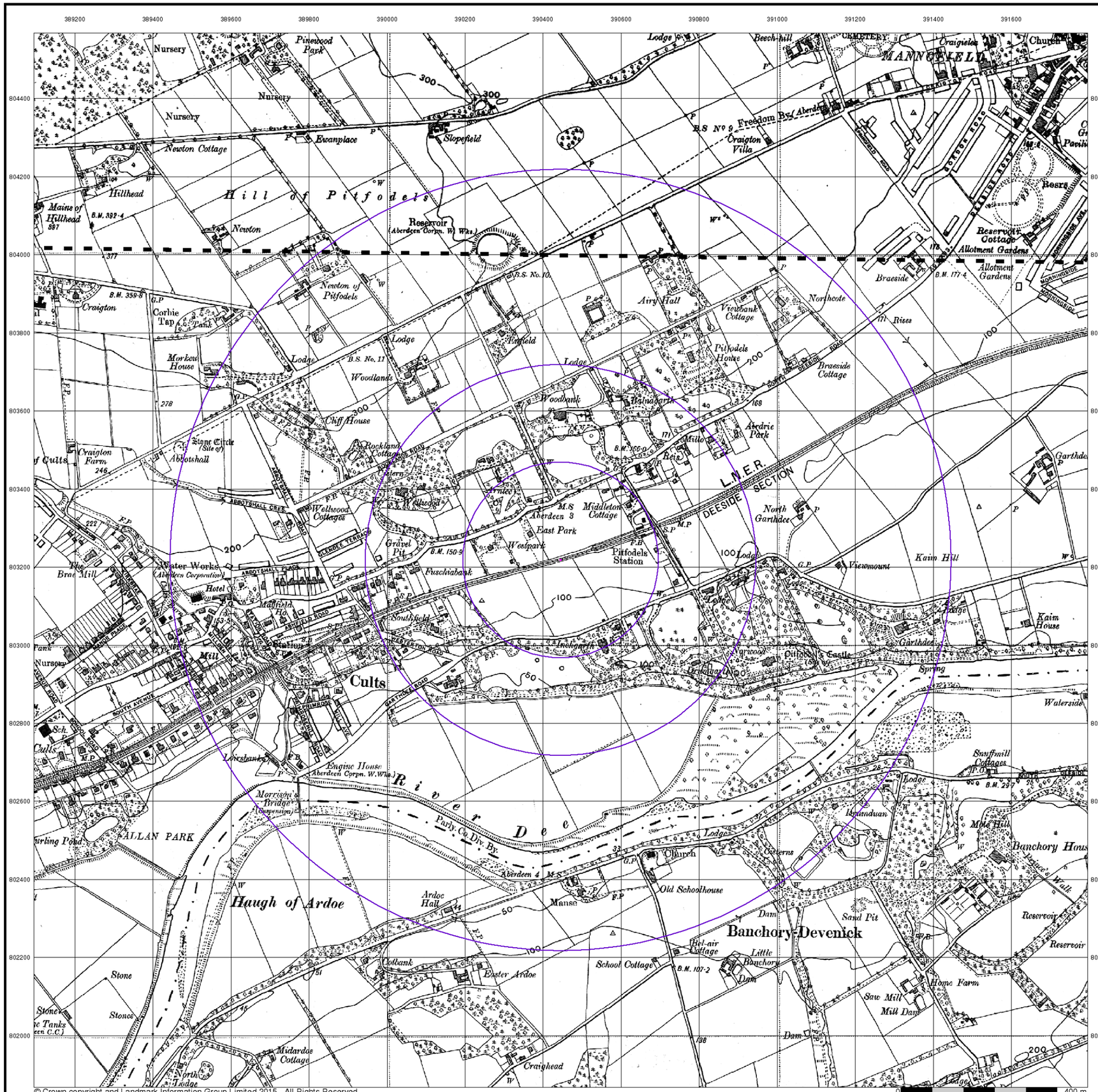

FAIRHURST

Aberdeenshire

Published 1938

Source map scale - 1:10,560

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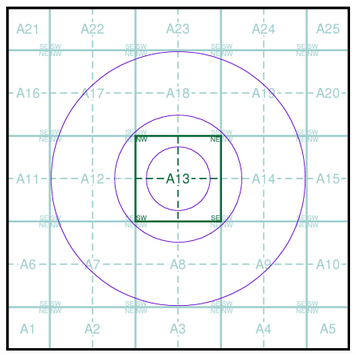
Map Name(s) and Date(s)

075SW
1938
1:10,560

086NW
1938
1:10,560

Historical Map - Slice A



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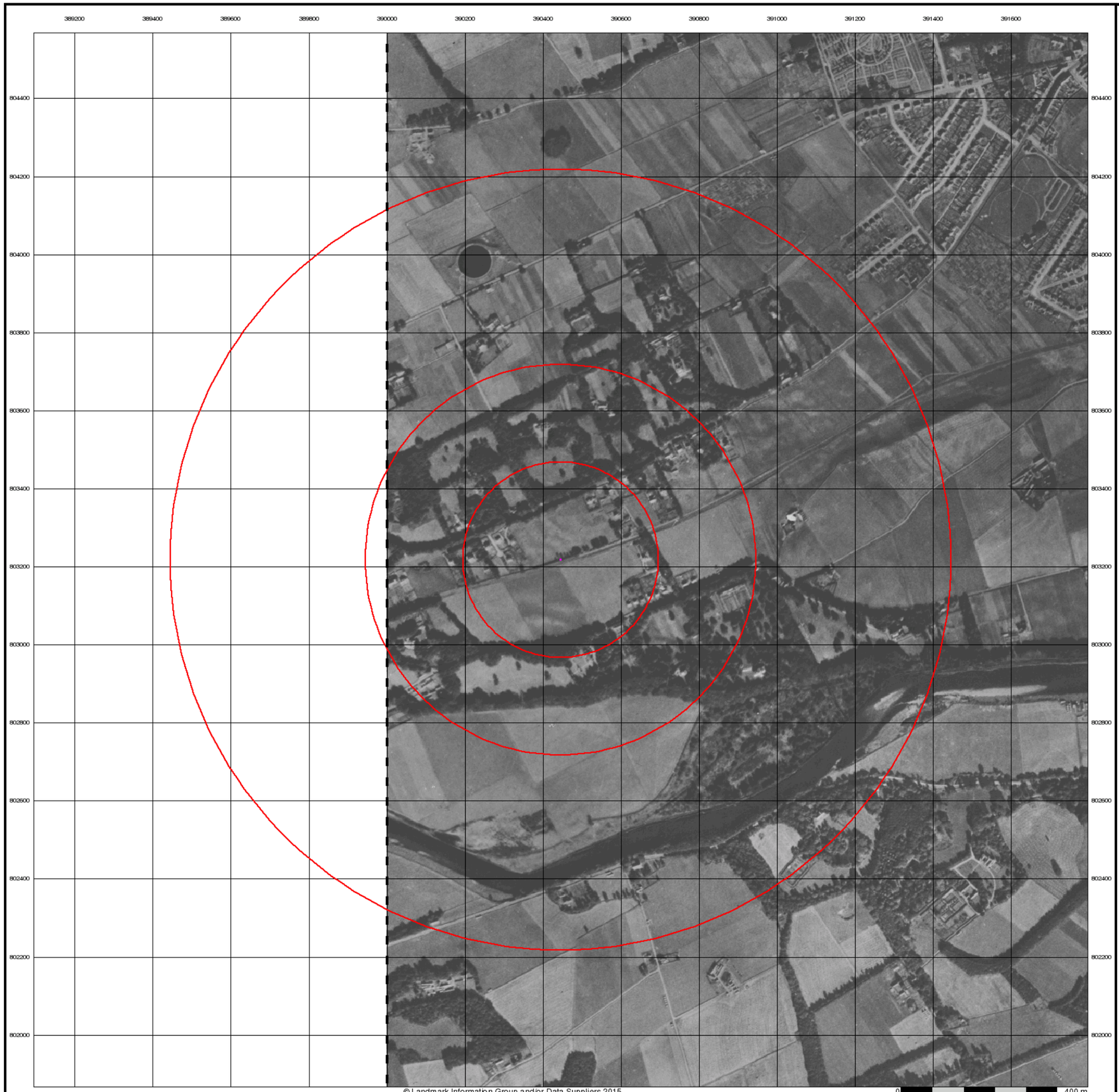


FAIRHURST

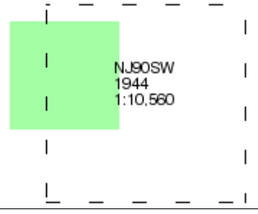
Historical Aerial Photography

Published 1944

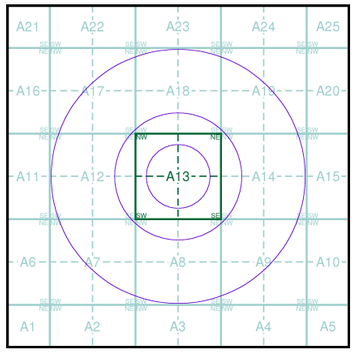
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Aerial Photography - Slice A



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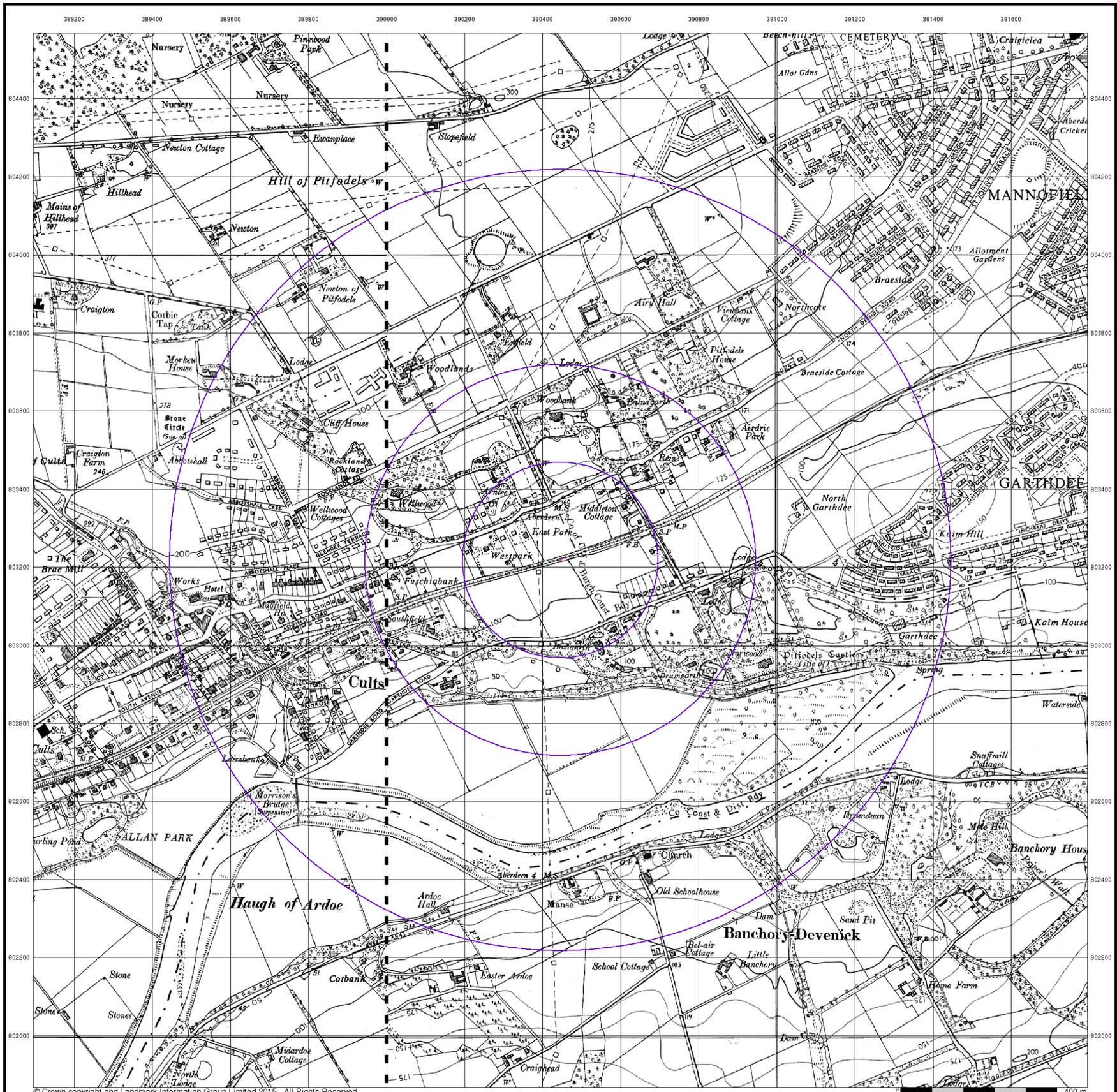

FAIRHURST

Ordnance Survey Plan

Published 1959

Source map scale - 1:10,000

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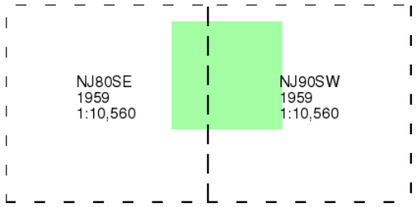
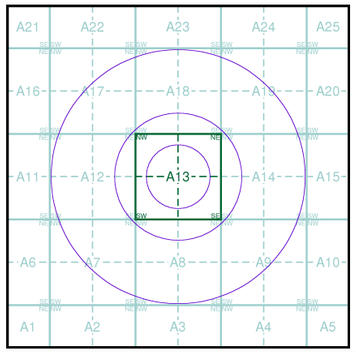
Map Name(s) and Date(s)



Historical Map - Slice A



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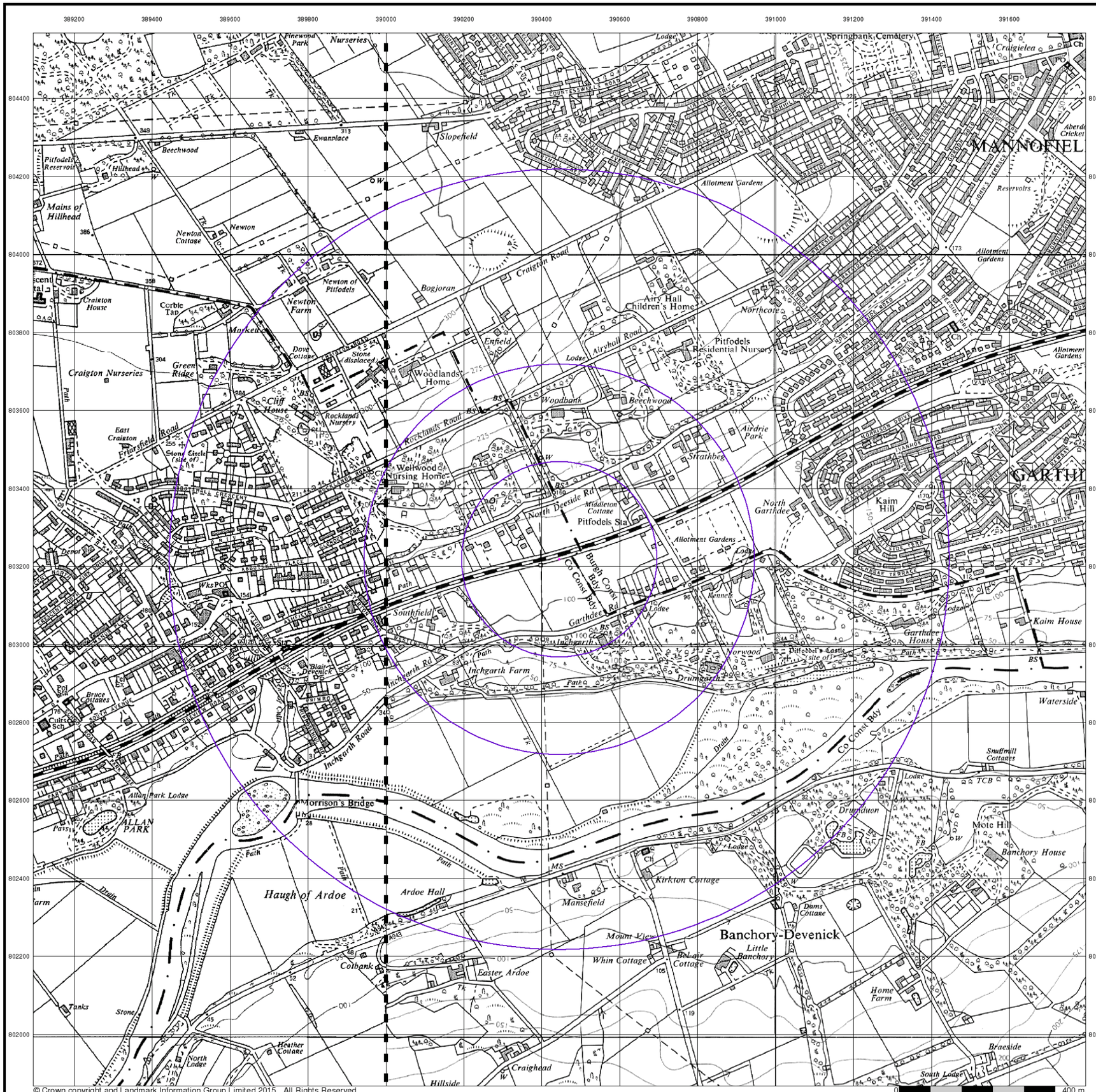

FAIRHURST

Ordnance Survey Plan

Published 1967 - 1968

Source map scale - 1:10,000

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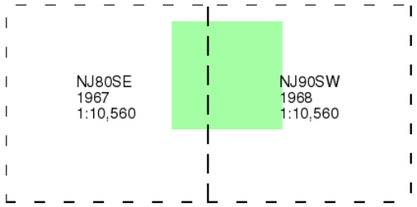
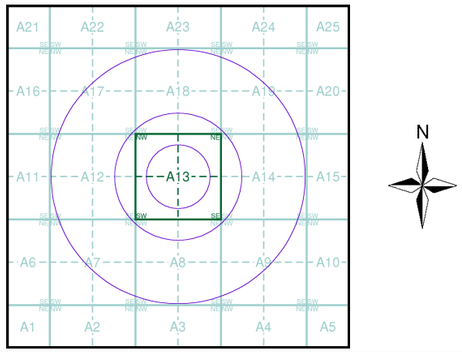


Historical Map - Slice A



Order Details

Order Number:	100675691_1_1
Customer Ref:	106859
National Grid Reference:	390450, 803220
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

9 North Deeside Road, Bieldside, ABERDEEN, AB15 9AD

Landmark INFORMATION GROUP

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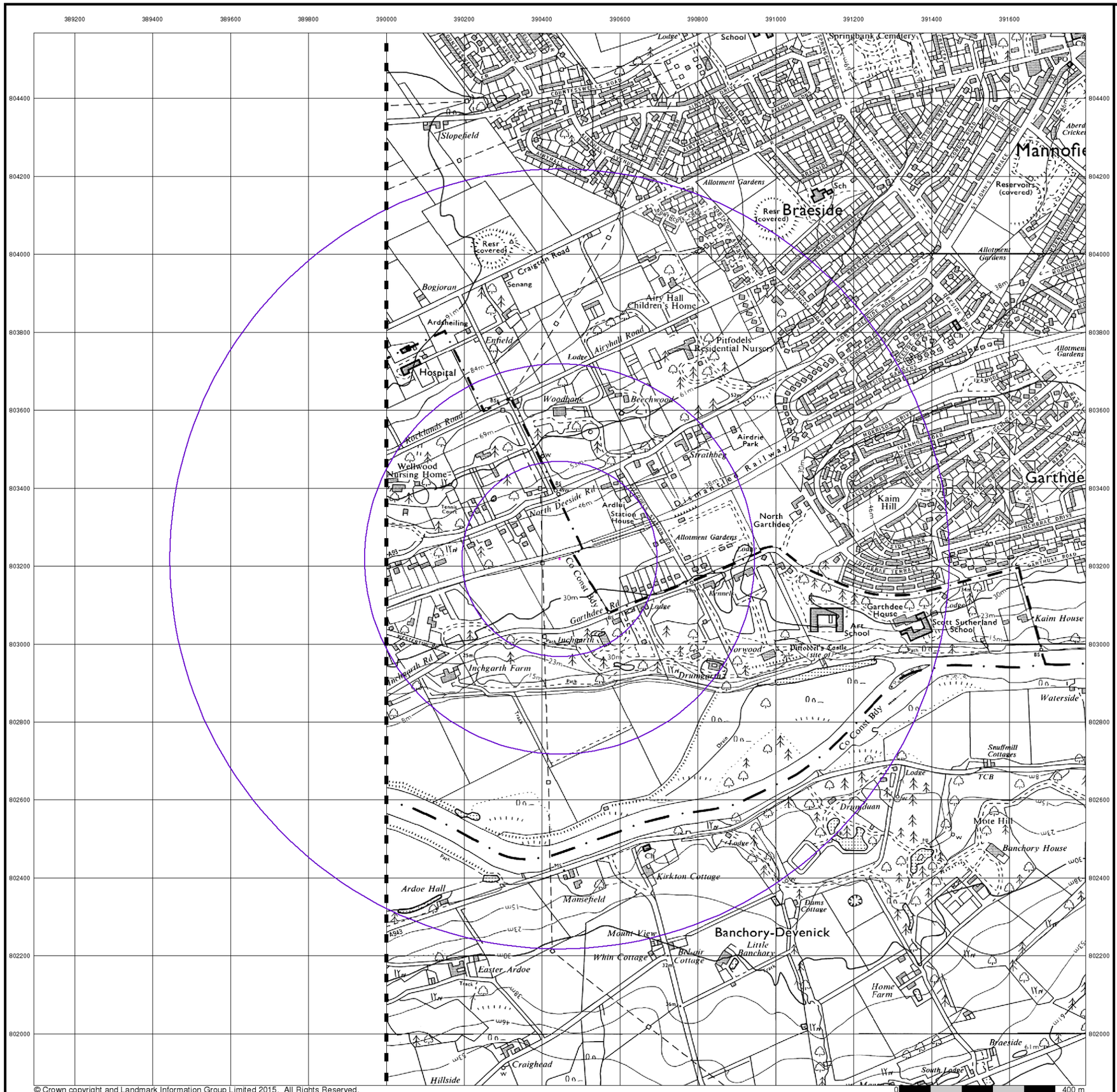
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



FAIRHURST

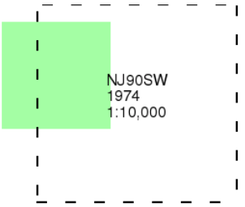
Ordnance Survey Plan

Published 1974

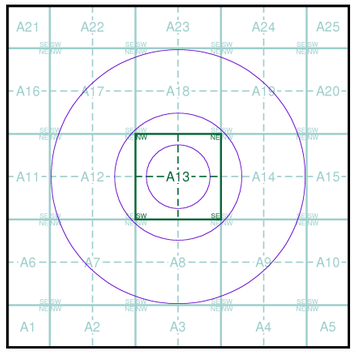
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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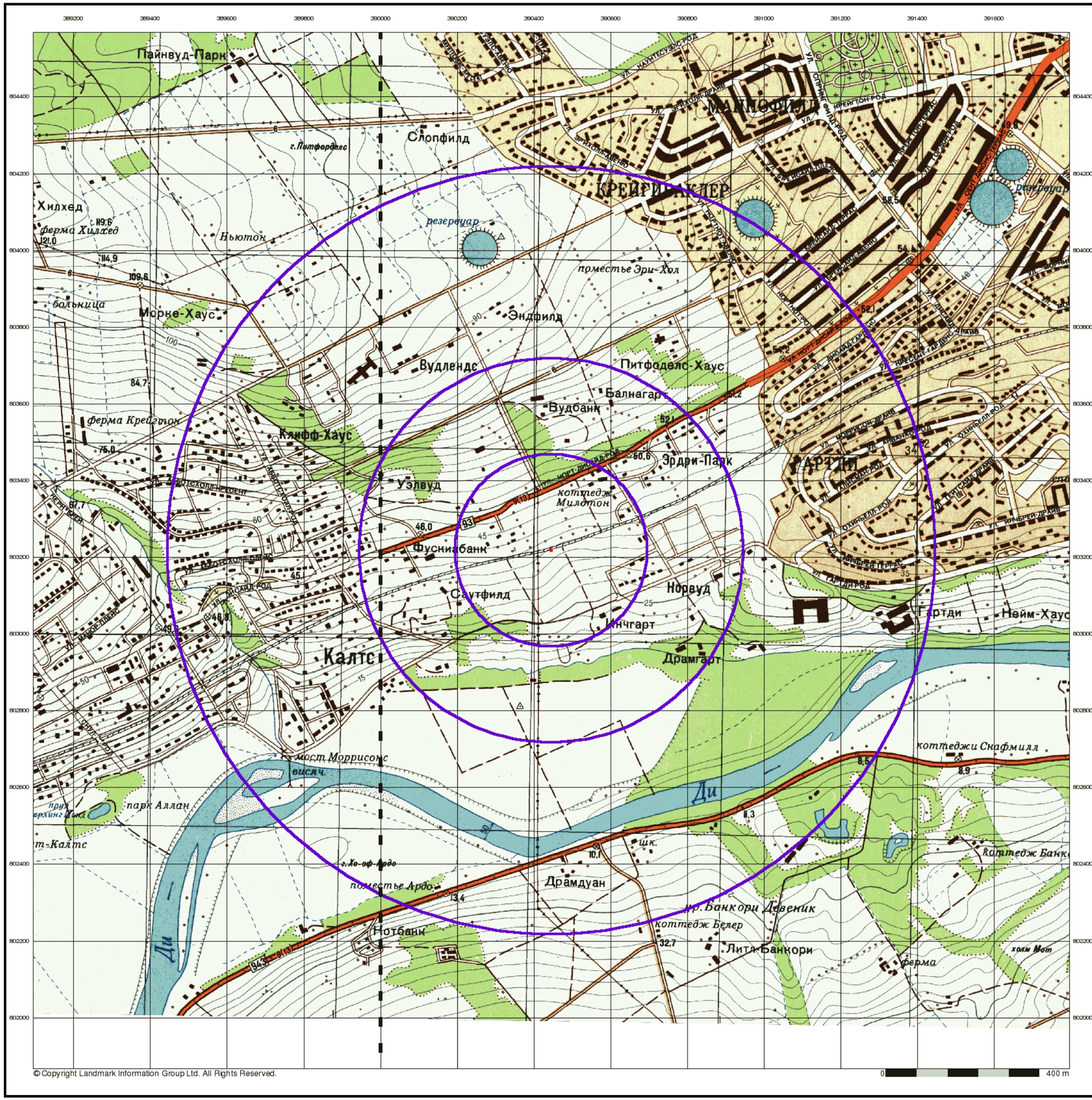


FAIRHURST

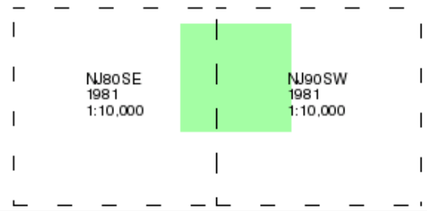
Aberdeen

Published 1981

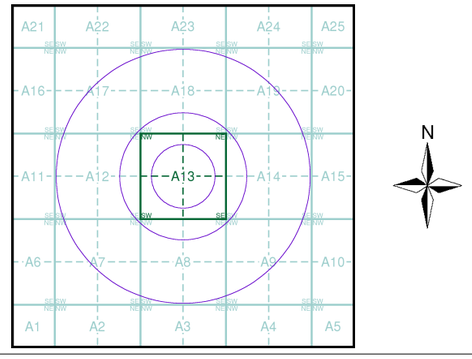
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Russian Map - Slice A



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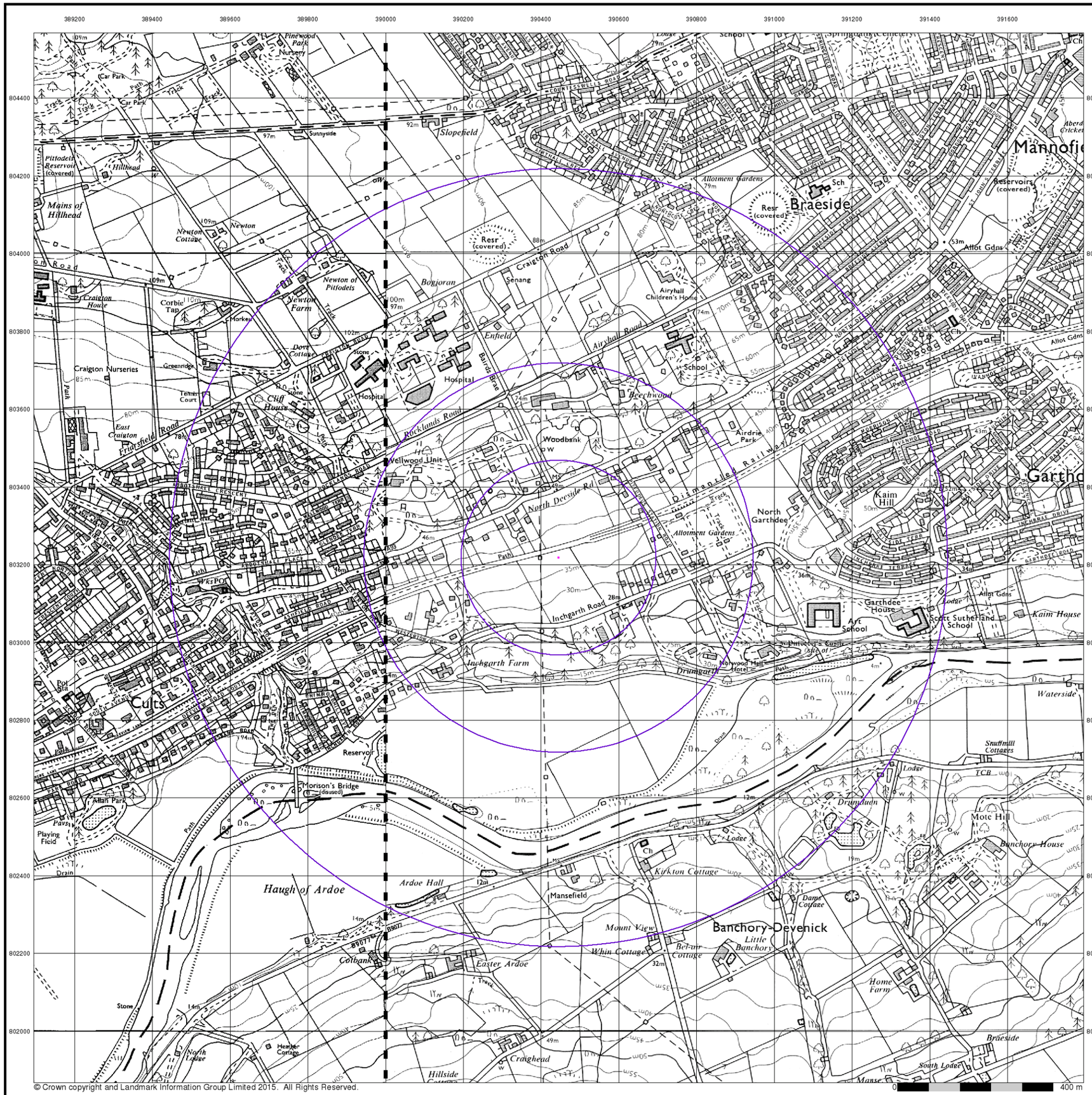


FAIRHURST

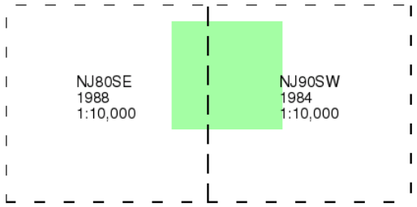
Ordnance Survey Plan

Published 1984 - 1988

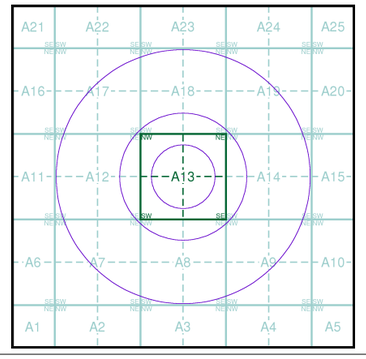
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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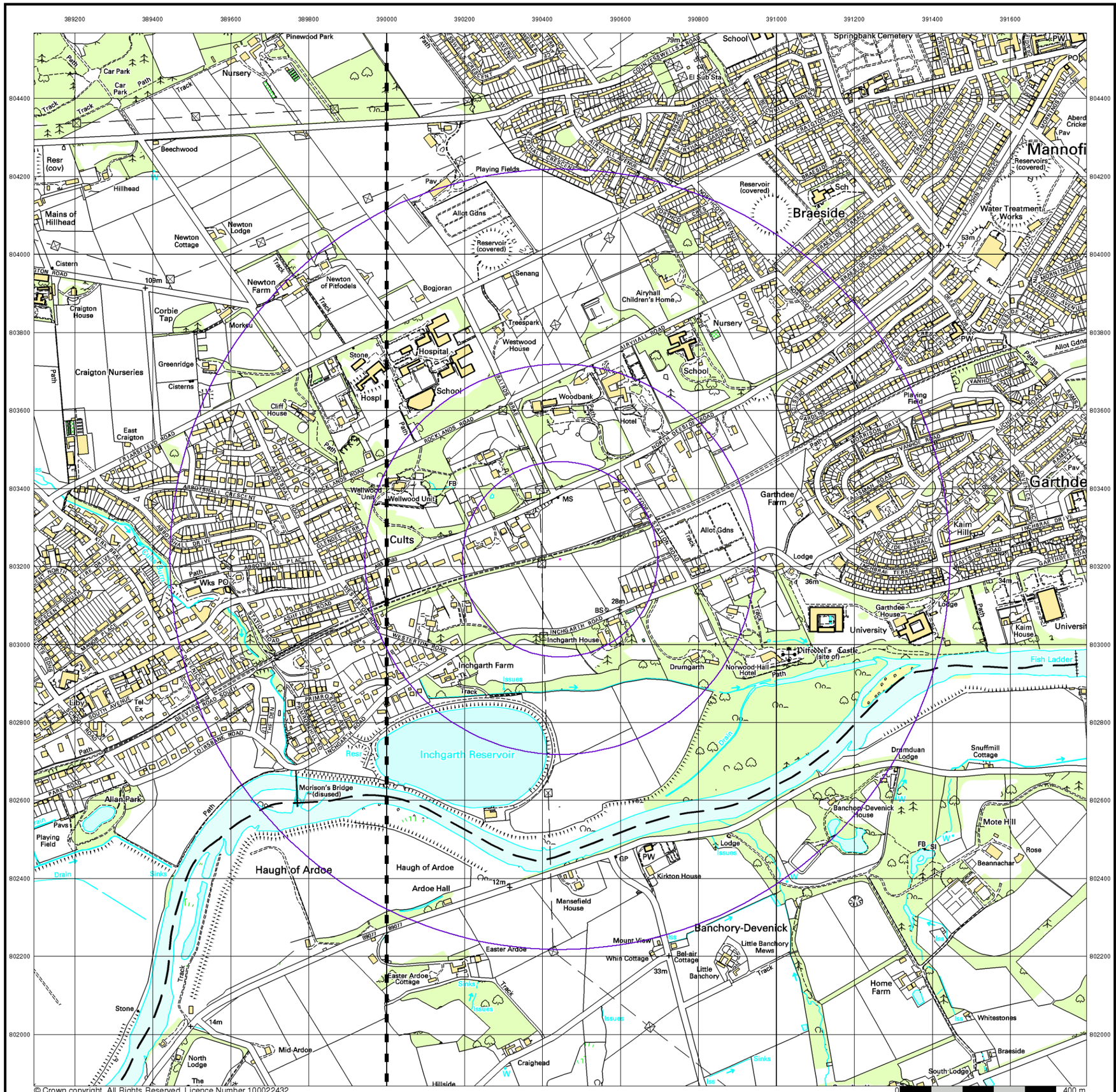


FAIRHURST

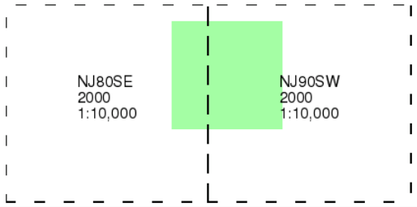
10k Raster Mapping

Published 2000

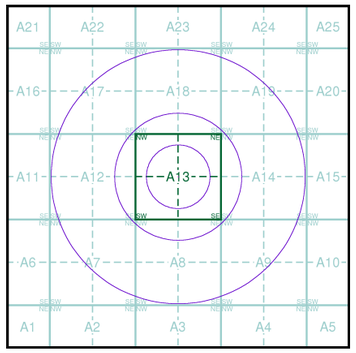
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



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FAIRHURST

10k Raster Mapping

Published 2006

Source map scale - 1:10,000

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

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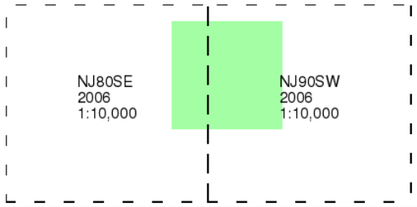
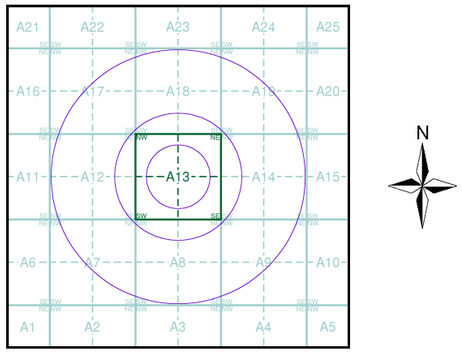


Historical Map - Slice A



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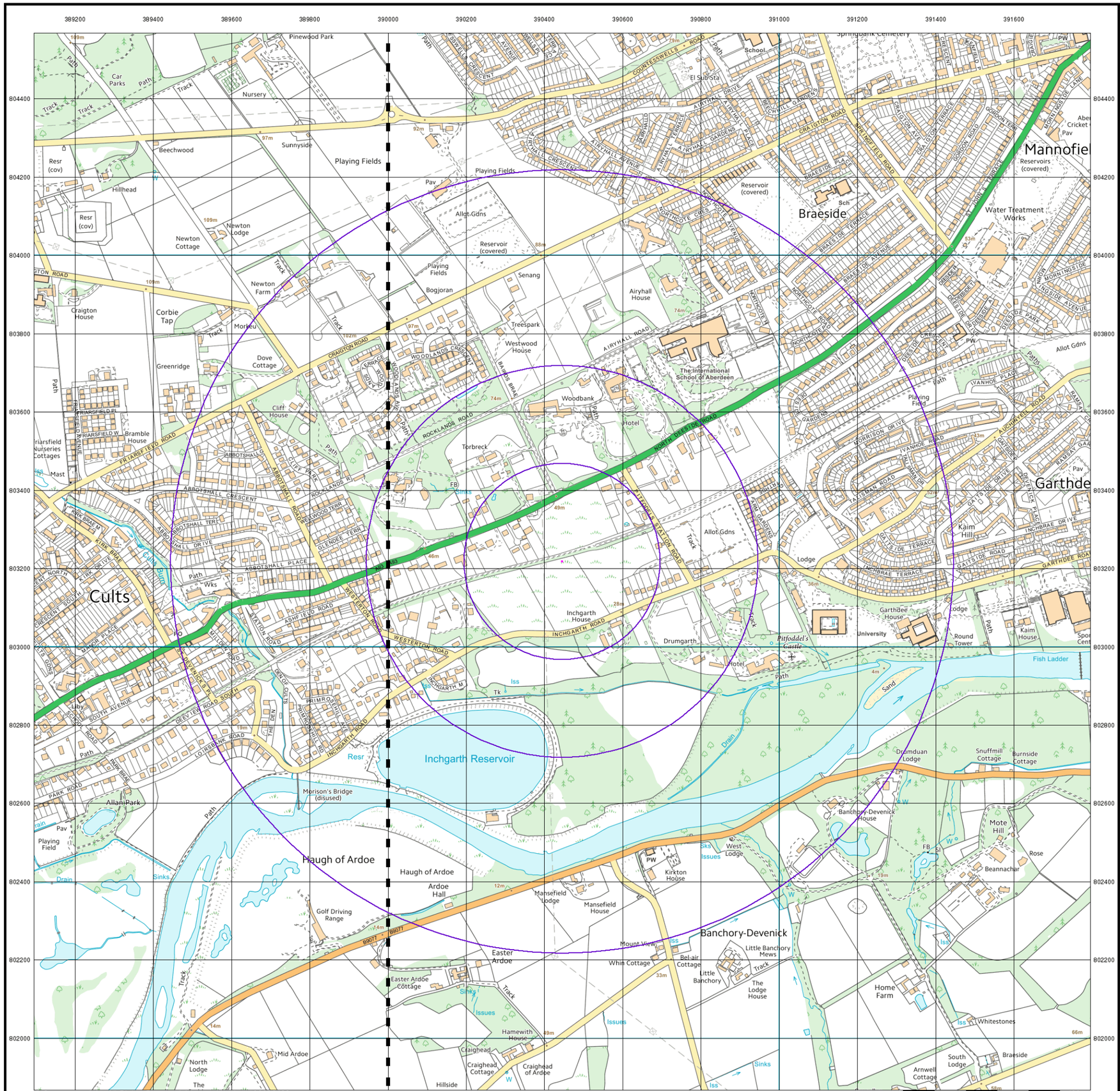

FAIRHURST

VectorMap Local

Published 2016

Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

Historical Map - Slice A

N

Order Details

Order Number:	100675691_1_1
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Slice:	A
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Landmark
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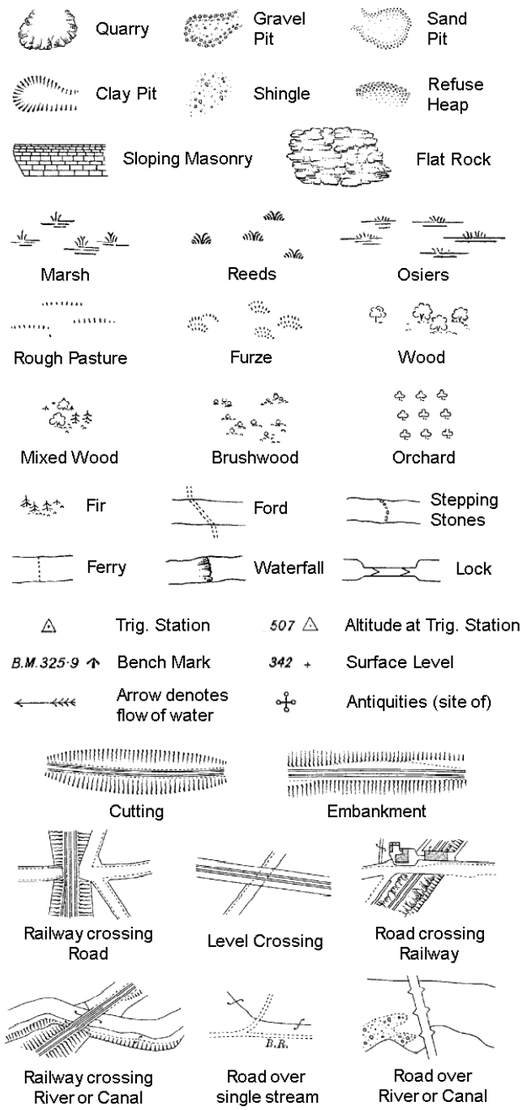
Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

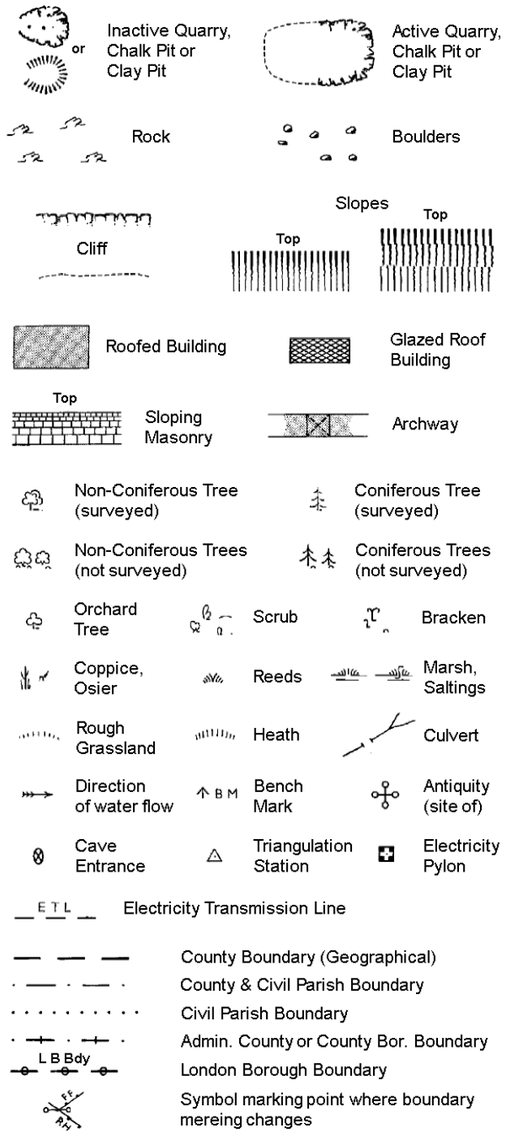
Administrative County & Civil Parish Boundary

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

Co. Burgh Bdy. County Burgh Boundary (Scotland)

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

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

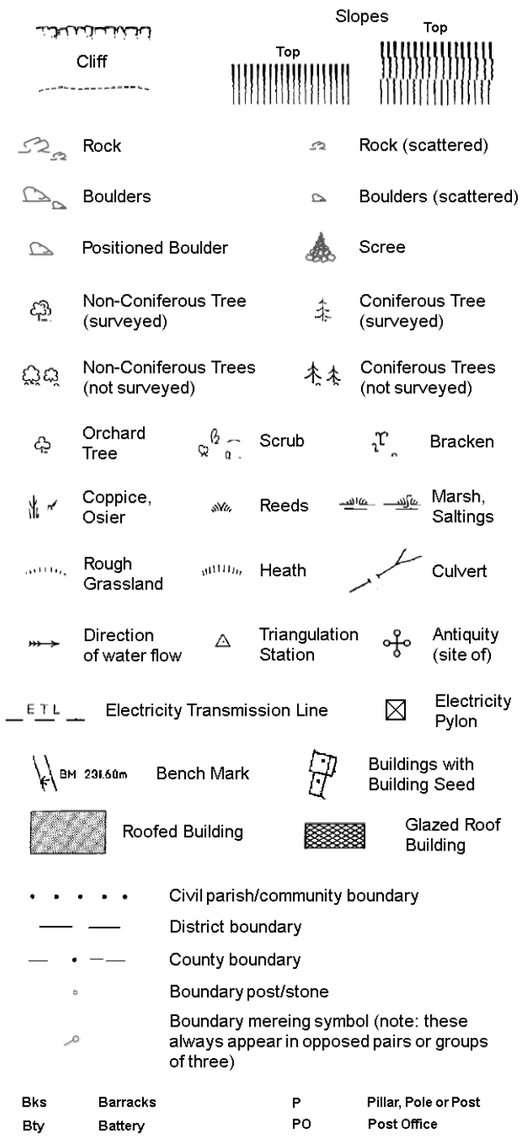
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

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

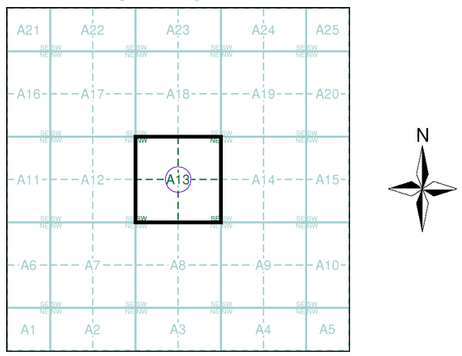
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity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

FAIRHURST

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Aberdeenshire	1:2,500	1864 - 1892	2
Kincardineshire	1:2,500	1895	3
Aberdeenshire	1:2,500	1901	4
Aberdeenshire	1:2,500	1925	5
Ordnance Survey Plan	1:2,500	1963 - 1967	6
Ordnance Survey Plan	1:1,250	1980	7
Additional SIMs	1:2,500	1987	8
Additional SIMs	1:1,250	1987	9
Large-Scale National Grid Data	1:1,250	1993	10
Large-Scale National Grid Data	1:2,500	1993	11
Large-Scale National Grid Data	1:1,250	1994	12
Historical Aerial Photography	1:2,500	2001	13

Historical Map - Segment A13



Order Details

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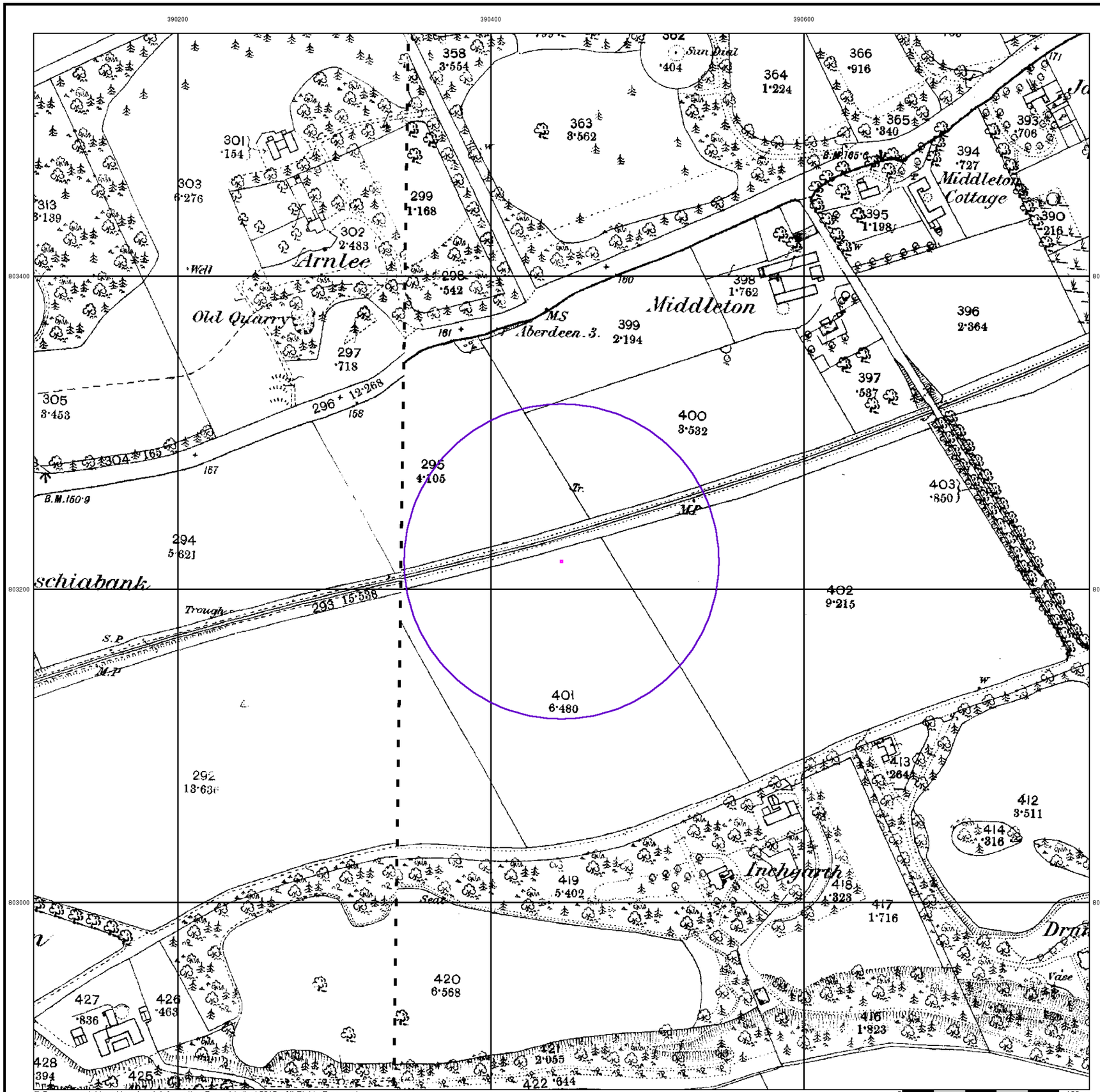


FAIRHURST

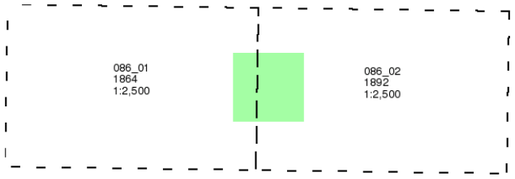
Aberdeenshire

Published 1864 - 1892

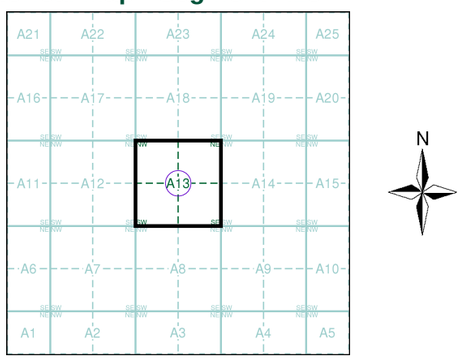
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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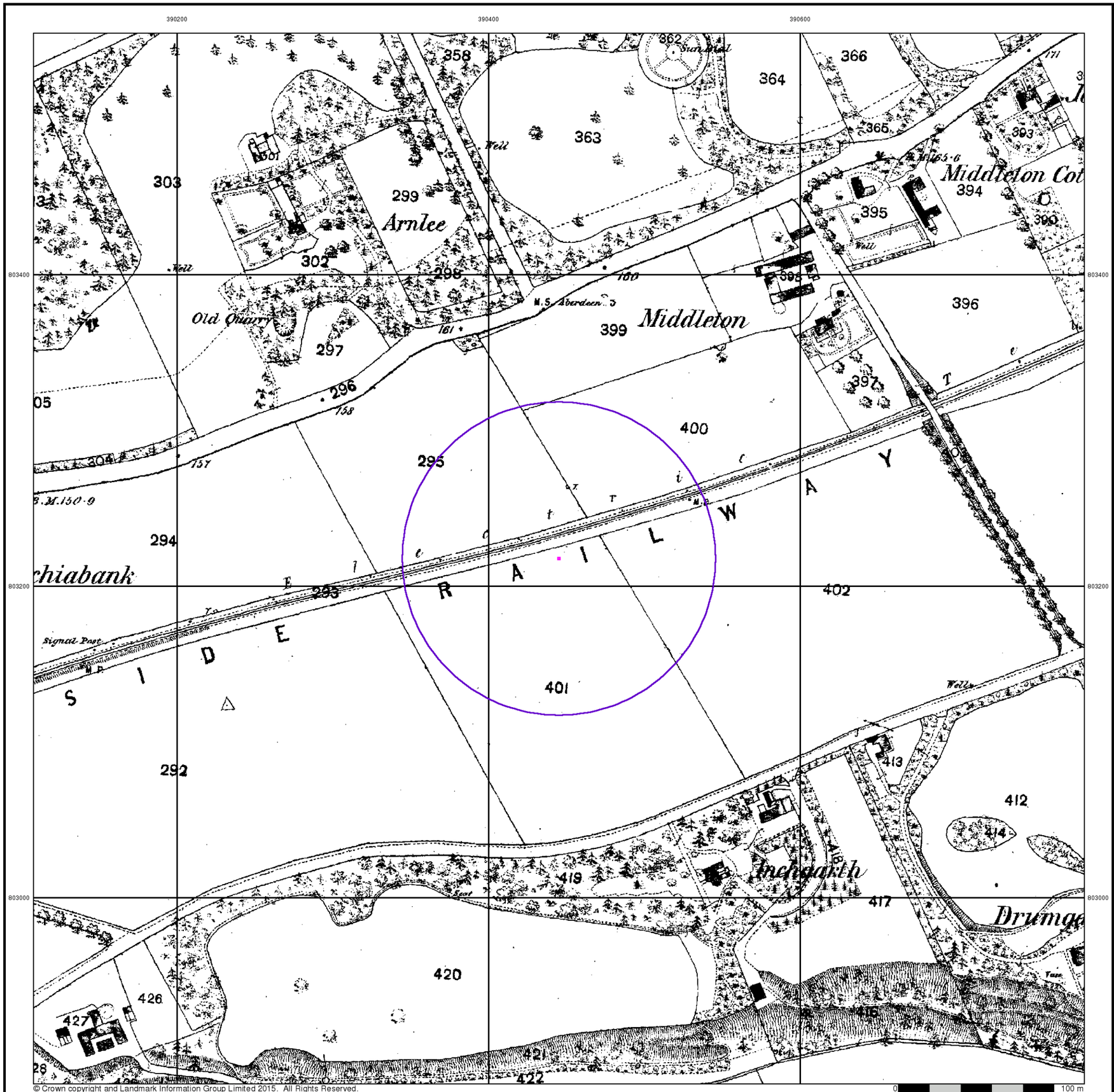

FAIRHURST

Kincardineshire

Published 1895

Source map scale - 1:2,500

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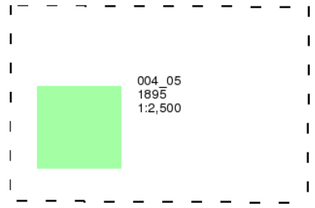
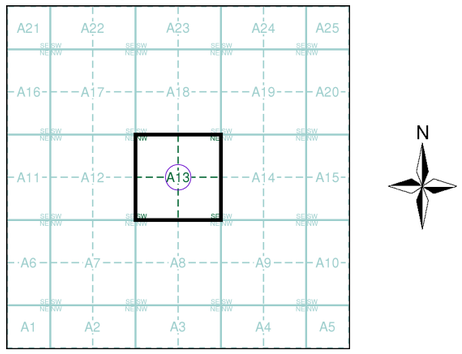


Historical Map - Segment A13



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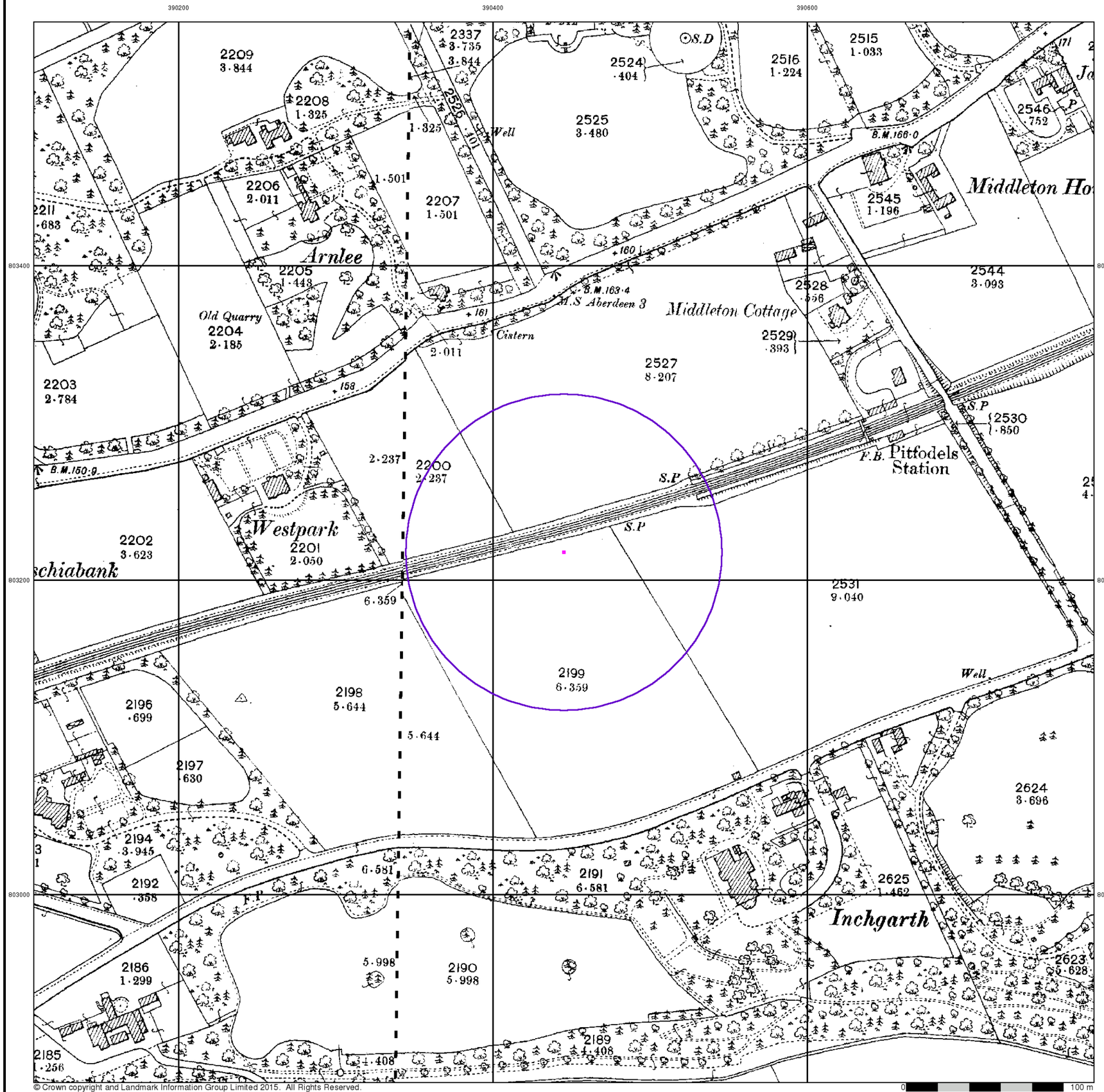

FAIRHURST

Aberdeenshire

Published 1901

Source map scale - 1:2,500

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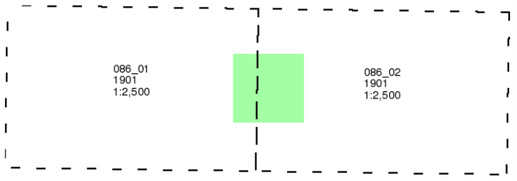
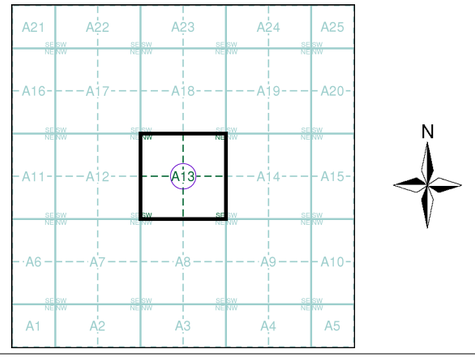


Historical Map - Segment A13



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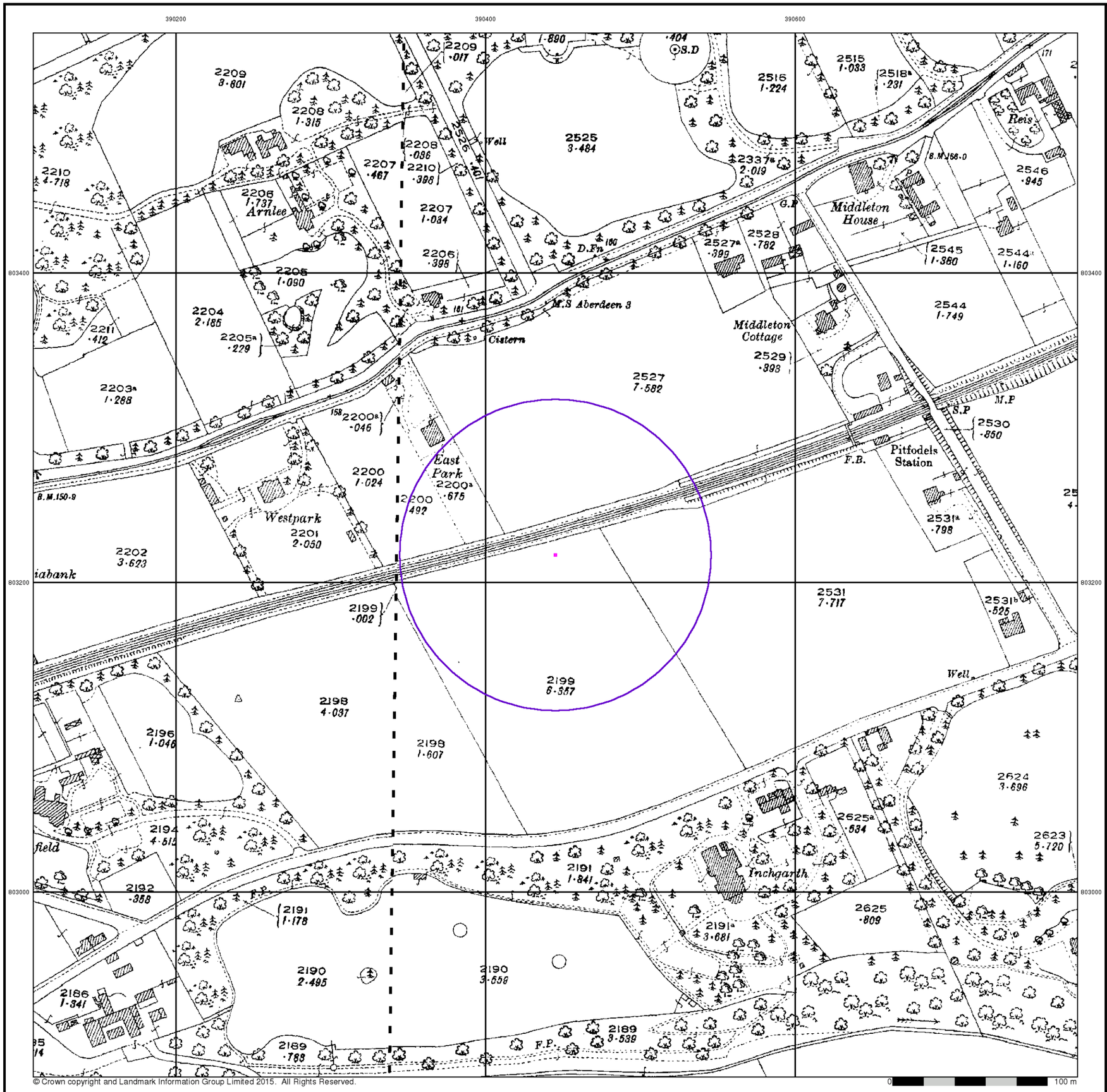


FAIRHURST

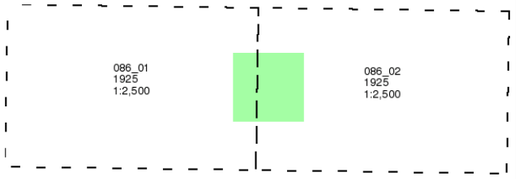
Aberdeenshire

Published 1925

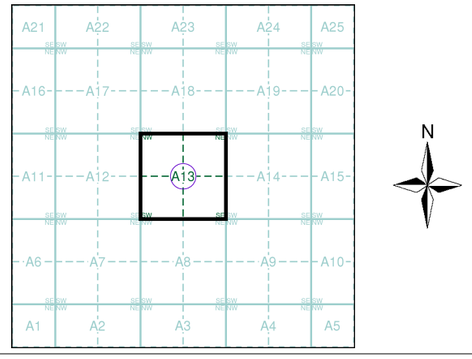
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



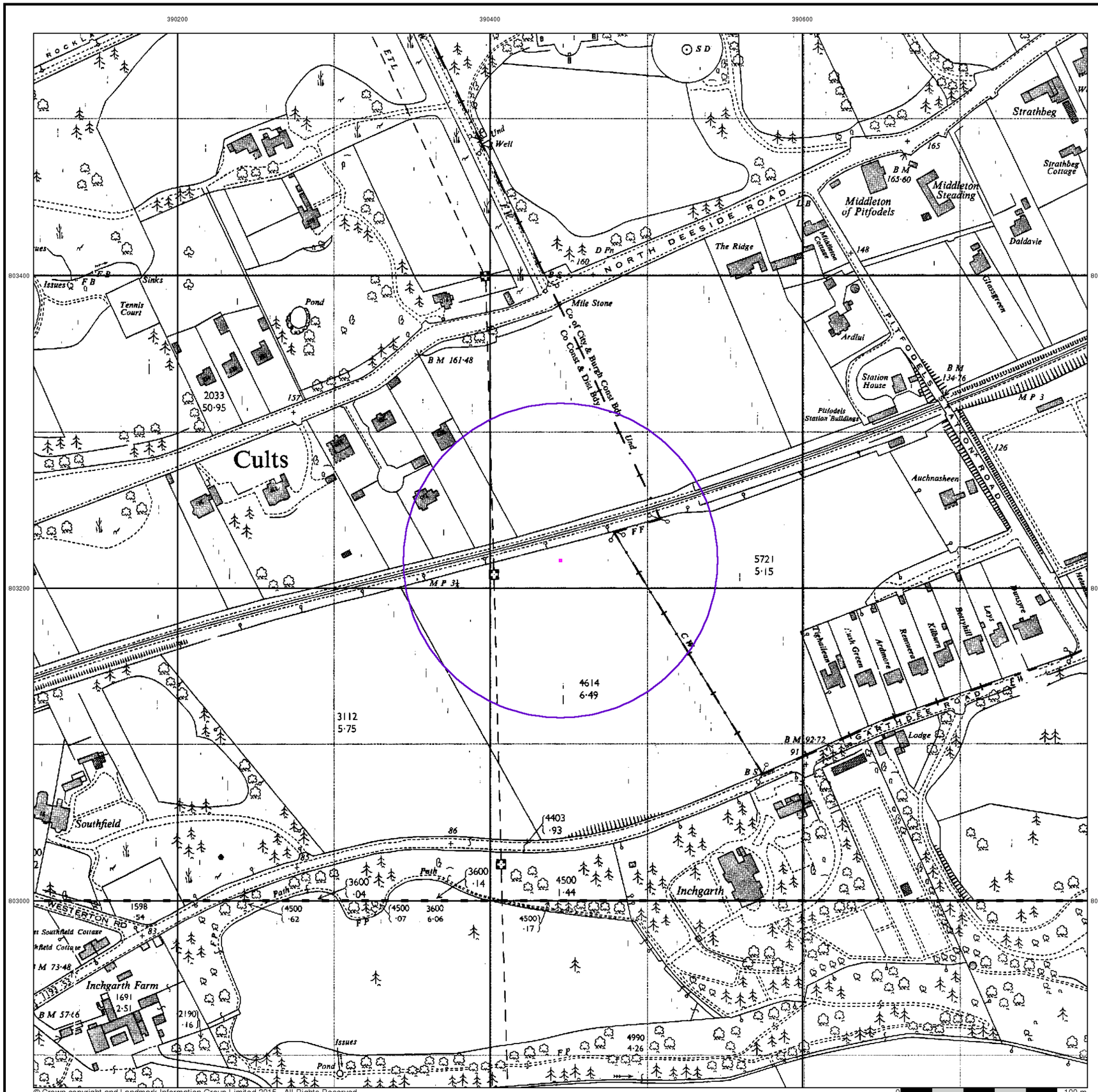
Order Details

Order Number:	100675691_1_1
Customer Ref:	106859
National Grid Reference:	390450, 803220
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

9 North Deeside Road, Bieldside, ABERDEEN, AB15 9AD

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



FAIRHURST

Ordnance Survey Plan

Published 1963 - 1967

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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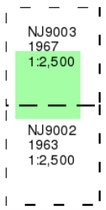
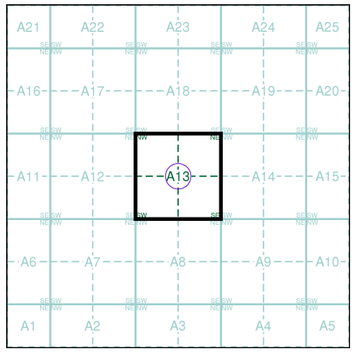


Historical Map - Segment A13



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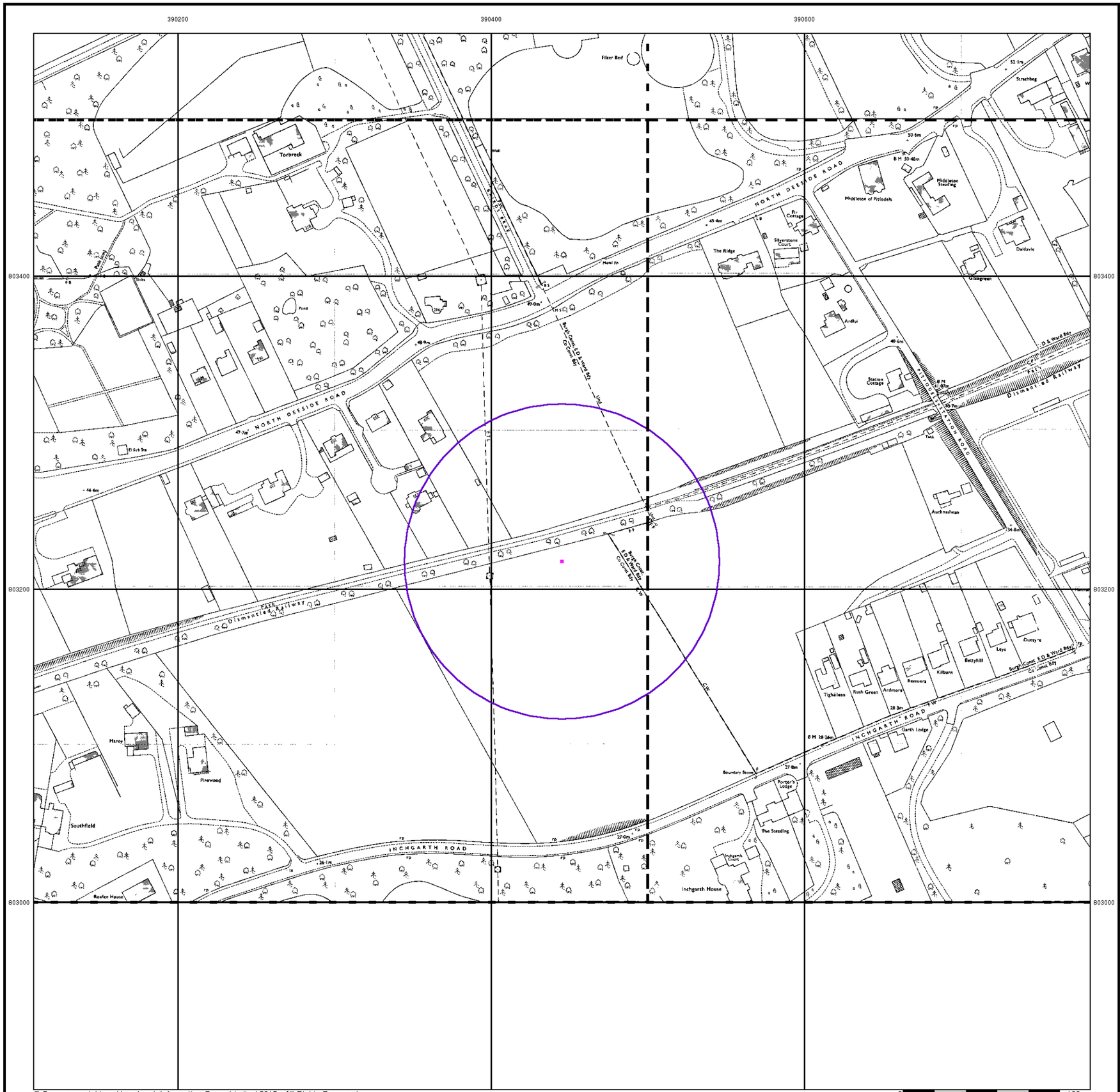

FAIRHURST

Ordnance Survey Plan

Published 1980

Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

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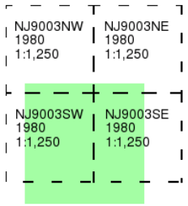
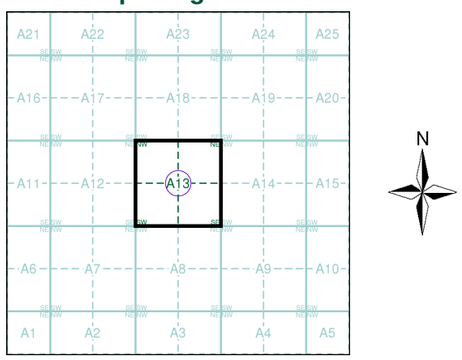


Historical Map - Segment A13



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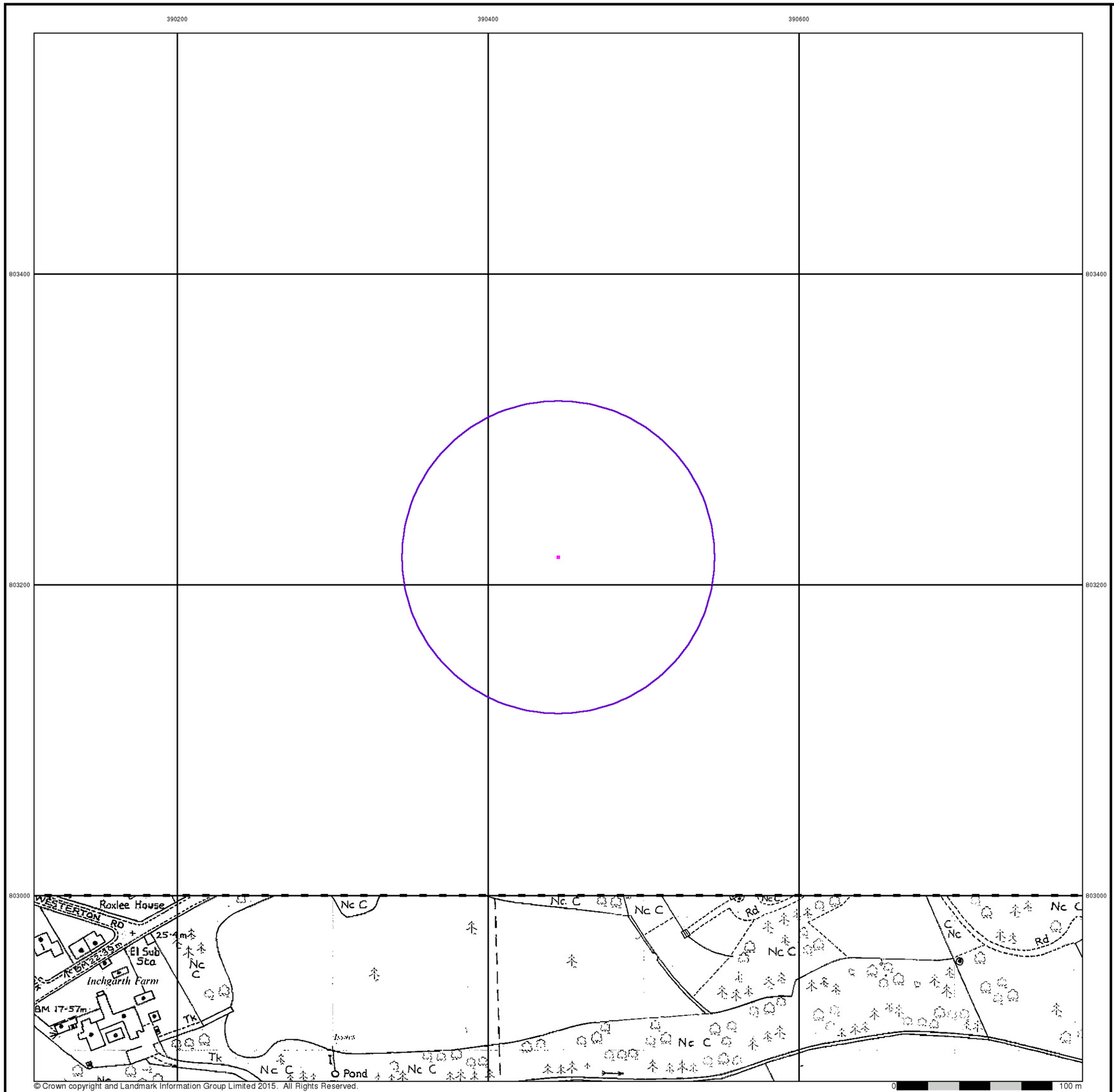


FAIRHURST

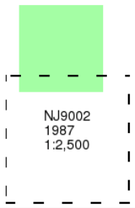
Additional SIMs

Published 1987

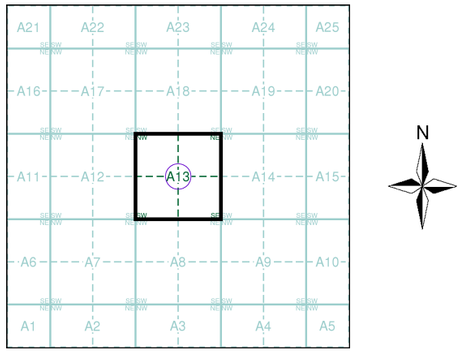
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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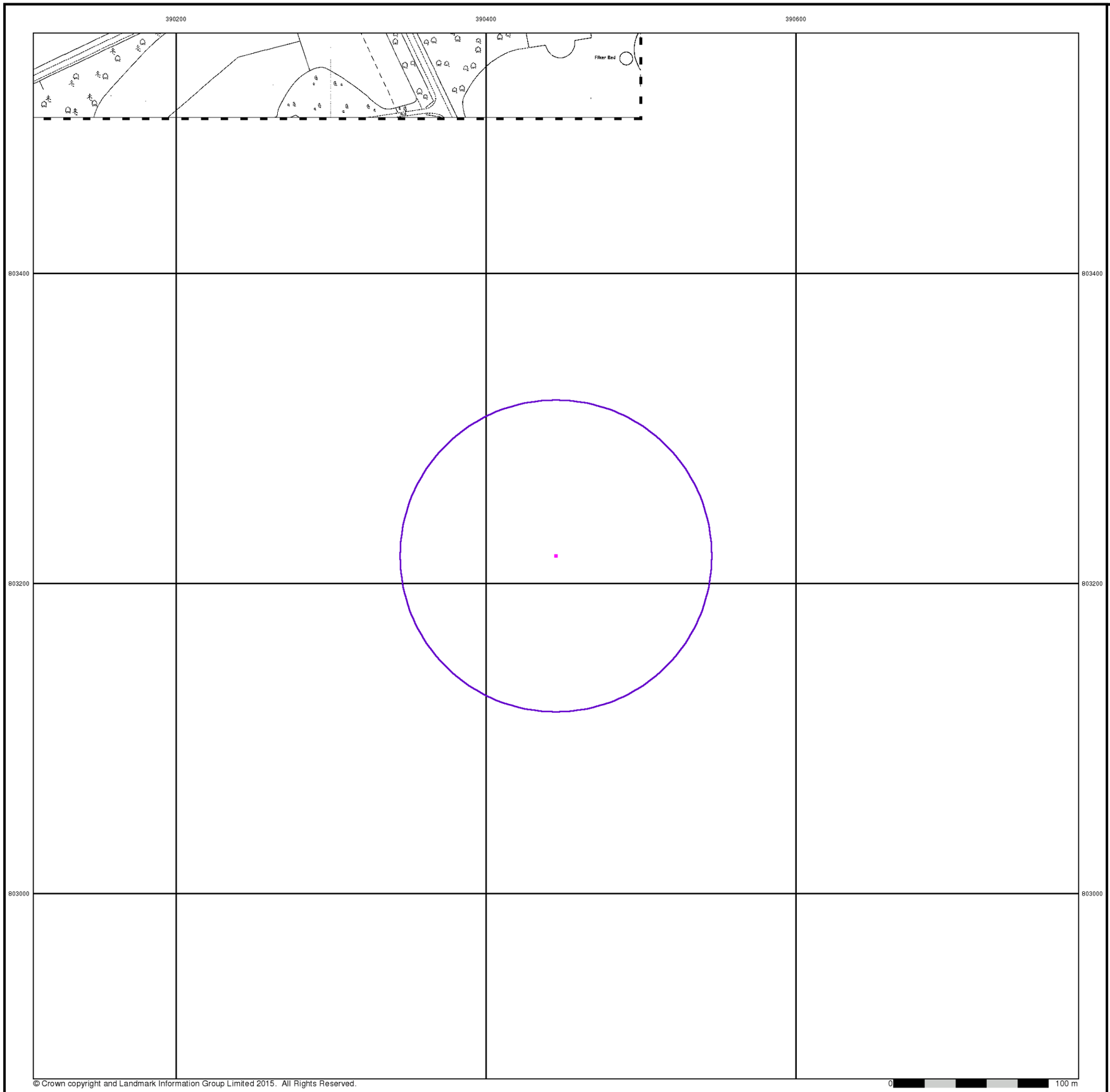

FAIRHURST

Additional SIMs

Published 1987

Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

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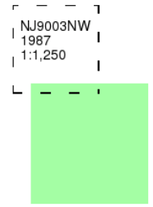
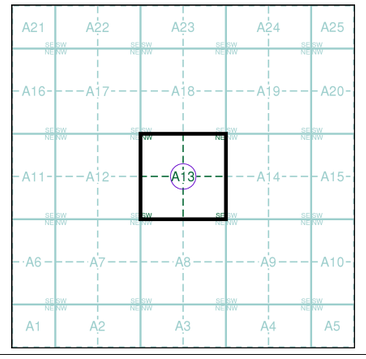


Historical Map - Segment A13



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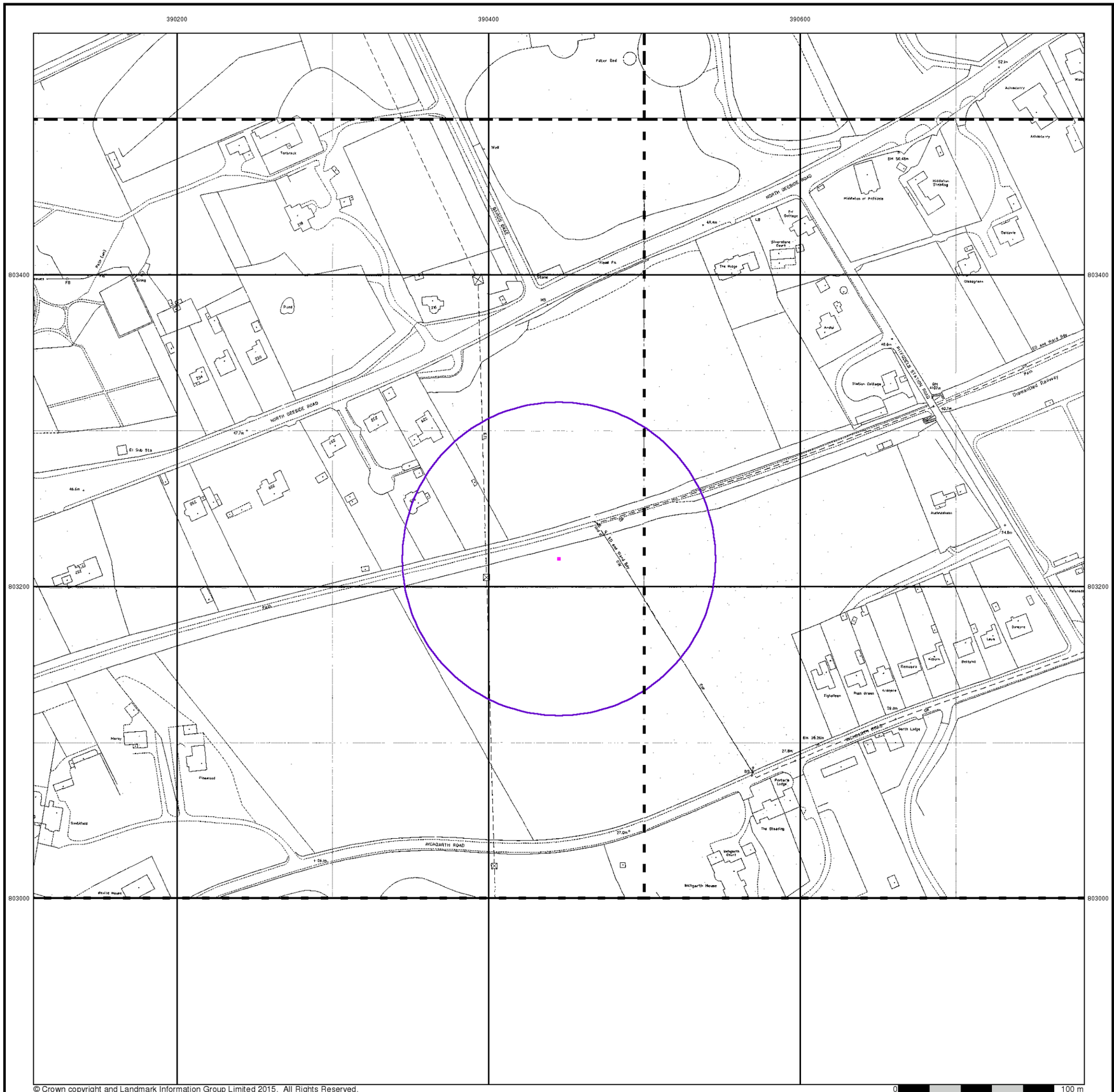

0 100 m

FAIRHURST

Large-Scale National Grid Data

Published 1993

Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

Historical Map - Segment A13

Order Details

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Landmark
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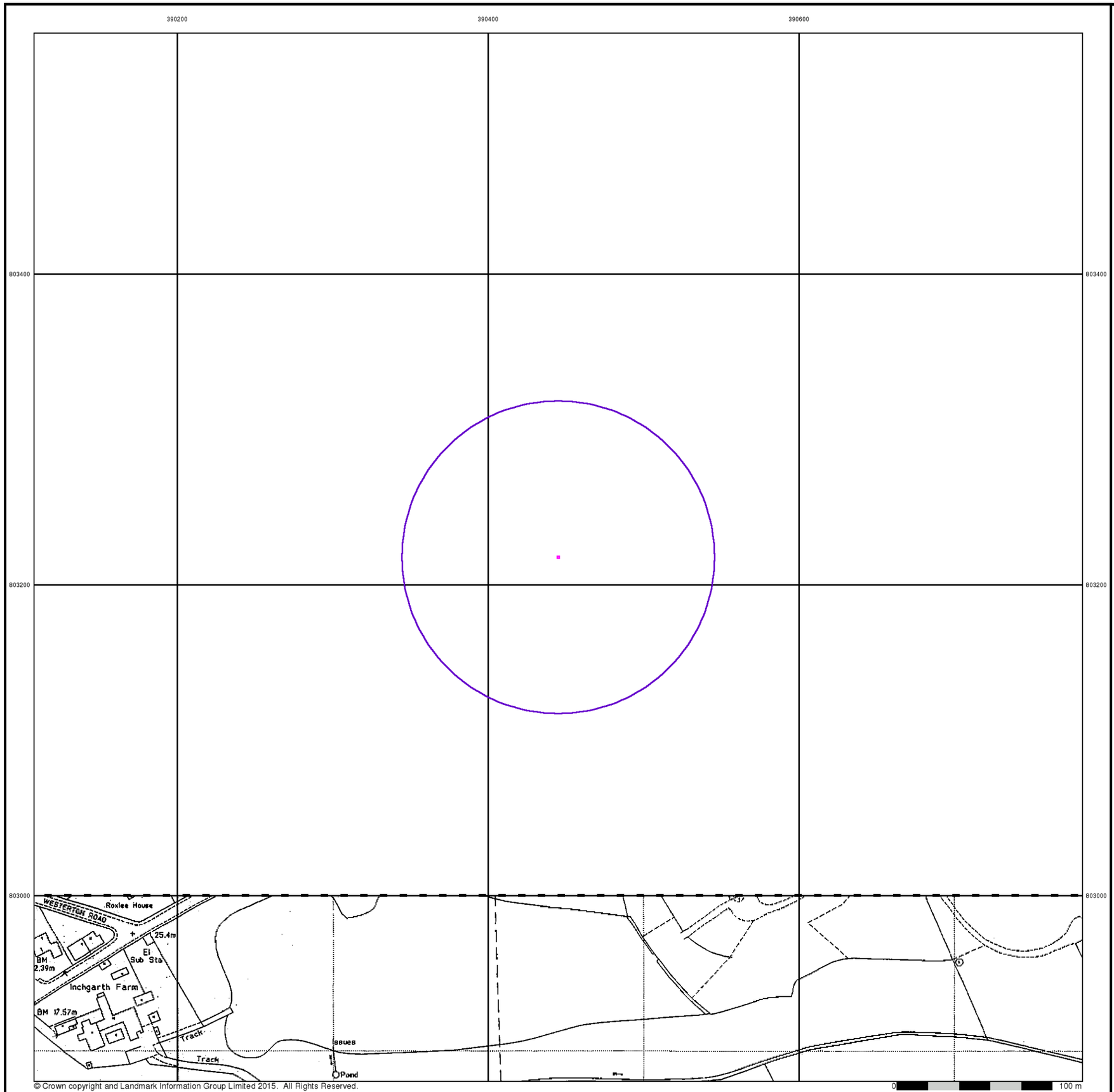

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Large-Scale National Grid Data

Published 1993

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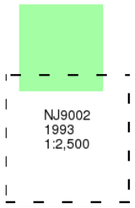
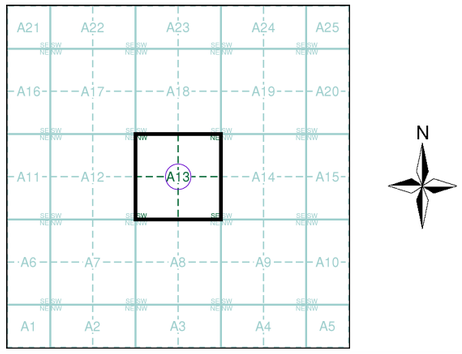


Historical Map - Segment A13



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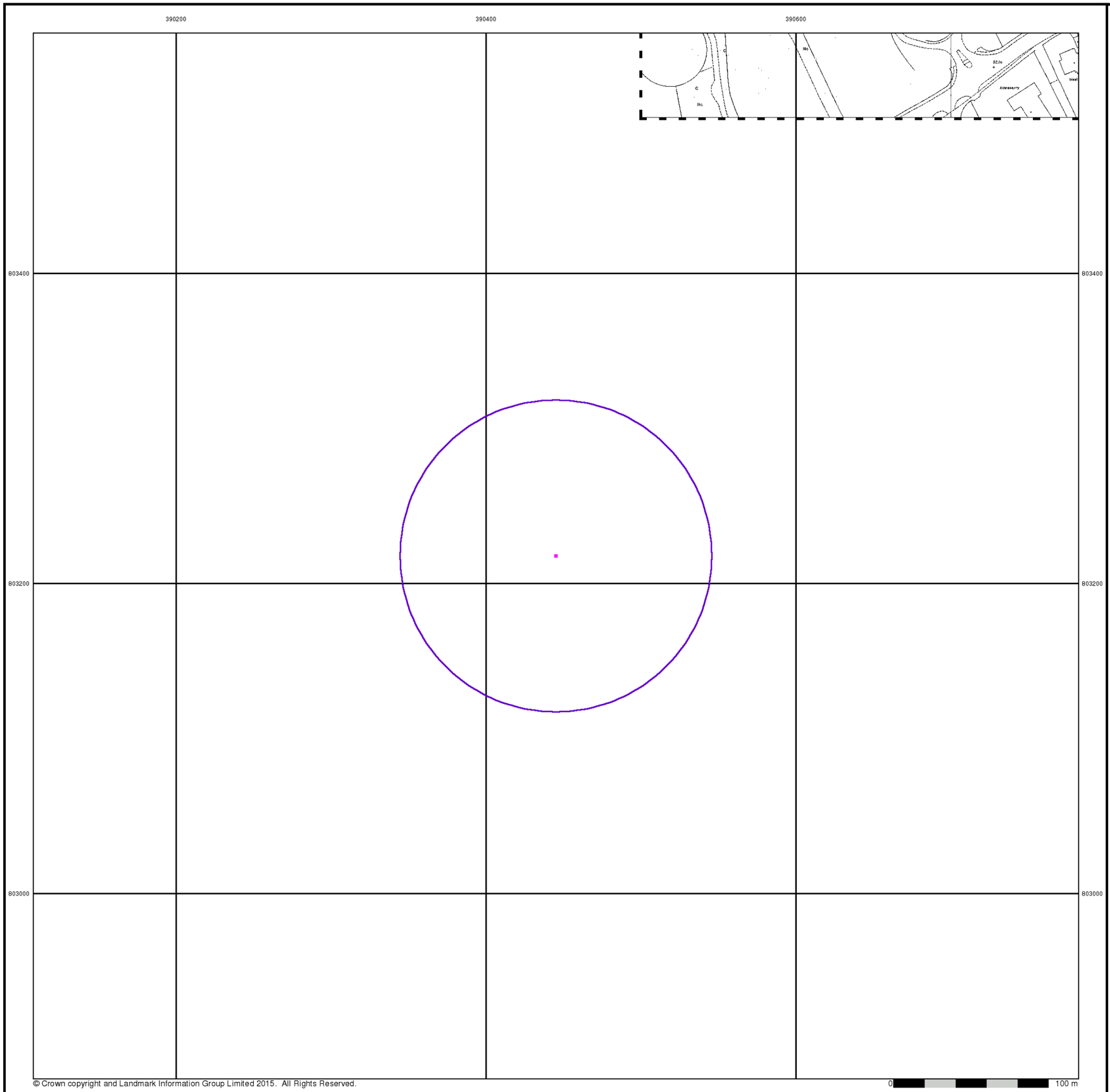

0 100 m

FAIRHURST

Large-Scale National Grid Data

Published 1994

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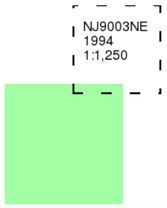
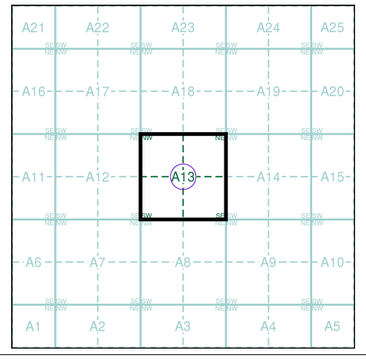


Historical Map - Segment A13



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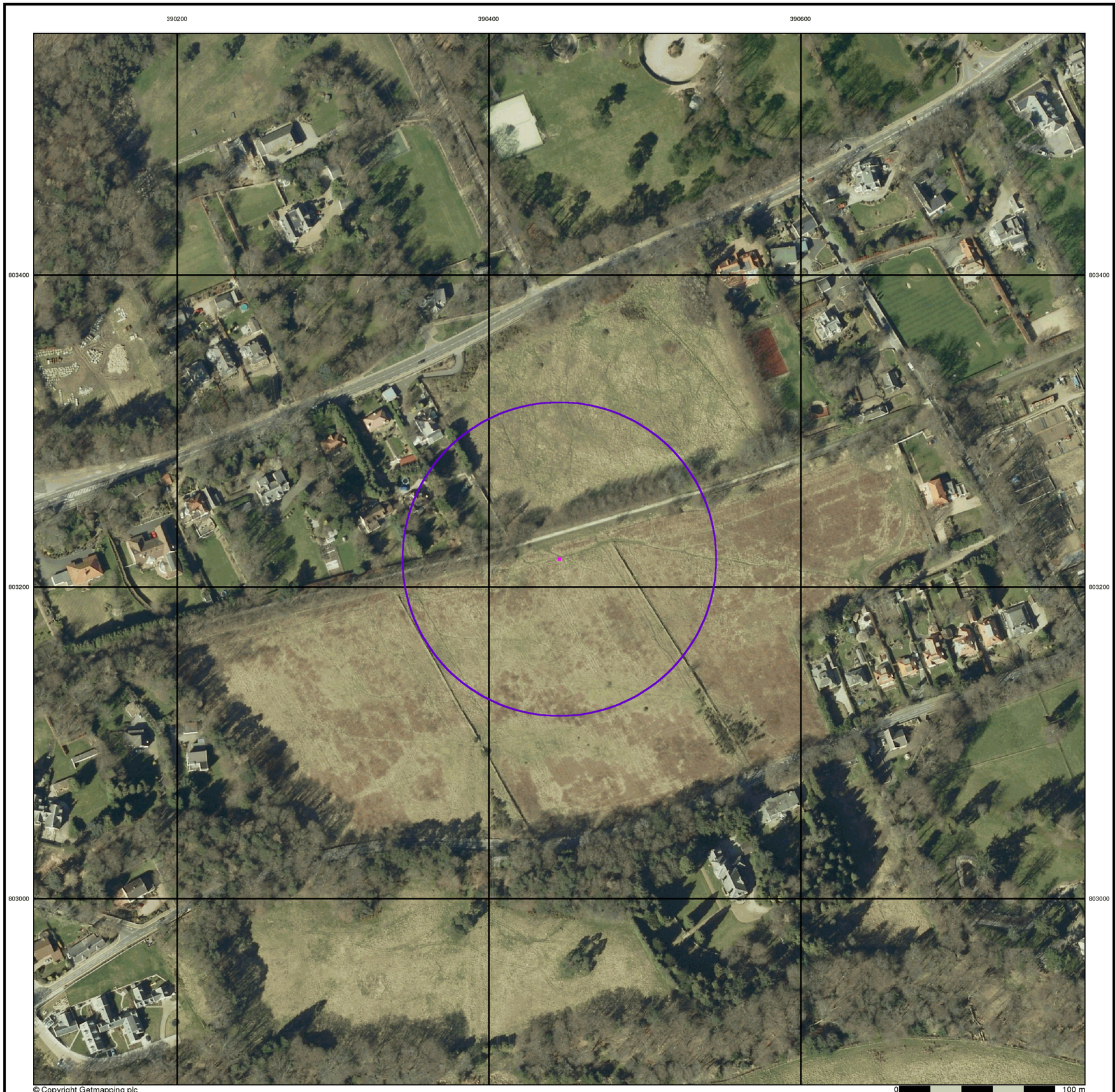


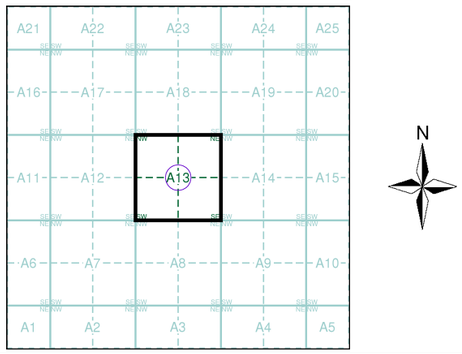
FAIRHURST

Historical Aerial Photography

Published 2001

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



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Appendix 2

Our Ref.
Your Ref. JB/106859
Contact Clare Horton
Email [redacted]
Direct Dial [redacted]
Direct Fax [redacted]

18.10.16

Jennifer Bohill

Fairhurst
[redacted]

Environmental Health and
Trading Standards
Communities, Housing and Infrastructure
Aberdeen City Council
Business Hub 15
Third Floor South
Marischal College
Broad Street
Aberdeen AB10 1AB

Tel 03000 200 292
Minicom 01224 522381
DX 529451, Aberdeen 9
www.aberdeencity.gov.uk

Dear Jennifer,

106859: Redevelopment of Site on North Deeside Road (off Inchgarth Road), Aberdeen

I refer to your request for environmental information for the above site. I can inform you of the following:

There are no known sources of potential contamination at the subject site or within the close environs. There are also no known former landfill sites or animal burial grounds at the subject site or in close proximity to the site.

This Service is not aware of any records of complaints, notices etc. about nuisance relating to the current or previous site uses and it's environs.

There are no private potable water sources within 2km of the subject area.

According to the Indicative Atlas of Scotland (HPA/BGS 2011), the site is in an area with a less than 1% probability of having an indoor radon concentration above the Radon Action Level (200Bq/m3). According to the Indicative Atlas, areas immediately adjacent to the south of the subject site (across Inchgarth Road) have a 3-5% probability of having indoor radon concentrations above the Radon Action Level. Accordingly, this would place areas to the immediate south in an Intermediate Probability Area and radon protection measures for new buildings would be advised. The Indicative Atlas is only an estimate of the radon potential. Actual radon levels could only be determined by carrying out measurements.

I trust this information is of use. An invoice for £50 plus VAT will follow in due course.

PETE LEONARD
DIRECTOR

Yours Sincerely,

Clare Horton
Authorised Officer (Contaminated Land)

Sandie Pirie

From: Graham Shand [redacted]
Sent: 17 October 2016 15:54
To: Jennifer Bohill
Subject: RE: 106859 North Deeside Road Development

Dear Jennifer

Petroleum Regulation Acts 1928 & 36

I refer to your email and attached location plan regarding the above premises and advise as follows.

This Service's historic petroleum records have no records of any underground tanks at the premises.

As a general matter, it should be noted that the records we hold relate to tanks which have previously been used for the storage of petroleum spirit and methods taken to prevent the danger of fire and explosion from said tanks.

An invoice will follow for the provision of this information.

If you require any further information, please do not hesitate to contact me.

Regards
Graham
Graham Shand
Senior Enforcement Officer

Aberdeen City Council
Environmental Health & Trading Standards
[redacted]

Email [redacted]
Direct [redacted]
Fax [redacted]

Reception tel 03000 200 292
www.aberdeencity.gov.uk

From: Jennifer Bohill [redacted]
Sent: 13 October 2016 17:27
To: Graham Shand
Subject: 106859 North Deeside Road Development

Job No.: 106859

Graham,

Please find attached a request for information with regards to the development of a site located on North Deeside Road.

Kind regards,

Jenny

Jennifer Bohill
Environmental Engineer
Geotechnical & Environmental Services

Fairhurst
[redacted]

Tel No (Direct Dial) [redacted]
Email [redacted]

Appendix 3

WALKOVER SURVEY RECORD SHEET

Project: Development of North Deeside Road		Job No: 106859
Engineer: Jennifer Bohill	Date: 13/10/2016	Weather: Dry and overcast
Contact:		
Photographs taken? Yes	Plan attached? Yes	

Observations	Constructive comments must be made against each prompt	Further action required?

1. Site Details

Access	e.g. Roads/paths/Restricted access for plant?/unauthorised The site is divided into two, split by the old railway track which is now utilised as a public footpath. The Northern site can be accessed from North Deeside Road where a track enters the site down a slope in the north east corner (Photo 13). The southern site is divided into three fields with stone walls as divides (Photo 2 and Photo 24). Access to the fields is through gates located on Inchgarth Road (Photo 23). These are situated in close proximity to the dividing walls. The fence surrounding the site is damaged and therefore pedestrians can access the site from the north and south of each plot.	
Boundaries and adjacent land uses	e.g. Fences/hedges/walls? Residential/industrial/undeveloped? The surrounding area is dominated by residential developments. The site is bound to the south by the Inchgarth Road and to the north by North Deeside Road.	
Surface condition and safe walking	e.g. Tarmac/concrete/grass etc; broken/smooth? In general the site is covered with grass and herbage (rosebay willowherb dominant). Areas of shrubs and tree are located across the site (Photo 1, Photo 5, Photo 14, Photo 19 and Photo 27).	

2. Topography

Surface topography	e.g. Elevation/slopes/mounds on site & adjacent? The topography of the site is undulating, however in general the site slopes to the south (Photo 1, Photo 10, Photo 26 and Photo 27). The centre southern field has a dip/bowl in the south western corner of the site (Photo 26 and Photo 28). A smaller dip is located in the south western corner of the western field (Photo 3 and Photo 4).	
Surface slopes and steep faces, details of land reshaping	e.g. Man-made/natural/height/angle? A step in ground level is noted between the centre and western field in the south section of the site (Photo 24). The railway track to the east is noted to be on a bank	

	(above GL) (Photo 6 and Photo 16) and where is enters the old platform to the east is in a cut (Photo 29). The road in the north of the site is above the sites GL with a possible retaining wall (Photo 12).	
Evidence of subsidence	e.g damage to buildings/surface depressions None	
Evidence of landslip, slides or failures.	e.g Abrupt changes in slope profile/tilting trees, posts or walls None	
Evidence of cuttings or toe slope excavations	e.g Locations/gradient None.	
Evidence of imported soil, tipped material or rubbish	e.g Does it have an odour?/is it hot? Few areas of garden debris across the site where this has been dumped from surrounding properties. Few areas of rubbish left across site including beehives in the south east corner, and BBQ waste near Pitfodels Station Road. (Photo 4, Photo 7 and Photo 11).	
Retaining walls	e.g. Height/construction/condition? A potential retaining wall was noted to the north of the site (Photo 12).	

3. Geology

Surface Soils	e.g. Compressible ground/made ground/desiccated clays/pits Made Ground was noted on the bank of the railway track. No other soil exposed (Photo 16).	
Rock Outcrops	e.g. Stream beds/service excavations/cuttings/surface exposures/cliff or slope faces/quarries/pits No rock outcrops.	

4. Surface Water

Surface water features present	e.g Culverts/streams/ponds/springs/issues/drainage ditches/marshes None recorded. Paths located where historical drainage ditches marked.	
Water logged ground	e.g Extent/reason for water logging None. Low in centre field on south potentially waterlogged however thick vegetation restricted access (Photo 28).	
Signs of flooding	e.g River gauges/flood debris/flood protection? None	
Are there any water loving plants?	e.g Reeds/marsh grasses None recorded.	
Signs of contamination	e.g discoloration of water. None evident.	

5. Groundwater

Groundwater conditions	e.g. Any springs/sinks/issues None noted.	
Evidence of shallow water table	e.g. Marshy/boggy ground None - thick vegetation masking majority of site.	

6. Vegetation

Areas and type of vegetation	Thicket of birch noted in north east corner of northern site (Photo 14). Site boundaries surrounded by mature trees (Photo 2, Photo 5, Photo 6, Photo 9 and Photo 20. Area of thick young trees recorded in south eastern field (Photo 19). Grass and rosebay willowherb dominant.	
Evidence of distress	e.g Dead/dying No	
Tree / Hedgerow species and height	Birch, sycamore, pine, etc.	
Evidence of former trees	e.g Tree stumps Trees across the site.	

7. Historic & Current Development

Known history of site	e.g. from historic plans/desk study information/anecdotal evidence? Agricultural, dips in ground still noted in southern site from unknown activity.	
Previous structures	e.g. Size/construction/brick/timber/asbestos/use? None – Railway line crossed the site dividing the site in the north and south.	
Existing buildings/ structures	e.g. Size/construction/brick/timber/asbestos/use? None- railway track dismantled, now a footpath.	
Old foundations	e.g. Size/construction? None	
Building dilapidation and distress	e.g. General condition/cracking? No	
Neighbouring structures under distress	e.g. General condition/cracking? No	
Underground services, manholes, drains, tanks or pits	e.g. Type/size/depth? On railway path cable head stones and cover noted (Photo17)	

8. Additional Information

Visible surface Contamination	e.g. Fly tipping/oil etc Areas of rubbish noted across the site and included garden waste, beehives etc. (Photo 4, Photo 7 and Photo 11).	
Unusual odours, fumes or dust	e.g. Type/source? None noted.	
Spillages/ Accidents	e.g. Type/source? None noted.	
Waste Products	e.g. Type/processes? None.	
Delivery and Storage	e.g. Materials/uses/storage? None.	
Materials and processes currently carried out on site	e.g. Raw materials/products? None.	
Plant or machinery on site	e.g. Type/size/use? None.	
Water supply	e.g. Location? None.	
Confined space or restricted working area	e.g. Height/width? None.	
Overhead cables	e.g. Telephone/electricity-33KV/275KV/height? Overhead cable noted crossing the site from the north west of the northern field to the south east corner of the western field.	

Photo 1: Looking north across

Photo 2: Stone wall dividing western and central fields.

Photo 3: South western corner of site.

Photo 4: South western corner of site.

Photo 5: Dense vegetation in south western field

Photo 6: West along dismantled railway line

Photo 7: Compost pile

Photo 8: Electricity Pilon within central field

Photo 9: Southern section of northern field

Photo 10: north western section of northern field

Photo 11: Plant debris and north western corner of northern field

Photo 12: Potential retaining wall in north west of northern field

Photo 13: Access to northern field

Photo 14: Trees in north east corner of northern field.

Photo 15: Looking south east across northern field

Photo 16: Bank up to railway track

Photo: 17: Electricity cable headstone and cover on railway track

Photo 18: Divide between eastern and central fields, southward.

Photo 19: North eastern corner of eastern field

Photo 20: View across western extent of southern fields

Photo 21: View looking north west across southern fields

Photo 22: View across southern boundary of site

Photo 23: Access to south eastern and central fields.

Photo 24: Step between central and eastern field

Photo 25: Looking north across the central field

Photo 26: Looking north west across slope in central field

Photo 27: View to north in centre of central field

Photo 28: Looking south from top of hill in central field.

Photo 29: Old Station

Originator: **Jennifer Bohill** **Date:** **21/10/2016**

Checked & Approved: **Date:**

Appendix 4

Maps by email Plant Information Reply

IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

KEY TO BT SYMBOLS

DP	Pole
Planned DP	Planned Pole
PCP	Joint Box
Planned PCP	Change Of State
Built	Split Coupling
Planned	Duct Tee
Inferred	Planned Box
Building	Manhole
Kiosk	Planned Manhole
Hatchings	Cabinet
	Planned Cabinet

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : SXZ03055F
Map Reference : (centre) NJ904460188
Easting/Northing : (centre) 390446,803
Issued : 13/10/2016 15:05:17

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Enquiry Confirmation

LSBUD Ref: 9250310

Date of enquiry: 13/10/2016
Time of enquiry: 14:35

Enquirer

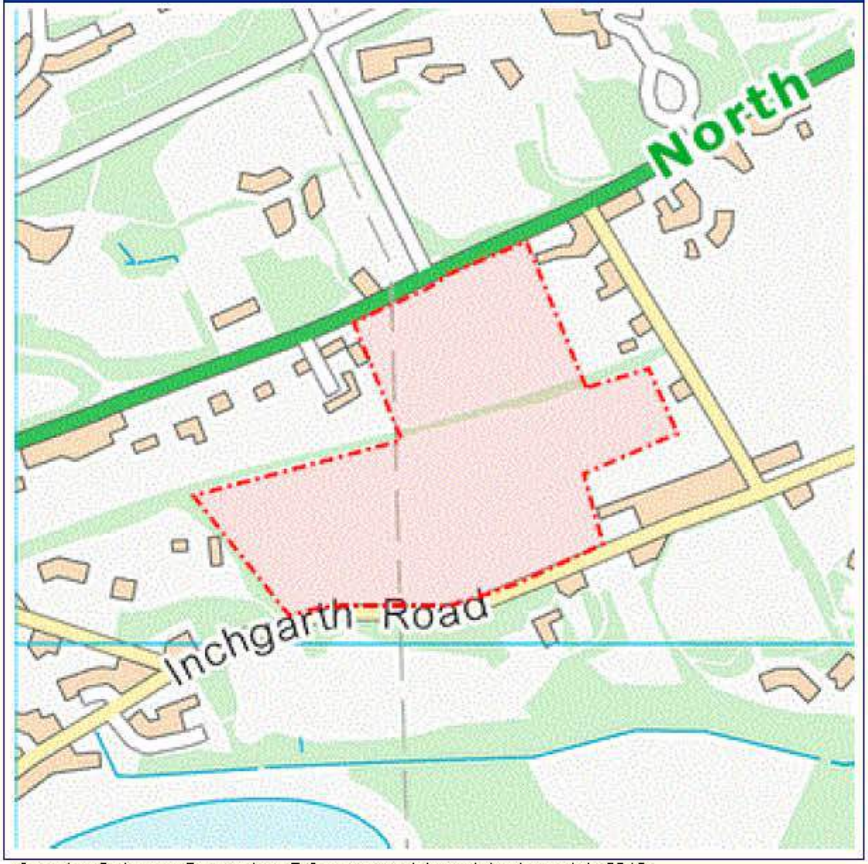
Name	Mr Ross Donaldson	Phone	01224 047338
Company	Fairhurst	Mobile	Not Supplied
		Fax	Not Supplied
Address	Britannia House Ground Floor Arnhall Business Park, Endeavour Drive Westhill Aberdeenshire AB32 6UF		
Email	ross.donaldson@fairhurst.co.uk		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details

Scheme/Reference	106859		
Enquiry type	Initial Enquiry	Work category	Excavations Non Utility
Start date	16/10/2016	Work type	Multiple excavations site
End date	31/01/2017	Site size	98208 metres square
Searched location	XY= 390446, 803188 Easting/Northing	Work type buffer*	25 metres
Confirmed location	390537 803245		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map



Enquiry Confirmation

LSBUD Ref: 9250310

Date of enquiry: 13/10/2016
Time of enquiry: 14:35

Asset Owners

Terms and Conditions. Please note that this enquiry is subject always to our standard terms and conditions available at www.linesearchbeforeudig.co.uk ("Terms of Use") and the disclaimer at the end of this document. Please note that in the event of any conflict or ambiguity between the terms of this Enquiry Confirmation and the Terms of Use, the Terms of Use shall take precedence.

Validity and search criteria. The results of this enquiry are based on the confirmed information you entered and are valid only as at the date of the enquiry. It is your responsibility to ensure that the Enquiry Details are correct, and LinesearchbeforeUdig accepts no responsibility for any errors or omissions in the Enquiry Details or any consequences thereof. LSBUD Members update their asset information on a regular basis so you are advised to consider this when undertaking any works. It is your responsibility to choose the period of time after which you need to resubmit any enquiry but the maximum time (after which your enquiry will no longer be dealt with by the LSBUD Helpdesk and LSBUD Members) is 28 days. If any details of the enquiry change, particularly including, but not limited to, the location of the work, then a further enquiry must be made.

Asset Owners & Responses. Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. LSBUD Members who have assets registered within your search area. ("Affected")
   a. These LSBUD Members will either:
      i. Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

      ii. Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.

2. LSBUD Members who do not have assets registered within your search area. ("Not Affected")

3. Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.

National Grid. Please note that the LSBUD service only contains information on National Grid's Gas above 7 bar asset, all National Grid Electricity Transmission assets and National Grid's Gas Distribution Limited above 2 bar asset.

For National Grid Gas Distribution Ltd below 2 bar asset information please go to www.beforeyoudig.nationalgrid.com

Enquiry Confirmation

LSBUD Ref: 9250310

Date of enquiry: 13/10/2016
Time of enquiry: 14:35

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members
No LinesearchbeforeUdig Asset Owners within the Zone of Interest

LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.

List of not affected LSBUD members		
AWE Pipeline	ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)
BOC Limited (A Member of the Linde Group)	Esso Petroleum Company Limited	Petroineos
BP Midstream Pipelines	FibreSpeed Limited	Phillips 66
BPA	Fulcrum Pipelines Limited	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	Gamma	Redundant Pipelines - LPDA
CATS Pipeline c/o Wood Group PSN	Humbly Grove Energy	RWEnpower (Little Barford and South Haven)
Cemex	IGas Energy	SABIC UK Petrochemicals
Centrica Energy	Ineos Enterprises Limited	Scottish Power Generation
Centrica Storage Ltd	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
CLH Pipeline System Ltd	Lark Energy	Shell (St Fergus to Mossmorran)
Concept Solutions People Ltd	Lightsource SPV Limited	Shell Pipelines
ConocoPhillips (UK) Ltd	Mainline Pipelines Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
Coryton Energy Co Ltd (Gas Pipeline)	Manchester Jetline Limited	Transmission Capital
Dong Energy (UK) Ltd	Manx Cable Company	Uniper UK Ltd
E.ON UK CHP Limited	Marchwood Power Ltd (Gas Pipeline)	Vattenfall
EirGrid	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	Western Power Distribution
Electricity North West Limited	Northumbrian Water Group	Wingas Storage UK Ltd
ENI & Himor c/o Penspen Ltd	NPower CHP Pipelines	Zayo Group UK Ltd c/o JSM Group Ltd
ESP Utilities Group	Oikos Storage Limited	

Enquiry Confirmation

LSBUD Ref: 9250310

Date of enquiry: 13/10/2016
Time of enquiry: 14:35

The following non-LSBUD members may have assets in your search area. It is YOUR RESPONSIBILITY to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	**Preferred contact method**	**Phone**	**Status**
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
ENGIE	nrswa@cofely-gdfsuez.com	01293 549944	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Hibernia Networks	info@hibernianetworks.com	01704 322 300	Not Notified
Instalcom	plantenquiries@instalcom.co.uk	02087314613	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Mobile Broadband Network Limited	mbnl.plant.enquires@turntown.com	01212 621 100	Not Notified
Redcentric plc	plant-enquiries@redcentricplc.com	0845 200 2200	Not Notified
Scotia Gas Networks	plantlocation@scotiagasnetworks.co.uk	01414184093	Not Notified
Scottish and Southern Energy	mapping.services@sse.com	01256337294	Not Notified
Scottish Water	searches@scottishwater.co.uk	01382563666	Not Notified
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified
Utility assets Ltd	assetrecords@utilityassets.co.uk		Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://vtplant.vtesse.com	01992532100	Not Notified

WARNING

GAS IN PLOT AREA

EHV CABLES & LINES IN PLOT AREA

NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID.				
	services l.v.	h.v.	e.h.v.	
FOOTPATH	0.40m 0.45m	0.60m	0.75m	
ROAD CROSSING	0.60m 0.60m	0.75m	0.90m	
l.v./services	– up to 1000V.			
h.v.	– over 1000V to 11,000V.			
e.h.v.	– 22,000V to 132,000V,			

WARNING

There may have been subsequent alterations to the surface levels. Trial holes must be taken to determine positions and depth of cables. HS (G) 47 Booklet from the Health and Safety Executive – Avoiding Danger from Buried Cables – should be consulted before commencing excavation work. (available from HMSO)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES THE HEALTH AND SAFETY GUIDANCE NOTE GS6 SHOULD BE CONSULTED. (AVAILABLE FROM HMSO)

Scottish and Southern Energy plc.
Registered in Scotland No. 117119.
Registered Office: Inveralmond House
200 Dunkeld Road,
Perth, PH1 3AQ.

North Deeside and Inchgarth Road

UNCONTROLLED COPY

Subject to revision without notice.

Scottish and Southern Energy

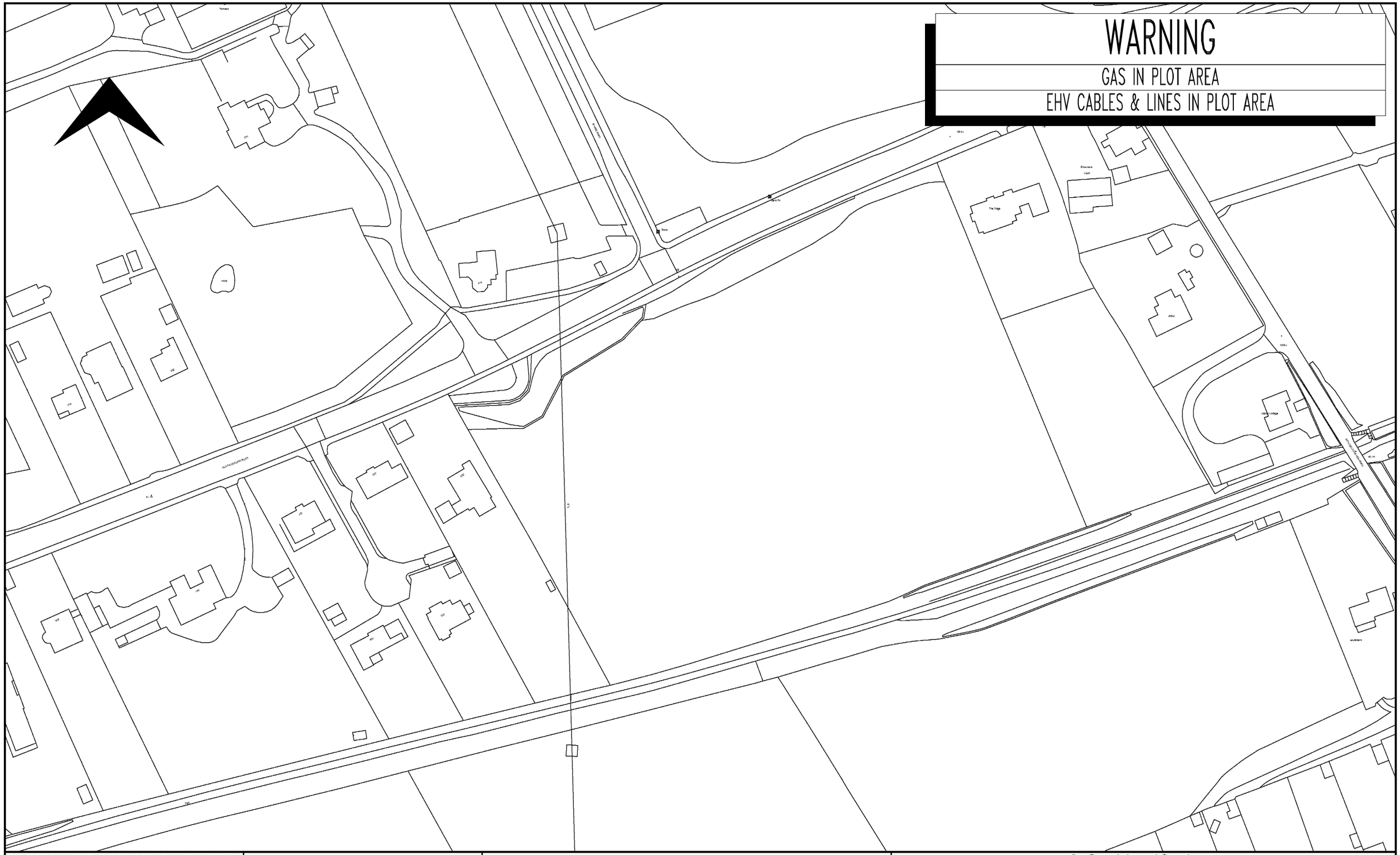
NORTH EAST DISTRICT
Tel: 01224 667200

Grid Ref: NJ90440332

Scale: 1:1250

Date: 13/10/2016

All Voltages



NORMAL DEPTH TO THE TOP OF THE PIPE WHEN LAID.

MAINS		SERVICES	
FOOTPATH	0.60m	PRIVATE	0.375m
VERGE	0.75m	PUBLIC	0.45m
ROAD CROSSING	0.75m		

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Registered in Scotland No. 117119.
Registered Office:
Westcott Way, Littlewick Green, Maidenhead
Berkshire. SL6 3QB

North Deeside and Inchgarth Road

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Subject to revision without notice.

Scottish and Southern Energy

NORTH EAST DISTRICT
Tel: 01224 667200

Grid Ref: NJ90440332
Scale: 1:1250
Date: 13/10/2016
GAS

Watch it!

Safety advice brought to you by
Southern Electric Power Distribution plc and
Scottish Hydro Electric Power Distribution Ltd

These notes are intended to help all those who have to work in the vicinity of electrical apparatus. Employers have a legal obligation to ensure that their operatives are fully instructed in the correct procedures.

The Electricity at Work Regulations 1989 impose health and safety requirements upon employees, employees and self employed persons with respect to electricity at work. The regulations impose restrictions on persons being engaged in work activities on or near live conductors.

Regulation 14 requires that: "No person shall be engaged in any work activity on or near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless:

- it is unreasonable in all the circumstances for it to be dead, and
- it is reasonable in all circumstances for him to be at work on or near it while it is live, and
- suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury."

The purpose of the regulations is to require precautions to be taken against the risk of death or personal injury from electricity in work activities.

Publications

The Health and Safety Executive have produced a document entitled 'Avoiding Danger from Underground Services' and the Appendix 3 deals specifically with electric cables. Copies are available from HMSO - Accredited Agents and good booksellers, Ref. HS(R) 47.

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Note

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You must read and accept the following safety notes as part of the contract to receive our network plans. You will have the option to print these and issue them to site staff.

Watch it! - Working in the vicinity of underground cables.

Our plans show the positions and normal depths for the buried cables and poles at the time when they were installed. However, alterations to roads, pavements, surface levels and buildings may have occurred subsequently without our knowledge. If you discover plant or cables that are not marked or incorrectly marked, then you are required to contact us as soon as possible to give us the opportunity to amend our plans.

These plans show the equipment owned by Scottish and Southern Energy plc. There may be other privately owned plant in the area, which is outside of our control. You should always check with the Local Authority, National Grid Company, Department of the Environment, other Electricity Companies and other utilities before proceeding.

It is not intended that the issue of these plans will absolve either party from their obligation under any of the acts that control digging in the public highways.

Supplies To Properties, etc.

The location of cables supplying individual properties, street lighting, traffic signs, telephone kiosks etc. are not always shown on the plans. You should assume that each property, streetlight etc. will have its own supply cable.

Major Circuits

Where our plans indicate the presence of cables with a voltage exceeding 1,000 volts, you are advised to contact our local depot (telephone number is on the plans) before commencing any excavations within the vicinity of these cables. These major transmission circuits form an extremely important link in Scottish and Southern Energy's network, and damaging or modifying these circuits is a major and costly undertaking. Any development should therefore be designed to allow these circuits to remain undisturbed and accessible in their present manner.

For your own and your workmates' safety, please follow the do's and don'ts listed below:

- ✓ do make sure you have plans of the underground cables in the area **before** any excavation work starts. Remember that supply cables may not be shown on plans. If carrying out emergency work, excavate as though there are buried live cables in the vicinity.
- ✓ do use a cable locator to determine the position of existing cables in the work area. The positions should be marked and tests made as work proceeds. **If in doubt, get advice from your supervisor.**
- ✓ do ask for a cable to be made dead if it is buried in concrete.
- ✓ do watch for signs of cables as work progresses. Note any marker tape or cable cover, which may be exposed.

- ✓ **do** backfill carefully, using stone-free soil around the cables, replacing marker-tapes and duct covers.
- ✓ **do** notify us immediately if you discover plant damage or cables. Arrange to keep people well clear of a cable that has been damaged until we have confirmed it has been made safe.
- ✓ **do** make sure before starting to demolish a building that all cables have been disconnected. We welcome your notice of the intention to demolish buildings. This enables us to ensure that the site has been made safe electrically.
- ✓ **don't** operate a bulldozer, scraper, dragline or excavator, unless you are satisfied that there are no buried cables in the working area.
- ✓ **don't** use picks, pins, forks or pointed instruments in soft clay or soil when cables are present. Exercise extreme caution where such instruments are used to free lumps of stone, or break up firmly compacted ground. **Never** throw a fork or sharp instrument into the ground.
- ✓ **don't** dig trial holes over the indicated route of the cable. Excavate alongside it instead.
- ✓ **don't** use exposed cables as a convenient step or handhold.
- ✓ **don't** handle or attempt to alter the position of any cable.

Remember that a damaged cable may cause extensive loss of supplies, make expensive repairs necessary and cause serious or even fatal injury.

If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make cables dead without interrupting supplies to our customers. But given adequate notice, we will wherever possible, give advice regarding special precautions which may be necessary on any site where particular problems are likely to be encountered. The right is reserved to make a charge for this service.

Electricity cables can exist anywhere – under paths or roads, in gardens or driveways, on new housing or industrial development sites or even farmland.

Watch It! - Working in the vicinity of overhead lines

For your own and your workmates' safety, please follow the **do**'s and **don't**s listed below.

- ✓ **do** carefully note the position of all overhead lines before commencing work.
- ✓ **do** co-operate with us during planning and ground work stages.
- ✓ **do** follow the advice given in HSE Guidance Note GS 6 when using barriers, goal posts, roping etc.
- ✓ **do** keep overhead lines in view when moving scaffolding or machinery and take special care when felling or lopping trees.
- ✓ **do** remember that the raising or slewing of a crane or excavator jib may cause danger when operating near an overhead line.
- ✓ **do** avoid any machinery that is in contact with an overhead line until we confirm that conditions are safe.
- ✓ **do** warn others to keep well clear.
- ✓ **don't** drive a high vehicle below an overhead line when an alternative route is available.
- ✓ **don't** raise the bed of a tipper lorry beneath an overhead line or drive under the line with the body of the vehicle raised.
- ✓ **don't** slew any suspended load until you are satisfied that there is no danger from overhead lines.
- ✓ **don't** handle or use scaffold platforms, poles, pipes or ladders unless they are at a safe distance from overhead lines.
- ✓ **don't** manoeuvre long objects beneath overhead lines unless they are carried in a horizontal position.
- ✓ **don't** approach or touch any broken or fallen overhead lines.

Always remember that:

- Electricity can jump gaps.
- Contact or near contact with a crane jib, scaffold or ladder can cause a discharge of electricity with a risk of fatal or severe shock and burns to any person in the vicinity.

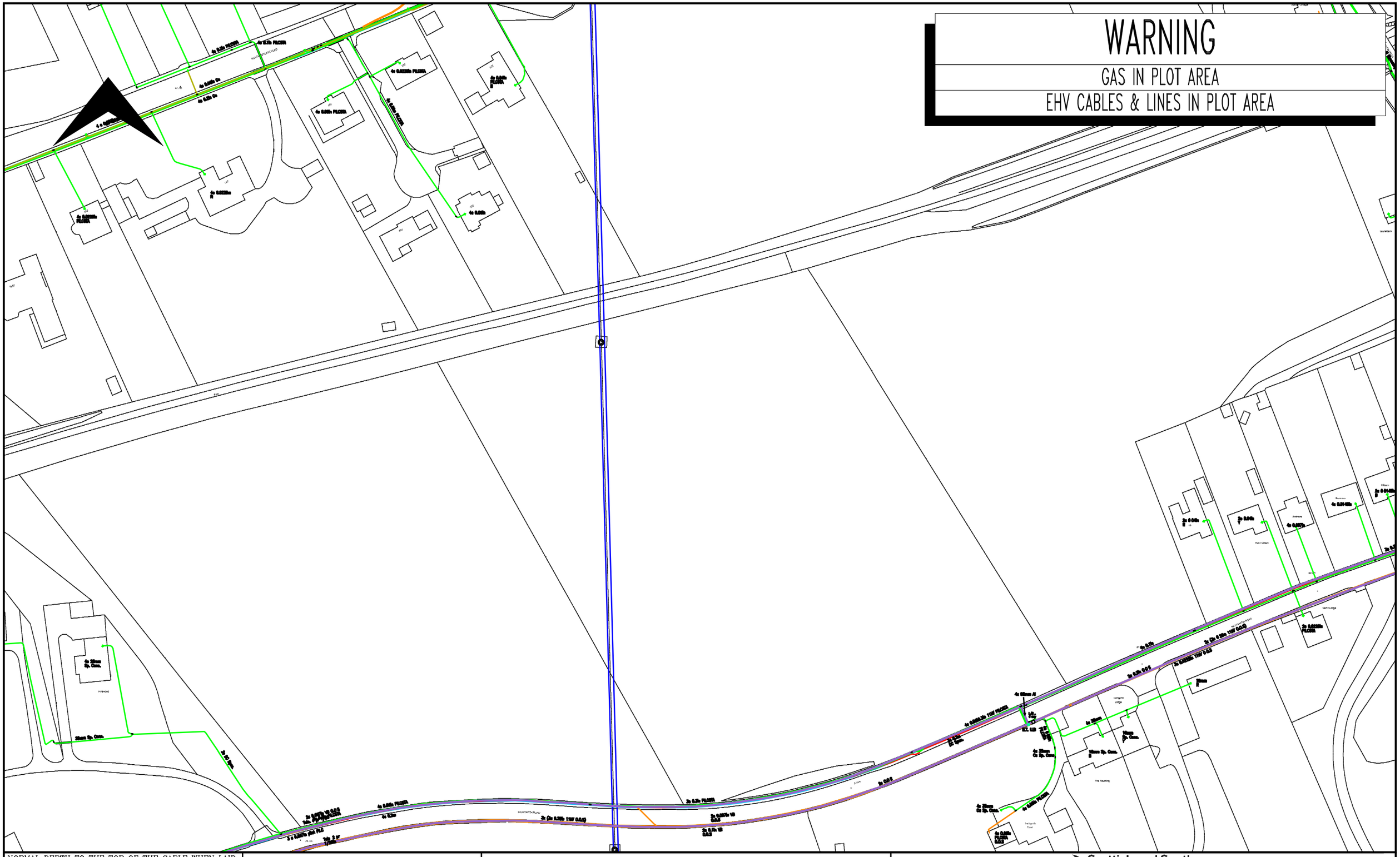
If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make cables dead without interrupting supplies to customers. However, provided adequate notice is given, then we will, wherever possible, give advice regarding special precautions which may be necessary on site where specific problems may be encountered. The right is reserved to make a charge for this service.

WARNING

GAS IN PLOT AREA

EHV CABLES & LINES IN PLOT AREA



NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID.

	services	l.v.	h.v.	e.h.v.
FOOTPATH	0.40m	0.45m	0.60m	0.75m
ROAD CROSSING	0.60m	0.60m	0.75m	0.90m

l.v./services – up to 1000V.
h.v. – over 1000V to 11,000V.
e.h.v. – 22,000V to 132,000V,

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Registered in Scotland No. 117119.
Registered Office: Inveralmond House
200 Dunkeld Road,
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North Deeside and Inchgarth Road

UNCONTROLLED COPY

Subject to revision without notice.

Scottish and Southern Energy

NORTH EAST DISTRICT
Tel: 01224 667200

Grid Ref: NJ90430317
Scale: 1:1250
Date: 13/10/2016
All Voltages

WARNING

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EHV CABLES & LINES IN PLOT AREA

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FOOTPATH	0.60m	PRIVATE	0.375m
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Where our plans indicate the presence of cables with a voltage exceeding 1,000 volts, you are advised to contact our local depot (telephone number is on the plans) before commencing any excavations within the vicinity of these cables. These major transmission circuits form an extremely important link in Scottish and Southern Energy's network, and damaging or modifying these circuits is a major and costly undertaking. Any development should therefore be designed to allow these circuits to remain undisturbed and accessible in their present manner.

For your own and your workmates' safety, please follow the do's and don'ts listed below:

- ✓ do make sure you have plans of the underground cables in the area **before** any excavation work starts. Remember that supply cables may not be shown on plans. If carrying out emergency work, excavate as though there are buried live cables in the vicinity.
- ✓ do use a cable locator to determine the position of existing cables in the work area. The positions should be marked and tests made as work proceeds. **If in doubt, get advice from your supervisor.**
- ✓ do ask for a cable to be made dead if it is buried in concrete.
- ✓ do watch for signs of cables as work progresses. Note any marker tape or cable cover, which may be exposed.

- ✓ **do** backfill carefully, using stone-free soil around the cables, replacing marker-tapes and duct covers.
- ✓ **do** notify us immediately if you discover plant damage or cables. Arrange to keep people well clear of a cable that has been damaged until we have confirmed it has been made safe.
- ✓ **do** make sure before starting to demolish a building that all cables have been disconnected. We welcome your notice of the intention to demolish buildings. This enables us to ensure that the site has been made safe electrically.
- ✓ **don't** operate a bulldozer, scraper, dragline or excavator, unless you are satisfied that there are no buried cables in the working area.
- ✓ **don't** use picks, pins, forks or pointed instruments in soft clay or soil when cables are present. Exercise extreme caution where such instruments are used to free lumps of stone, or break up firmly compacted ground. **Never** throw a fork or sharp instrument into the ground.
- ✓ **don't** dig trial holes over the indicated route of the cable. Excavate alongside it instead.
- ✓ **don't** use exposed cables as a convenient step or handhold.
- ✓ **don't** handle or attempt to alter the position of any cable.

Remember that a damaged cable may cause extensive loss of supplies, make expensive repairs necessary and cause serious or even fatal injury.

If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make cables dead without interrupting supplies to our customers. But given adequate notice, we will wherever possible, give advice regarding special precautions which may be necessary on any site where particular problems are likely to be encountered. The right is reserved to make a charge for this service.

Electricity cables can exist anywhere – under paths or roads, in gardens or driveways, on new housing or industrial development sites or even farmland.

Watch It! - Working in the vicinity of overhead lines

For your own and your workmates' safety, please follow the **do**'s and **don't**s listed below.

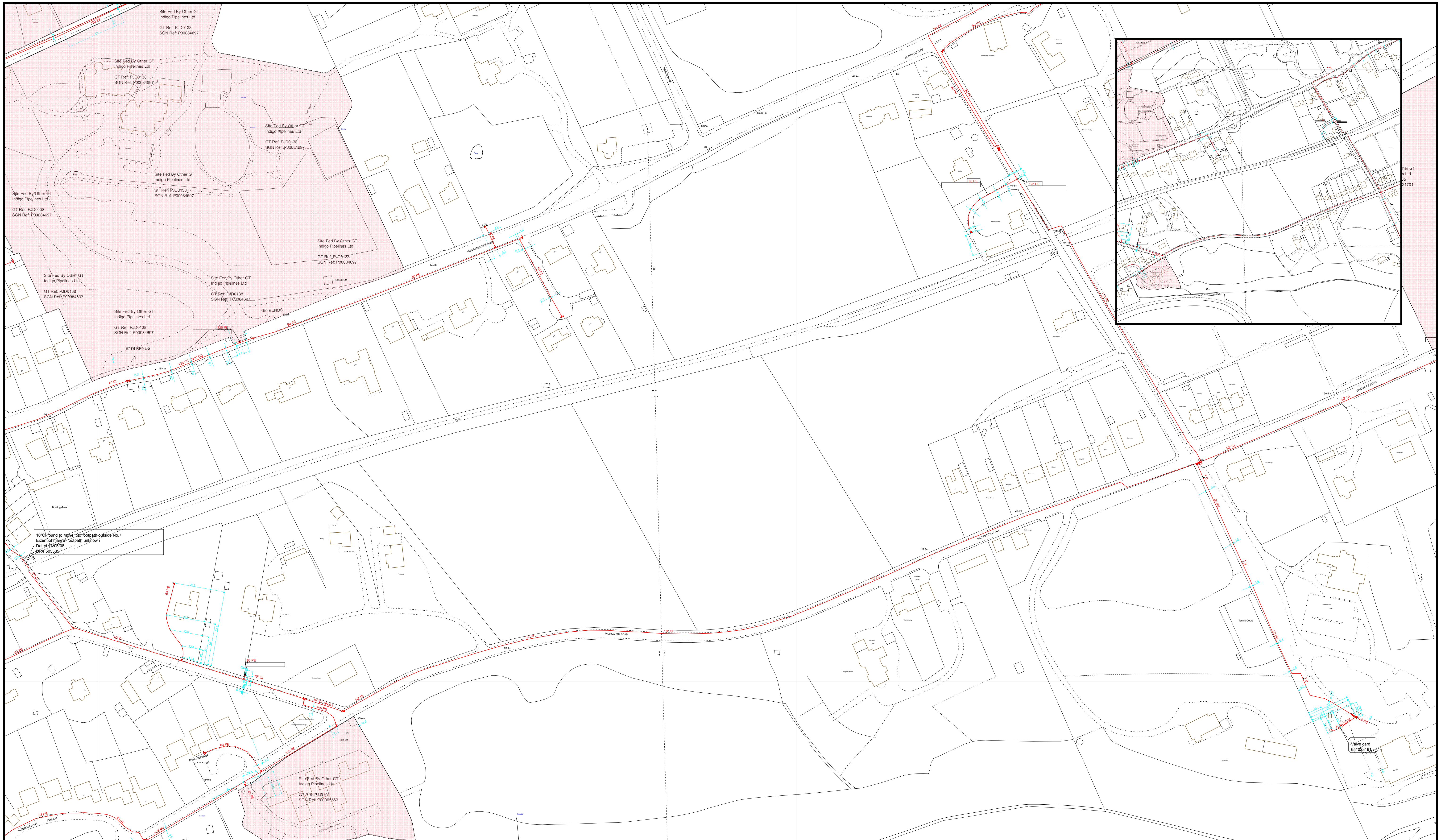
- ✓ **do** carefully note the position of all overhead lines before commencing work.
- ✓ **do** co-operate with us during planning and ground work stages.
- ✓ **do** follow the advice given in HSE Guidance Note GS 6 when using barriers, goal posts, roping etc.
- ✓ **do** keep overhead lines in view when moving scaffolding or machinery and take special care when felling or lopping trees.
- ✓ **do** remember that the raising or slewing of a crane or excavator jib may cause danger when operating near an overhead line.
- ✓ **do** avoid any machinery that is in contact with an overhead line until we confirm that conditions are safe.
- ✓ **do** warn others to keep well clear.
- ✓ **don't** drive a high vehicle below an overhead line when an alternative route is available.
- ✓ **don't** raise the bed of a tipper lorry beneath an overhead line or drive under the line with the body of the vehicle raised.
- ✓ **don't** slew any suspended load until you are satisfied that there is no danger from overhead lines.
- ✓ **don't** handle or use scaffold platforms, poles, pipes or ladders unless they are at a safe distance from overhead lines.
- ✓ **don't** manoeuvre long objects beneath overhead lines unless they are carried in a horizontal position.
- ✓ **don't** approach or touch any broken or fallen overhead lines.

Always remember that:

- Electricity can jump gaps.
- Contact or near contact with a crane jib, scaffold or ladder can cause a discharge of electricity with a risk of fatal or severe shock and burns to any person in the vicinity.

If effective measures are not adopted to protect our equipment, we will take steps to recover the cost of any damage caused. Persons causing damage resulting in loss of supply to customers can be held legally responsible for any claims made by those customers. Promptness in reporting an incident will minimise costs.

In most cases it is not practicable to make cables dead without interrupting supplies to customers. However, provided adequate notice is given, then we will, wherever possible, give advice regarding special precautions which may be necessary on site where specific problems may be encountered. The right is reserved to make a charge for this service.



USER ID: rdonaldson	LP Mains
DATE: 13 Oct 2016	MP Mains
EXTRACT DATE: 07 Jul 2016	IP Mains
MAP REF: NJ9003SW	LHP Mains
CENTRE: 390446, 803188	NHP Mains
SCALE: 1:2,553	

Valve | Depth of Cover | Syphon | Diameter Change | Material Change

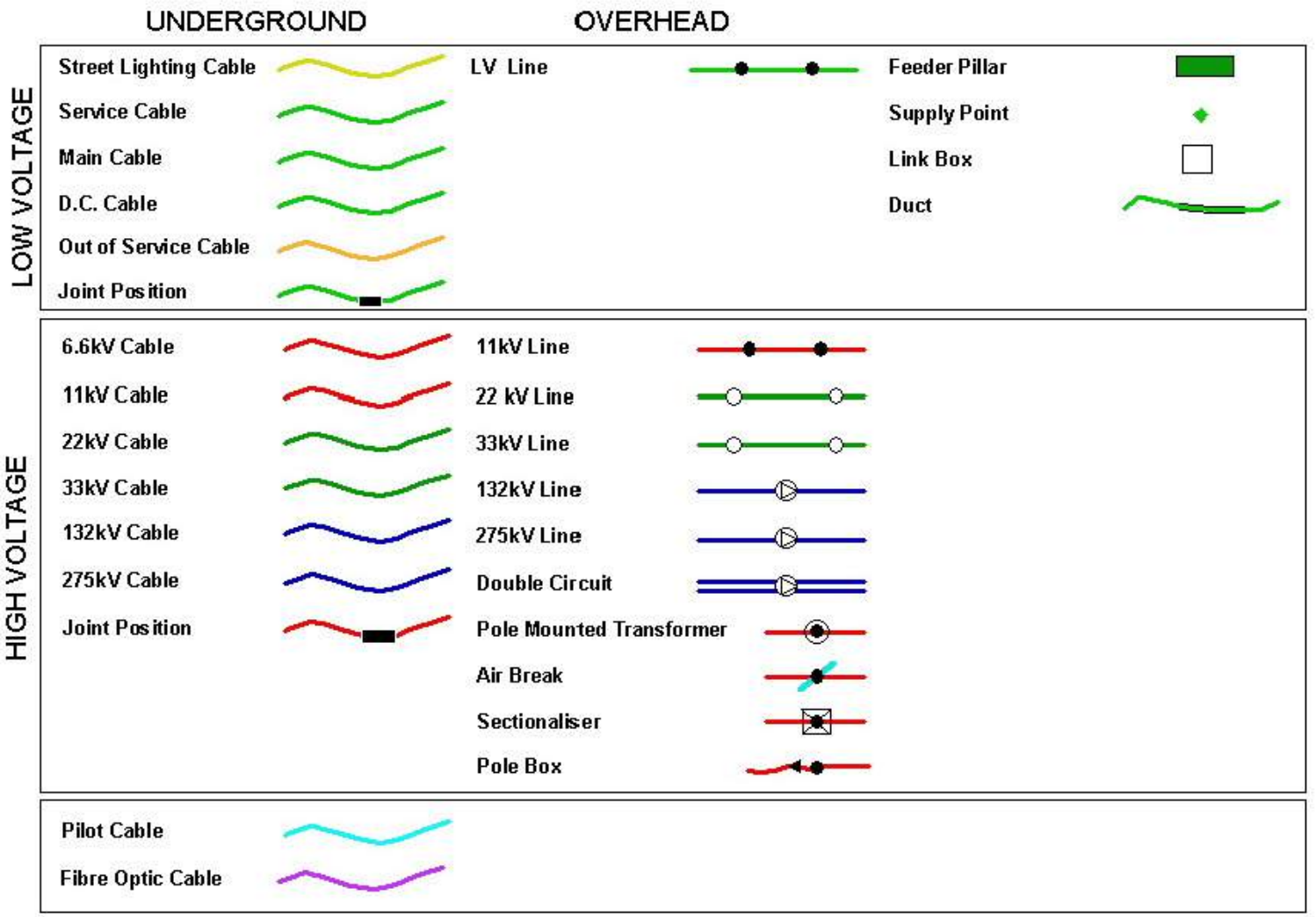
This plan shows those pipes owned by Scotia Gas Networks plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Scotia Gas Networks plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

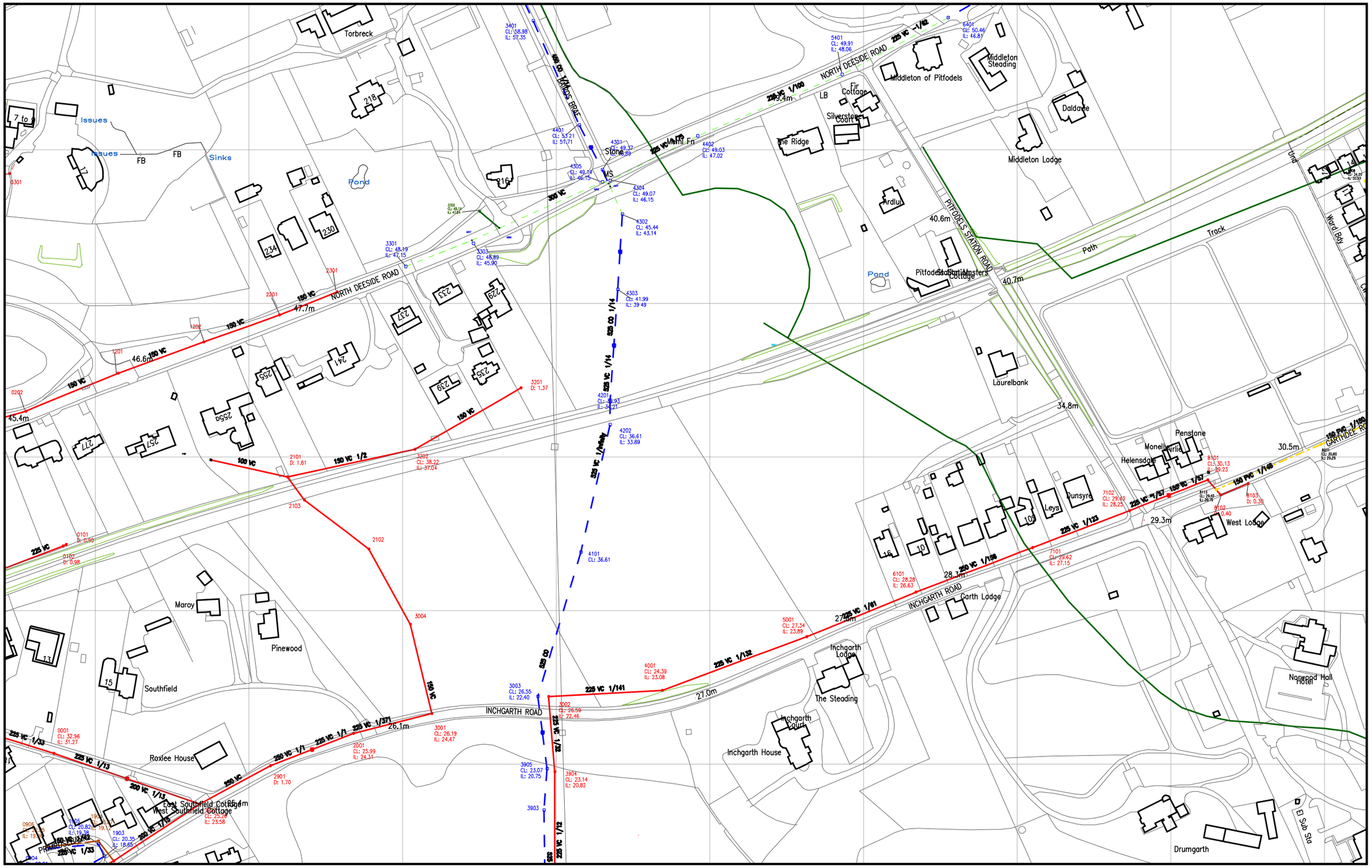
Product: UtilityMaps
Version: 1.6.8.1
Template: 'Scotia Gas Networks (A3 Landscape)'

N

Scotia Gas Networks
Delivering gas safely, reliably and efficiently

Scottish and Southern Energy plc
Key





N

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: 19/10/2016

OP/JQVNF065

Wastewater Plan

0 236 metres

Scale: 1:2500

Plotted By: ntocli01

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

SMALLWORLD GIS – WASTEWATER LEGEND

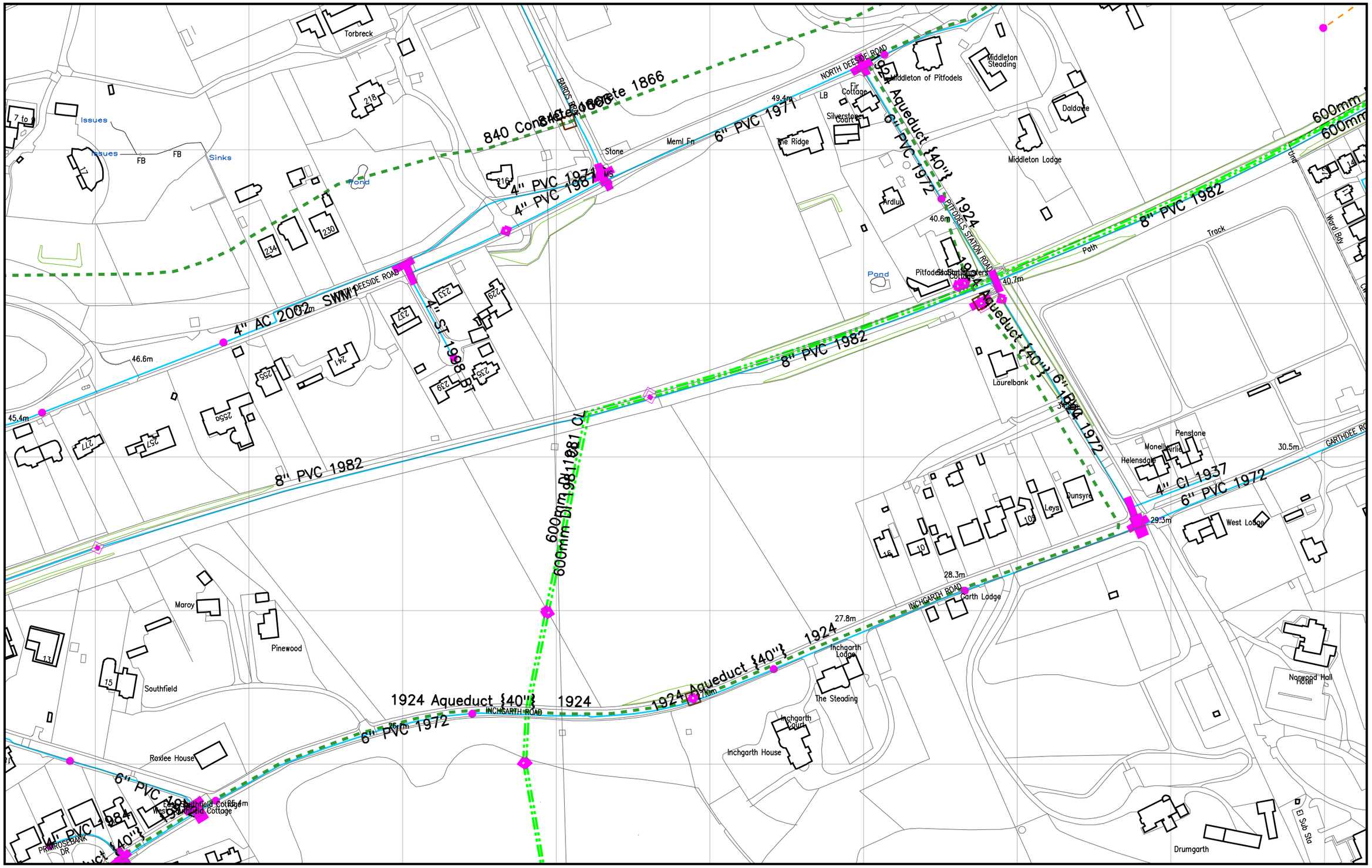
SCOTTISH WATER

Pipework

- Combined (red)
- Foul (brown)
- Surface Water (blue)
- Natural Water (light blue)
- CSO (dark blue)
- Trade Effluent (brown)
- Treated Effluent (black)
- Abandoned (grey)
- Water Course (dark green)
- PFI sewer (bright green)
- Rising Main (red)
- Proposed sewers (foul, combined and surface water)
- Syphon
- Chamber (same colour as pipework)
- Dual Chamber (same colour as pipework)
- Surface Water Chamber

- Collapse/Choke (not visible by default)
- Combined Storm Overflow
- Connection (not visible)
- Duct
- Ghost Node (not visible by default)
- Hatchbox (HB)
- Hydraulic Control Chamber (H)
- Lamphole
- Change of Attributes
- Outfall
- Inlet
- Pumping Station
- Wash Out
- Bifurcation Chamber (BI)

- Balancing Pond
- Rodding Eye
- Septic Tank
- Sewer Junction
- Sewer Structure
- Sewerage Air Valve
- Sewerage Pipe Bridge
- Sluice Valve
- Storm Tank
- Unknown End (?)
- Treatment Plant (WWTW)
- Vent Column
- Buchan Trap
- Capped End (same colour as pipework)



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: 19/10/2016

OP/JQVNF065

Water Plan

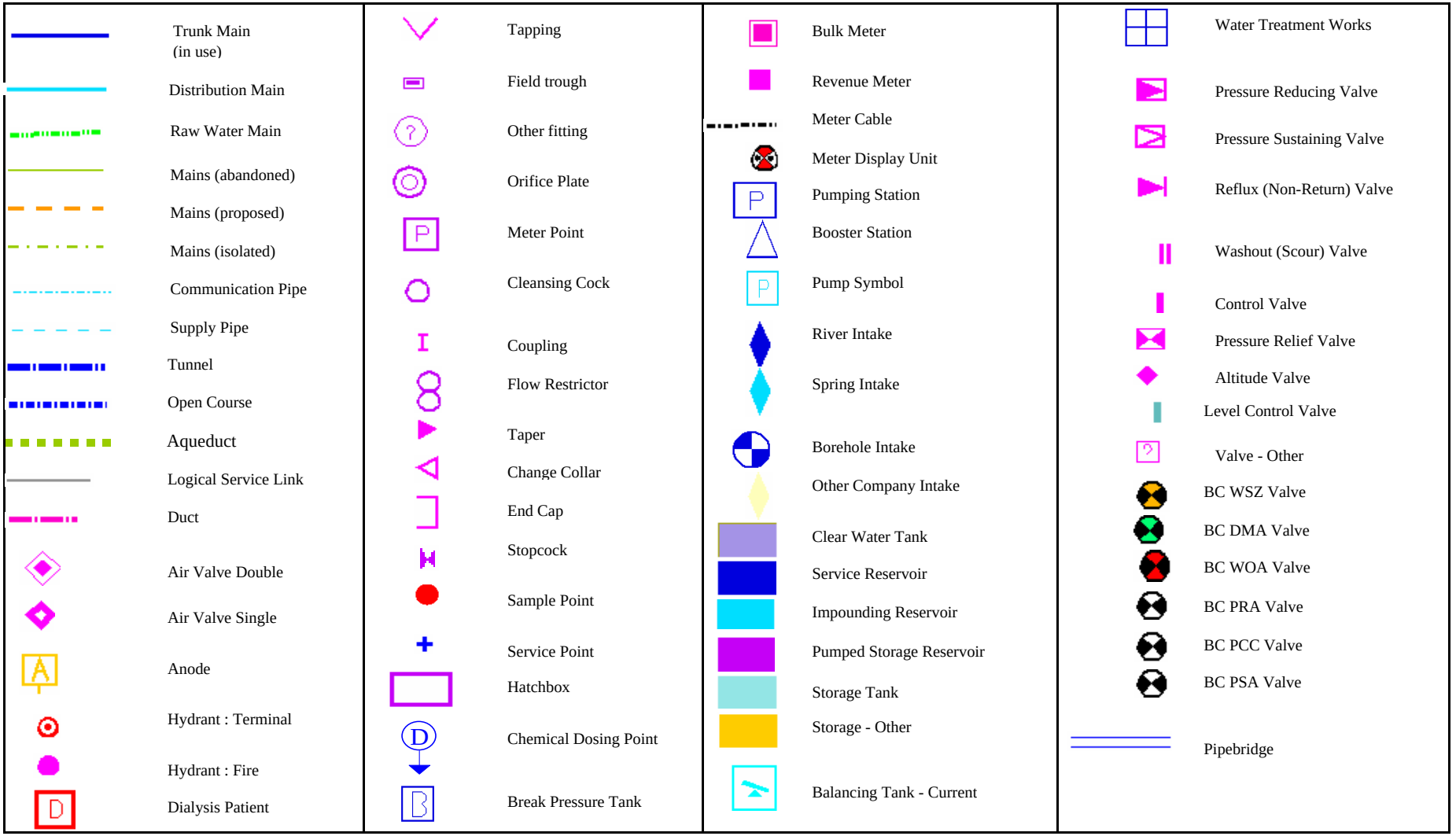
0 — 236 metres

Scale: 1:2500

Plotted By: ntocli01

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

SMALL WORLD GIS WATER LEGEND



Appendix 5

FIND
PROFESSIONAL MAPPING INTELLIGENCE

Scale	1:5,000
Date	04/03/13

Ordnance Survey

Appendix 6

Principles of Environmental Risk Assessment

The Environmental Protection Act (1990), Part II A Contaminated Land (Section 57 of the Environment Act 1995), revised by Scottish Statutory Instrument No.658 (2005), and the Contaminated Land Regulations (1999) provide a basis on which to determine the risks and liabilities presented by a contaminated site. Contaminated Land is defined within Annex 3, Chapter A Part 1- Scope of Chapter and in all those Sections mentioned as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:

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

(b) Significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused."

Section 57 of the Environment Act 1995 requires that any site identified as being "contaminated" by the Local Authority will be registered by them and remediation will be required to render the site fit for use.

The presence of contamination is not the sole factor for deciding whether a site is contaminated. Relevant parties should identify site-specific risks and provide objective, cost-effective methods to manage the contamination in a manner that satisfies the proposed end-use.

A risk-based approach, which takes both technical and non-technical aspects into consideration when making decisions on contamination resulting from past, present or future human activities, is advocated. The assessment of environmental risks generally relies on the identification of three principal elements forming a 'pollutant linkage':

SOURCE: the contaminant

PATHWAY: the route through which the contaminant can migrate, and

RECEPTOR: any human, animal, plant, water environment or property that may be adversely affected (harmed) by the contaminant

In the absence of any one of these elements, on any given site, there is no risk. Where all three elements are present, risk assessment is required to determine the significance of the harm that is being or may be caused. As outlined above, the terms of the Contaminated Land regime specify that remediation need only be implemented where a site is causing, or there is a significant possibility that it will cause, significant harm, or significant pollution to the water environment.

Development of contaminated land is usually addressed through the application of planning and development legislation and guidance (i.e. Planning Advice Note 33). The suitable for use approach is seen as the most appropriate to deal with contaminated land, taking account of environmental, social and economic objectives. The assessment is made in the context of the proposed land use (i.e. residential, retail, open-space and tourist developments).

Street Engineering Review and Quality Audit

The Inchgarth Retirement Community – Aberdeen

May 2018

Issue 2

FAIRHURST

CONTROL SHEET

CLIENT: **Cults Property Development Company Ltd.**

PROJECT TITLE: **The Inchgarth Retirement Community – Aberdeen.**

REPORT TITLE: **Street Engineering Review and Quality Audit**

PROJECT REFERENCE: 106859

Issue and Approval Schedule:

ISSUE 1 **Final**	Name	Signature	Date
Prepared by	R Wildi	[redacted]	11/17
Reviewed by	M Peters		11/17
Approved by	I Ross		11/17
Issue details	Final		

Revision Record:

Issue	Date	Status	Description	By	Chk	App
2	7/05/18	FINAL	Minor changes	RALW	MP	IR
3						
4						
5						
6						
7						
8						

This report has been prepared in accordance with procedure OP/P03 of Fairhurst's Quality Assurance System.

Contents

Street Engineering Review

Summary of Proposed Development

This document has been compiled in support of the planning submission by Cults Development Company Ltd. for the development of a greenfield site within Cults, Aberdeen. The development is to consist of a mix of semi-detached houses, apartment houses, semi-detached/terraced apartments, amenity housing, care home and retail units.

The internal roads design adopts the principles of the Scottish Government's policy document "Designing Streets" but in a more conventional type layout with the majority of the roads having footways on both sides of the road. Soft landscaping is used to visually soften the development and encourage bio-diversity.

Access to the development is provided via a new road link from Inchgarth Road to the south to the North Deeside Road to the north. This road has been incorporated into the design to provide a more suitable route for the Inchgarth Road/North Deeside Road crossover than the existing routes to the west and the east.

This document sets out the design considerations given with regards to the vehicular access to and from the site, including pedestrian accessibility, street design, parking provision, surface materials and buried services.

Street Design & Considerations

The site is located on agricultural/undeveloped land to the east of the existing settlement of Cults to the north of the Inchgarth Reservoir.

Access to this development will be from two locations, one, to the north, directly off the A93 North Deeside Road opposite Bairds Brae, and the second, to the south, will be from a new roundabout constructed on Inchgarth Road.

The link road will have a speed limit of 30mph. The introduction of the roundabout on Inchgarth Road would also facilitate to the reduction in speed limit from 40mph to 30mph along this portion of the road.

Due to its major function of providing a link between the North Deeside Road and Inchgarth Road, it is necessary for the access link road to retain a formal traffic movement dominant configuration. This requires the road to be designed to Design Manual for Roads and Bridges (DMRB). The road width will be a minimum of 7.3m wide (widened locally at bends as necessary). It is not possible to reduce speeds to 20mph as the DMRB precludes the use of incorporating tight bends as speed reducing features.

The north junction for the link access road will be via a new ghost island junction. The link road then proceeds downhill in two sweeping bends down to Inchgarth road where it connects with a new roundabout.

The site topography and the presence of the Deeside Way significantly affect the way the site can be developed. The Deeside Way splits the site into two, and its height, whilst maintaining the route, along with the associated relative levels of the North Deeside Road and Inchgarth Road controls the gradient of the link road to its north and south.

The housing development areas to the east of the link road are then served by two housing roads constructed to the Designing Streets philosophy, one to the north of the Deeside Way and one to the south.

To reduce speed to the 12 – 15 mph required, it would be normal to use curves within the horizontal alignment and limit lengths of any straight sections of carriageway and thereby reduce forward visibility. However, due to the size and shape of the developable areas this does not allow for straight lengths of alignment to be limited to the preferred 60-80m. To mitigate this parking and junctions have been used to demonstrate to the driver that this is very much a residential area.

Due to the configuration of the internal roads and the natural traffic calming effect, forward visibility requirements are reduced such that they are mainly incorporated within the proposed carriageway extents, with some crossing open space areas. Where visibility splays are out with the carriageway they will be formed in either a soft or hard landscaping or low maintenance treatment, to be agreed with Aberdeen City Roads.

In considering the safety aspects of the scheme, and how this would impact on our design, the features within the design (as noted above) have resulted in a configuration that provides

both a very satisfactory layout in traffic management terms, but also provides a very safe environment for pedestrians. In support of the roads design and to confirm the safety aspects of our design, a Stage 1 & 2 Road Safety Audit will be undertaken by an independent Traffic Consultant.

Parking Provision

The development comprises of a mix of 95 semi-detached, terraced and apartment block house types which are designed to incorporate the numbers of parking spaces appropriate for each house size, this being;

- 1 or 2 bed apartments 1.5no. spaces.
- 1 bed semi-detached/terraced 1.5no. spaces.
- 2 or 3 bed semi-detached/terraced 2no. spaces.

Due to the status of the link road being a through route, being more traffic movement dominated, on-road parking will be prevented by the provision of parking restrictions. This will allow a free flow of traffic between the North Deeside Road and Inchgarth Road.

The layout is of a more conventional type and as such with regards to accessibility and manoeuverability of vehicles within the development, we do not anticipate any issues with the vehicles likely to enter/egress this development.

Material Specification

As part of the approach to the “Designing Streets” requirements, it is proposed to use a variety of road finishes and colours. Any Asphalt surfacing will be dark grey/black in accordance with the Council’s standard requirements with the block paving similarly restricted to the limited colours preferred by the Council. This will avoid any issues relating to the future maintenance of these areas once they are adopted by the Council.

The table below sets out the hierarchy of the roads proposed and highlights the specification, function and maintenance issues associated with each of these:

Road Type	Specification	Materials	Speed
Main Link Road	Significant road forming the main access to and from the development. No house frontage access. 7.3m minimum wide road with a 3.0m wide cycleway on one side and also a 2.0m wide footway on the other.	Asphalt road and Dense Macadam footways and cycleways. Landscape treatment to embankments to create enclosed, route clearly separate from the residential areas.	30MPH
Residential Streets	Housing roads intended purely for access to residential and retail properties. Parking along frontage and accesses to internal parking areas. 5.5m wide roads and 2.0m wide footways on both sides of the road.	Asphalt road with Dense Macadam footway. Landscape treatment to garden boundaries to create enclosures, amenity and improve safety.	12–15 MPH

Services & Street Lighting

Services

All mains services will be accommodated below the footways and service strips. This includes the street lighting cabling, with the street lighting units themselves being located either within the adjacent footways and/or in recessed rectangular hard surfaced areas within public open space areas and/or plot curtilages adjacent to the carriageway. These areas will be adopted and not conveyed to properties. Services will be installed in accordance with current standards and individual service provider requirements with regards to depth of cover and access chambers when located in either footways or service strips.

Street Lighting

The types of street lighting units are in accordance with the Council's standards for their future ease of maintenance.

Preliminary Selection of Lighting Classes

Distributor Road

From Table A.5: Lighting classes for subsidiary roads with a typical speed of main user v <= 30mph, with an environmental zone E3 and a traffic flow of normal gives us a lighting class P3.

Development Roads

From Table A.6: Lighting classes for subsidiary roads with mainly slow-moving vehicles, cyclists and pedestrians, with an environmental zone E3 and a traffic flow of normal gives us lighting class P5. However, Aberdeen City Council does not accept P5 therefore P4 will be used.

Risk Assessment

The risk assessment deals with potential hazards to the general public. Particular attention will be given to hazards affecting younger children. It also considers special hazards which may arise during construction or subsequent maintenance of facilities under Construction (Design and Management) Regulations 2015. In general, other than the items identified below, the road layout presents no unusual hazards under the CDM regulations that a competent designer could not reasonably foresee with a development of this type.

Roads Risk Assessment

Parameter	Hazard	Likelihood	Severity
Traffic composition	Localised mixed use housing road with cars, pedestrians, and cyclists.	Low	Medium
Complexity of task	There may be some parked vehicles and there are short sections of traffic calming features. These are on tight bends and traffic will be moving very slowly.	Low	Medium
Risk of crime	Theft from properties and vehicles.	Low	Medium

*No high severity therefore no amendment to the lighting class will be required.

General

During the design of the street lighting, to allow for such items as CDM, risk assessments, light pollution/nuisance etc., we have so far as is practically reasonable taken account and catered for the following:

- Overhead power lines and other obstructions.
- Trees and potential growth and accounting for summer foliage.
- Minimise obtrusive light.
- Locating street lighting on property boundaries and away from windows.
- Avoiding locations where lighting columns could be struck by vehicles.

In accordance with the Council's current requirements, design & electrical calculations will be included as part of the overall street lighting design.

Site Levels & Accessibility

The site is divided into two parts by the new link road, west and east. The west side is left predominately unchanged as a corridor for wildlife. Because of the existing gradient of the northern part of the site at approx. 1 in 11.2, for accessibility, a meandering path with an average gradient of 1 in 20 will be constructed between the North Deeside Road and the Deeside Way. The southern portion of the west side, having an approx. gradient of 1 in 11.6 will have more natural informal paths meandering through it, at the existing grade.

The east side of the development, where the housing and retail elements are to be constructed again have existing gradients of approx. 1 in 11.5. These areas will generally have roads and footpaths with gradients of approx. 1 in 20 and provide a route from the Deeside Way to Inchgarth Road. As such, a route of average gradient, 1 in 20, will be provided from the North Deeside Road to Inchgarth Road.

As such significant earthworks will be carried out to provide accessible gradients for roads, footways and driveways. All entrances to the houses will be barrier free level access from the street and parking areas. Thresholds and paving junctions are detailed to meet the Building Standards and Roads Construction Consent requirements.

Public Open Space & Density

A detailed landscape design has been prepared for the site which sets out treatment of open space, garden frontages, street planting and structure planting areas. The landscape design has been prepared in conjunction with development of the housing and roads layouts to ensure proper integration of the design.

Drainage & SUDS

Foul Water Drainage

All houses will be connected to the mains foul sewer network that will subsequently be maintained by Scottish Water.

Surface Water Drainage

In carrying out the detailed design for the surface water sewers, overland flow paths will need to be identified via modelling to ensure that accesses in particular, do not provide a path for storm surface water to properties. Capacity of road gullies are a limiting factor for drainage design that makes clear overland flow planning essential.

Using the simple index approach referred to in the SUDS manual (CIRIA Report C753), mixed use developments show a medium level of pollution hazard. Therefore the surface water run-off has to be dealt with accordingly.

The simple index approach states that SUDS should be provided to ensure that a total pollution mitigation index equals or exceeds the pollution hazard index.

Referring to Table 1 (Appendix A), this development is shown to have pollution hazard indices (worst case scenario) of**:**

- TSS: 0.7
- Metals: 0.6
- Hydrocarbons: 0.7

In order to provide the necessary mitigation, Table 2 (Appendix A) should be referred to. Based on the land use and by looking at the mitigation indices it is proposed that 2 levels of treatment should be provided in the form of ‘at source’ road side filter trenches with an end-of-line extended detention basin. This gives overall mitigation indices of:

- TSS: 0.5 + (0.5 x 0.5) = 0.75
- Metals: 0.6 + (0.5 x 0.5) = 0.85
- Hydrocarbons: 0.6 + (0.5 x 0.6) = 0.9

Overall, it can be seen that the mitigation indices provided by the combination of an 'at source' road side filter trenches with an end-of-line extended detention basin outweigh the pollution hazard indices of the development site. Therefore, the SUDS measures are deemed adequate provision for each catchment area of the development.

Conveyance - New surface water sewers will be provided to service the development and will be located within the new roads and areas of open ground where necessary. Sewers will be designed and installed in accordance with "Sewers for Scotland, Third Edition, April 2015", published by Scottish Water & WRc plc.

Run-off from the internal proposed roads will be drained direct to the new surface water sewers via traditional trapped gullies. Car parking areas will drain to porous paving within the parking bays then through a filter trench located below before discharging into the new surface water sewers via a single disconnecting chamber.

The link road will be drained to roadside filter trenches via traditional trapped gullies.

Run-off from individual plots will also drain direct to the new surface water sewer system. Each plot will discharge to the new surface water sewer system via a single disconnecting chamber located within its own curtilage.

Site control - The new surface water sewers will discharge to one of the grass conveyance swale/ and extended detention basin, located within an area of open ground within the development site. The roadside filter trenches will also discharge to either a standalone extended detention basin, or a combination of grass conveyance swale and extended detention basin, located within an area of open ground within the development site.

Hydraulic Control

In accordance with the Drainage Assessment guide, the rate and volume of surface water run-off from the post development situation should not exceed the surface water run-off from the existing Greenfield site. This equates to a total surface water discharge of 22.34l/s for the proposed 6.8ha development site, during a critical 10 year plus climate change rainfall return event (excluding wildlife corridor open space) .

Attenuation volumes will be provided within the extended detention basins in order to contain the run-off volumes generated by the critical 10 year, plus climate change, rainfall return event. The basins will also contain the run-off volumes generated by critical rainfall events up to and including the 200 years, plus climate change, rainfall return event. The attenuated discharge from the basins will not exceed the agreed Greenfield rate to the existing watercourse. Refer to Appendix C for details of calculations.

Site levels will be set in order to prevent water entering buildings or restricting access for emergency vehicles.

As part of the design approvals and subsequent adoptions in due course, Scottish Water will take on responsibility for the foul and surface water sewers, together with the maintenance of the extended detention basins. Aberdeen City Council will take on responsibility for the maintenance of the grass conveyance swales.

Quality Audit

Purpose

The purpose of the Quality Audit is to ensure that the design creates an environment where users can have realistic travel choices, feel safe to walk and cycle and have an environment where their mode choice is maximised through provision of non-intimidating environment. The Quality Audit reviews the plans from the different user perspectives to ensure that their needs are considered within the design. The Quality Audit provides the local authority, clients and designers with a balanced overview of the scheme and ensures that the place function is not overwhelmed by the movement function within the design, and helps to ensure that both functional and aesthetic considerations complement each other. It also helps to ensure that the plan being delivered provides a balance in access demands and the

design encourages users to travel in more sustainable ways i.e. the layout and design encourages walking and cycling as a first choice in preference to using the car for non-essential car journeys. The Quality Audit is an important aspect of street design as it considers how different users will receive and make use of the space. Thus, the design has a huge impact on future use by residents and visitors and impacts on the development of a sense of community.

The emphasis of the Designing Streets policies is to ensure that design encourages development of communities and provides an environment conducive to encouraging people to move around in more sustainable ways (walking and cycling) and to value their surroundings through having an increased sense of community. Designing Streets promotes a hierarchy for street users where pedestrians are placed at the top. The Quality Audit thus reviews the plans and can influence the final detailed design to ensure that the policy is carried through design to implementation.

Aberdeen City Council's strategy is to promote walking and cycling in order to improve health and wellbeing, promote integrated communities, reduce congestion and reduce carbon impacts from single occupancy vehicles. The Quality Audit reviews the plans on the basis of the principles of this strategy and advises on any areas where the plan can be improved in order to assist in delivering better community environments that have a high sense of place, provide alternative choices for movement (walking and cycling) where people will want to live and where communities can grow.

Accessibility Audit

The plans for the site have been assessed in terms of the level of accessibility to key facilities around the site by walking and cycling. This included a review of the connectivity of the network internally and externally with the surrounding network and key facilities.

The Accessibility Audit looked at the walking and cycling journeys between the site and key facilities that are likely to be destinations for future residents of the area. Footways will be a minimum of 2.0m wide, alongside vehicular routes, whilst shared use footways/cycleways will have a minimum width of 3.0m.

Access to the site:

Access to this development is via the link road, from Inchgarth Road to the south to the North Deeside Road to the north.
The link road will have a speed limit of 30mph along its length with a reduction to 20mph when entering the junctions to the residential streets. Each junction will be provided with visibility envelopes appropriate to this speed.

The link road, having the additional connectivity function between Inchgarth Road and the North Deeside Road to the north will be a minimum of 7.3m wide (widened locally at bends as necessary).

Street Hierarchy:

As noted above, the main accesses to and from this site will be 7.3m wide with a footway/cycleway along one side and with a 2.0m footway on the opposite side to the footway/cycleway. These will lead to the residential streets off the east side of the development.

Junctions off the link road will be formed by 2no. residential streets of 5.5m wide widths with a more conventional configuration. These will lead to less significant streets/accesses and parking bays along the side of the roads.

Walking:

On average people walk around 400 metres in a 5 minute period, and as such walking within this scheme would take approx. 5 minutes, with walks to the public open space/play areas generally taking 2 to 4 minutes. Facilities are located within the site, again being accessible in 2 to 4 minutes.

From the North Deeside Road, a remote footway has been provided through the open space to the northwest of the site and leads onto the Deeside Way. Progressing eastwards, the route then utilises the Deeside Way to access the footway within the south eastern portion of the development. Working westerly back through the development, the footway connects back onto the link road to continue in a south westerly direction onto Inchgarth Road. The

requirement for this route is to provide DDA compliant pedestrian route. It has been agreed with Aberdeen City Council that a 1 in 16 gradient with associated platforms is acceptable for this purpose.

Analysis:

The analysis of the site and connections to the surrounding area considers the location and suitability of crossing points to allow movement from footway to footway crossing carriageways. Suitable at-level crossing points with tactile paving are important features in any design particularly for mobility and visually impaired pedestrians, those in wheelchairs and parents with push chairs. This has been addressed at all locations across the site.

Footway widths are a key consideration in terms of access. These vary across this site from 3.0m cycleways to 2.0m footways.

Site footways were examined for any areas of inadequate width and any location where proposed street furniture or planting could introduce obstacles to pedestrian flows, reduce footway width and cause difficulties for visually impaired.

Findings:

1) The audit considered the criteria above and found that the layout and design of the site accommodates the needs of the pedestrians well.
2) The design encompasses the principles of Designing Streets and minimal street furniture and signing is proposed. What street furniture is proposed is located to provide maximum footway widths.
3) All the junctions and crossing points provide level crossing facilities with appropriate tactile paving.

Conclusion:

The proposed design caters well for pedestrians with suitable links throughout the site. External links to the existing Cults settlement have also been provided and will encourage walking to local facilities.

Cycling:

The purpose of the cycling audit is to assess the routes and highlight those areas that would be most suitable for use by cyclists.

The audit included a review of road widths and considered provision of any additional facilities for cyclists in the area. The audit reviewed the links between the development and the existing surrounding network.

The cycle audit seeks to identify whether the overall street design is cycle friendly and that facilities provided specifically for cyclists, are designed in accordance with best practice.

The cycle audit is a systematic process designed to ensure that the design actually encourages cycling. It is likely that experienced cyclists will still use the roadway to progress through the site. Cyclists of varying abilities use the route that they see as being the safest. Children and non-confident cyclists would tend to use the shared use cycleway/footway route where they are less likely to come into conflict with moving vehicles.

In order for cycling routes to be safe, convenient and attractive the following five criteria have been considered and met:

Coherence: The cycling infrastructure should form a coherent entity, linking all significant trip origins and destinations, routes should be continuous and consistent in standard.

Directness: Routes should be as direct as possible, based on desire lines - detours and delays will deter use.

Attractiveness: Routes must be attractive to cyclists on subjective as well as objective criteria: lighting, personal safety, aesthetics, noise and integration with the surroundings are important.

Safety: Designs should minimise casualties and perceived danger for cyclists and other road users.

Comfort: Cyclists need routes that are smooth, with well-maintained surfaces, flush kerbs, regularly swept, and with gentle gradients; routes must be convenient to use and avoid complicated manoeuvres and interruptions.

Analysis:

The cycle audit examined the main routes through the development site and how they will link to the existing network.

There is provision for cyclists through the creation of a 3m wide footway/cycleway alongside the main link road and continuing into the development on the residential roads. Also, via the link road there is connection to the wider existing cycle network.

Through the design of the streets the priority and safety of cyclists has been considered to ensure that cycling is a viable and attractive option from and within this development.

Non-Motorised Users:

Introduction:

Non-motorised users can comprise a wide group of users of different ages, levels of mobility and needs. This group typically comprises of those in a wheel chair, those with walking/mobility difficulties, people with push chairs/young children, those with mobility scooters and those with visual impairment.

Mobility impairment includes people who walk with some form of aid such as a walking stick or frame and those who use wheelchairs. Around 70% of disabled people have mobility issues and wheelchair users comprise approximately 10% of this group. In order to cater for those with mobility impairment and increase comfort levels, the design should provide even surfaces, free from clutter. Visual impairment affects around 2 million people in the UK however 95% have a degree of residual vision. This highlights the importance of ensuring tonal contrast in design in aiding navigation.

Hearing impairment and those who are profoundly deaf are affected by design where a pronounced crossfall is in place. The deaf often have balance problems and therefore the

street design should where possible consider the degree of crossfall (between 1% and 2.5% desired) in order to assist those with hearing impairment and deafness.

The main principles that typically should be present in any design to provide a degree of equality and address the needs of non-motorised users include:

- Not giving rise to road safety or personal safety concerns
- Directly facilitate the desired journey without undue deviation or difficulty
- Link origins with destinations as directly as possible
- Be attractive and comfortable to use
- Be accessible to disabled users and people with children and pushchairs
- Be continuous and not subject to severance or fragmentation

The principles adopted in the development of this scheme have resulted in a layout that has considered the above aspects and incorporated the findings into the layout and street design.

A review of the layout plans was undertaken in order to assess the layout provided from a non-motorised user's point of view.

Findings:

- The design of the streets includes provision of traditional streets and shared.

- The traditional streets provide carriageways and footway/cycleways separated by a 100mm kerb. Where pedestrian crossing areas are created, dropped kerb and tactile paving blocks are included, to assist those with mobility and visual impairments, and those using wheelchairs and pushchairs.

- This scheme has provides 2m footways and good access to green spaces.

- The pedestrian desire lines in general are good for all users.

- The table on page 7 details the hierarchy of the roads and the associated footways and demonstrates how they link together through the development.

Conclusion:

The conclusions that can be drawn from the non-motorised user audit is that the layout provides well in terms of dropped kerbs and adequate footway widths for this user group.

Non-motorised users should have no significant access issues throughout this development site.

The new development should potentially be an interesting scheme with a high sense of place and build within the context of the existing local topography and should accommodate people with a wide range of mobility levels.

Public Transport Links:

In support of the planning application a Transport Assessment was compiled which considered the Public Transport accessibility to/from the development site.

As part of the purchase of the units, the developer will be providing a Travel Pack which gives information on the options available for travelling in and around the scheme to encourage the house owners to break the habit of simply getting into a car for every journey.

Place Check Audit

The layout proposed has been examined against the six qualities of successful places set out in Designing Streets.

Distinctive:

A range of size and mix of house types, utilising a range of traditional materials set within a high quality landscaped street layout, respecting the topography and allowing for future linking to adjacent development proposals, ensures that the proposed development contributes positively to the surrounding area.

Safe and Pleasant:

The proposed layout respects the Designing Streets principle of respecting pedestrians first.

The hierarchy of streets proposed and set out in the table on page 7 will be effective in reducing vehicle speeds and improving safety to reduce speeds, and to enhance the cycling and pedestrian environment.

The proposed layout embodies the features of street design being advocated in “Designing Streets” by incorporating sections of block paving and introducing tight bends all to achieve the desired effect of naturally reducing traffic speeds. NB. These speed reducing features should reduce speeds below the usual 20mph.

The layout provides a well-connected network of streets and paths for use by pedestrians and cyclists. Links tend to be short thus providing adequate opportunity for direct walking routes.

Easy to move around:

The development is provided with footways of sufficient width and drop kerbs to accommodate those in wheelchairs, mobility scooters and pushchairs etc.

The gradients of the new access roads and footways will make it relatively easy for mobility impaired users to move around the development.

The hierarchy of the streets is important and relates to level of legibility of the network.

In general, the junctions will be effective in reducing vehicle speeds through their spacing, geometry and widths.

Junctions have been designed with tight corner radii. This provides a dual effect of reducing vehicle speeds turning into the street thus improving cyclist safety and creating more direct pedestrian crossing facilities without deviating from the pedestrian desire line.

Welcoming:

The overall scheme has been developed within the context of the Masterplan.

On average people walk around 400 metres in a 5 minute period, and as such walking within this scheme would take 5 minutes, with walks to the public open space/play areas generally taking 2 to 4 minutes.

The site has been designed to provide considerable soft landscaping to boundaries and frontages as well as high quality areas of open and useable space carried on from the design principles set out in the Masterplan adopted for this site.

Adaptable:

Parking is generally provided within car parking court areas or road side end on car parking bays which also provide parking for visitors. However, there are also areas available on the streets for visitor parking if required.

It is noted that a degree of informal on-street parking can be accommodated on most streets without adversely compromising safety of operation.

The design ensures that parking areas are overlooked, close to destinations and easy to find and identify.

Tracking has been undertaken to demonstrate that larger vehicles can access all areas of the site. Tracking of large refuse vehicles and large cars has been undertaken for the site and will be subject to detailed discussions with Aberdeen City Council.

Resource Efficient:

The approach to the design provides a development which embodies the principles of resource efficiency throughout. This is demonstrated by:

- Having properties generally fronting onto streets and not providing lengths of street that are only routes to properties located further away.

- Orientation of streets and buildings to maximise sunlight benefits.
- Utilities strips in the street to manage future maintenance works.
- Landscape strategy emphasising the use of green space and planting to enhance the layout and reduce vehicle speeds throughout.

The use of Sustainable Urban Drainage Systems (SUDS) has been discussed in detail in the Street Engineering Review.

Visual Quality Audit:

A landscape layout has been prepared for the site which integrates the road and housing layout to provide interest, enclosure of frontages, open space and structured planting. Use of planting and trees along the edge of the road provides visual interest, reduces the impact of buildings on the environment and provides enclosure of open spaces.

A range of house types are proposed within the layout with high quality materials being proposed, including dry dash render, upvc windows and facings, timber fencing and block/drydash boundary walls and makes provision for a range of users, and creates a high quality environment, provides buildings which are distinctive and attractive and creates a settlement that can become a community in which people would want to live. The variety of building sizes, including height and massing, is likely to create an interesting and attractive community, combined with a street layout which works with the existing topography as much as possible and creates a high visual amenity and quality perspective.

Following completion all landscape areas will be the subject of a factoring arrangement which will ensure that the site is fully maintained to a high standard in the future.

The design of this scheme will provide an attractive and welcoming environment for residents and visitors.

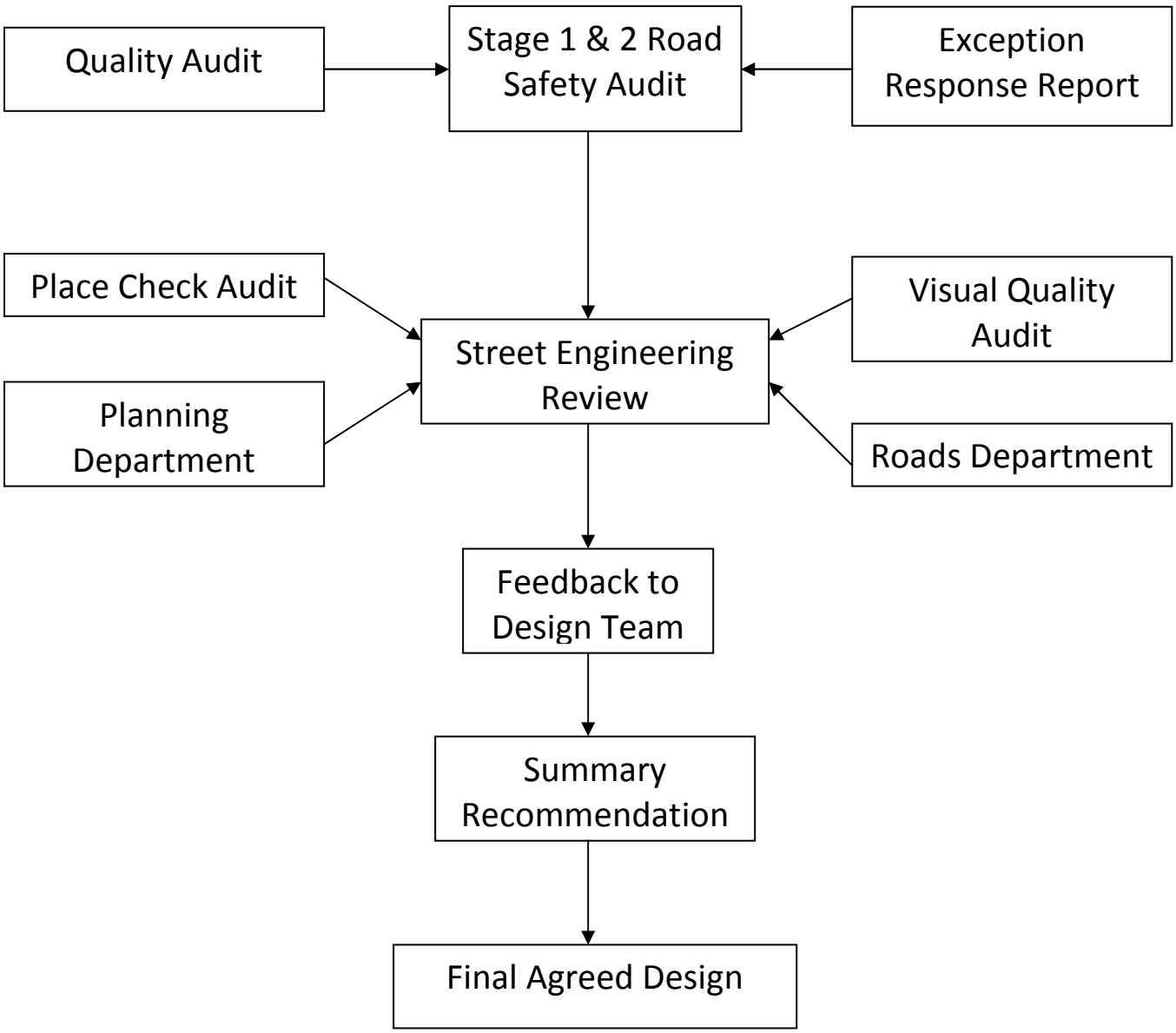
Conclusions:

The outcome of the Quality Audit has identified that the Masterplan layout overall provides:

- A high level of connectivity within the site;

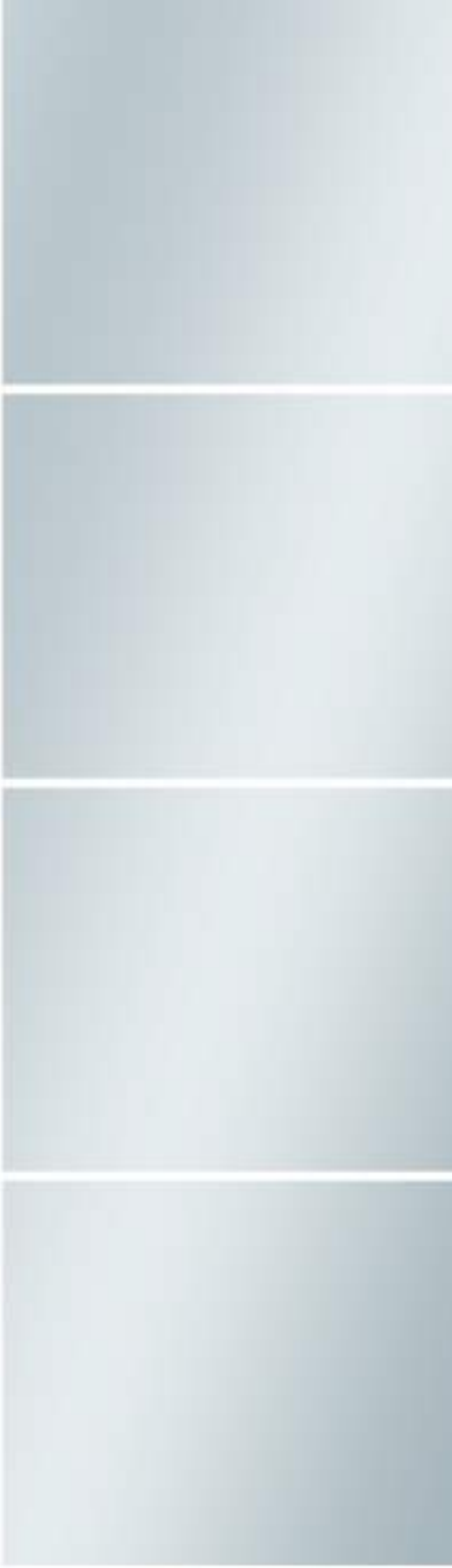
- Accessible networks and routes to facilities;
- A mix of property sizes and layouts to provide for an encouraged mix of different types of residents;
- Street forms which are distinctive;
- A greater sense of community through easy access to local neighbourhood facilities and an attractive and high quality environment in which all users will have opportunity and be encouraged to walk and be less car dependent.

Appendix A - Street Engineering Review Diagram



Appendix B – Site Layout Drawing

Drawing Number 3847/102C



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FAIRHURST

Land at North Deeside Road/Inchgarth Road, Aberdeen

Desk-based assessment (DBA)

National Grid Reference: NJ 90405 03201 (centred)

Parish: Aberdeen and Peterculter

Height OD: 25-40m OD

Written and researched by:

Cameron Archaeology

Commissioning client:

Cults Property Development Company Limited

Contractor:

Cameron Archaeology
[redacted]
www.cameronarchaeology.com
Company registration no 372223 (Scotland)
VAT registration no 990 4373 00

Date: 16 October 2016
Updated: 1 August 2017

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ILLUSTRATIONS

SUMMARY

This Desk-Based Assessment was commissioned by Fitzgerald Associates for Cults Property Development Company Limited. A Proposal of Application Notice (PAN) to Aberdeen City Council (161227/PAN) for a retirement community comprising apartments, townhouses, a care home and some small retail units. Aberdeenshire Council Archaeology Service (who cover Aberdeen City) requires a 7-10% archaeological field evaluation in the first instance.

1 BACKGROUND

1.1 The site (Illus 1) is located between Garthdee and Cults on the N side of Inchgarth Road and the S of the A93 North Deeside Road. It is centred on NGR NJ 90405 03201, at 25-40m OD in the parish of Aberdeen and Peterculter.

1.2 The work was commissioned by Fitzgerald Associates for Cults Property Development Company Limited. A Proposal of Application Notice (PAN) to Aberdeen City Council (161227/PAN) for a retirement community comprising apartments, townhouses, a care home and some small retail units. Aberdeenshire Council Archaeology Service (who cover Aberdeen City) requires a 7-10% archaeological field evaluation (Illus 2) in the first instance.

1.3 All the archaeological work will be carried out in the context of Scottish Planning Policy (SPP) Planning Advice Note (PAN 2/2011) and Historic Environment Scotland's Policy Statement (HESPS) which state that archaeological remains should be regarded as part of the environment to be protected and managed.

Illus 1 Location plan (*Contains Ordnance Survey data © Crown copyright and database right 2016*)

Illus 2 Site plan showing proposed development (*copyright* Fitzgerald Associates)

2 ARCHAEOLOGICAL BACKGROUND

2.1 There is one Scheduled Ancient Monument within 1km of the proposed development. The so-called motte of Pitfoddel's Castle (NJ90SW 1) is a natural mound that occupies a wooded promontory on the steep edge of a river terrace cut by the Dee. The mound measures about 40m from NW to SE by 25m transversely and rises to about 5m in height. However, the mound was once larger, and is shown almost twice as extensive as it is today on the first edition of the OS 25-inch map (Aberdeenshire, 1870). The tradition of its use as the site of a castle was first recorded at that time. The mound has been landscaped on several occasions since: a broad terrace has been levelled into it on the E; a track cuts into its sides on the N and S; and an excavation has been made in the SW for a new wing of the Norwood House Hotel (NJ90SW 43.00) in 1976. The mound may have been used as the site of an earthwork castle, but no trace of any defences is visible today. A small rectangular platform with a sharp profile is visible on the W of the mound, but this may be a garden feature of the country house. If a castle stood here, it was probably built by the Murrays of Colbyn, who obtained the barony of Pitfoddel de novo between 1389 and 1397. The barony passed to the Rede family in the 15th century and thence to the Menzies in the 16th century. In view of the date of the erection of the barony, the possibility of an earthwork castle is less likely than a stone-built tower-house (Yeoman 1988, 130; Bogdan and Bryce 1991, 23; CFA 1992, 34-5).

2.2 There are 24 Listed Buildings (Appendix 2) within 1 km of the proposed development. These are mainly 19th-century houses and associated buildings, including Inchgarth, Fairview, Norwood, Garthdee House. There is a stone windmill in the gardens of Drumgarth which was built in 1859 for George Jamieson, a jeweller, and is designed by the Inverness architects Alexander & William Reid and Mackenzie. Drumgarth and

its windmill is situated in the Pitfodels area of Aberdeen, which was purchased and feued by the Pitfodels Land Company (established 1854). Jamieson was a partner in the company and Drumgarth was one of the first houses to be built on the former Pitfodels estate. Fiddes in his article Pitfodels and Early History of Garthdee (2005, 25-33) states that Jamieson had the windmill resited in 1859 from his feu near Windmill Brae in Aberdeen city centre to Drumgarth, possibly for use as a summerhouse. However, map evidence suggests that the windmill was moved from its original site around 1870-80. The Large Scale Town Ordnance Survey Map of Aberdeen, published in 1867 depicts a windmill at the south entrance to Windmill Lane, close to Windmill Brae and the 1st Edition Ordnance Survey Map, published in 1869 shows the house at Drumgarth, but does not show the windmill. By the 1899, 2nd Edition Ordnance Survey Map, the windmill is shown in its present position to the west of Drumgarth. It is likely therefore that the windmill was moved to Drumgarth around 1870-80. The windmill is likely to date from the mid-17th century and a windmill is shown at the Windmill Lane site on the 1661 map of Aberdeen by James Gordon (Donnachie and Stewart 1964-6, 276-97).

2.3 The Deeside Line runs through the proposed development. The Royal Deeside Railway was formed in 1996 with the intention of reclaiming part of the former branch line from Aberdeen to Ballater, constructed between 1853 and 1856 by the Deeside Railway company and closed by British Railways in 1966 and is now at walk and cycle route. Pitfodels Station to the E of the proposed development was converted to holiday let accommodation in 2011 (Cameron 2011, 10).

2.4 There are fifty-eight sites of archaeological and historic interest within 1km of the proposed development (Appendix 1). The area has sparse prehistoric activity recorded, primarily as discrete finds. One is the find spot of a barbed and tanged arrowhead (NJ90SW 19) of Buchan flint which was found by Mr I M McDonald in his garden at 4 Gaitside Terrace, Aberdeen, in 1949; the current location of the flint is unknown. Mr Henderson of 154 Deeside Gardens recovered a flint end-scraper, barbed and tanged arrowhead and knife/scraper (NJ90SW 51) while gardening between 1965-1979, and noted (but did not recover) other flakes; objects with finder (NMRS 1992, 35).

2.5 On Craigton Road there are a series of Freedom Land boundary markers (Stones 8, 9, 10, 11, 12; NJ90SW 17, 34, 35, 46, 132) (Cruickshank and Gunn 1929, 36). In 1313, Robert the Bruce granted Aberdeen custodianship over his Royal Forest of the Stocket. The term Royal Forest is slightly misleading as it really meant a hunting ground, which may have included a wooded area. In 1319 Robert issued a second charter. This granted Aberdeen fuller rights over the Stocket, in return for an annual payment, or feu, of £213 6s 8d Sterling – the modern day equivalent of approximately £91,000. The earliest boundary markers were probably natural features such as burns and stones (described as 'earthfast' stones), with the addition of small purpose-built cairns. The first description of the marches dates back to a 'riding of the marches' in 1525. The practice of riding the boundary lines was intended to ensure they were being observed and respected, and that no adjacent landowners had encroached onto the town's lands. These rides were accompanied by a great deal of ceremony and feasting (Aberdeen City Council).

2.6 Archaeological interventions have taken place at Viewfield (international School) on the N side of North Deeside Road where a remnant of the 17th-century Viewfield House and a 20th-century bunker were recorded (Cameron 2008, 13). On Airyhall Road an archaeological evaluation recorded quarry pits of probably 19th-century date (Cameron 2013, 10) and prior to the construction of Nazareth care Home on Airyhall Road an evaluation revealed no archaeological finds or features (Cameron 2010, 11). A Level 2 standing building survey was carried out of Garthdee Farm

(NJ90SW 184) and a 10% evaluation of the neighbouring fields prior to a residential development. No archaeological finds or features were recorded during the evaluation (Cameron 2014, 10).

2.7 There are no known archaeological or historic sites within the boundary of the proposed development. The area has been farmland since the earliest maps (Illus 3-8). The 1st, 2nd and 3rd edition OS maps show the area as part of at least seven agricultural fields (Illus 9-11). On the 1st edition (Illus 9) there is a small area of water, a possible well marked within the site on the SW side of Middleton. The Deeside Railway Line runs through the site. By the 2nd Edition map the fields have been consolidated and the site consists of three fields. No other features are recorded on these OS maps. The 1946 aerial photograph (Illus 12) shows no additional features.

3 ARCHAEOLOGICAL REQUIREMENTS

Due to the relatively undisturbed nature of this site Aberdeenshire Council Archaeology Service (who cover Aberdeen City) requires a 7-10% archaeological field evaluation in the first instance.

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5 ACKNOWLEDGEMENTS

Thanks to Alison Wright and Kevin Fitzgerald, Fitzgerald Associates for initiating this project and to Bruce Mann, Aberdeenshire Council Archaeology Service for Aberdeenshire, Moray, Angus and Aberdeen for his advice during this work.

APPENDIX 1 Archaeological and historical sites within 1km of the proposed site (RCAHMS)

Dataset UID	Name	OS NGR	Classification
112884	CULTS STATION	NJ 89740 02990	RAILWAY STATION. ALTNAME = STATION ROAD
134436	ABERDEEN, CULTS, INCHGARTH ROAD, FAIRVIEW	NJ 89769 02714	ENGINE HOUSE (19TH CENTURY), WATERWORKS (19TH CENTURY). ALTNAME = CULTS WATERWORKS
134437	CULTS, 268 NORTH DEESIDE ROAD	NJ 89970 03200	STONE
134469	ABERDEEN, GARTHDEE ROAD, DRUMGARTH, WINDMILL	NJ 90702 02957	WINDMILL. ALTNAME = INCHGARTH ROAD
141171	ABERDEEN, RIVER DEE	NJ 91080 02710	BRIDGE
143636	DRUMDUAN	NJ 91140 02600	COUNTRY HOUSE. ALTNAME = BANCHORY HOUSE, DRUMDUAN HOUSE
149554	ABERDEEN, GARTHDEE ROAD, GARTHDEE HOUSE	NJ 91376 03057	VILLA (19TH CENTURY). ALTNAME = SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE, GARTHDEE HOUSE POLICIES
149555	ABERDEEN, GARTHDEE ROAD, GARTDEE HOUSE, WEST LODGE	NJ 91038 03186	GATE LODGE. ALTNAME = SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE, GARTHDEE HOUSE POLICIES
149557	ABERDEEN, GARTHDEE ROAD, GRAY'S SCHOOL OF ART	NJ 91130 03060	COLLEGE. ALTNAME = GARTHDEE HOUSE POLICIES
150018	ABERDEEN, GATHDEE ROAD, INCHGARTH	NJ 90150 02910	FARMHOUSE, FARMSTEAD. ALTNAME = INCHGARTH FARM
150031	ABERDEEN, GARTHDEE ROAD, NORWOOD, WEST LODGE	NJ 90819 03156	GATE LODGE. ALTNAME = PITFODELS, NORWOOD HALL HOTEL
155158	CULTS	NJ 89790 02860	FARMSTEAD, MILL
173427	ABERDEEN, LOIRSBANK ROAD, GENERAL	NJ 89580 02760	GENERAL VIEW
173882	ABERDEEN, DEN OF CULTS, GENERAL	NJ 89740 02820	GENERAL VIEW
173884	ABERDEEN, GARTHDEE ROAD, INCHGARTH HOUSE	NJ 90556 03016	HOUSE (19TH CENTURY)
173885	ABERDEEN, GARTHDEE ROAD, INCHGARTH COTTAGE	NJ 90640 03090	COTTAGE
174532	ABERDEEN, CULTS, CULTS HOTEL	NJ 89570 03140	HOTEL
174881	ABERDEEN, NORTH DEESIDE ROAD, WELLWOOD UNIT (WOODLANDS HOSPITAL)	NJ 90030 03403	HOSPITAL. ALTNAME = CULTS, WELLWOOD HOUSE, WELLWOOD HOSPITAL
19407	ABERDEEN, CULTS, ST DEVENICK SUSPENSION BRIDGE	NJ 89770 02609	SUSPENSION BRIDGE (19TH CENTURY). ALTNAME = ST DEVENICKS BRIDGE ,

			MORRISON'S BRIDGE, MORISON'S BRIDGE, RIVER DEE, THE SHAKKIN' BRIGGIE
19409	CULTS MILL	NJ 89611 02993	WATERMILL (19TH CENTURY). ALTNAME = MILLDEN ROAD, MILL OF CULTS
19410	ABERDEEN, CRAIGTON ROAD, BOUNDARY MARKER 11	NJ 89910 03764	BOUNDARY STONE. ALTNAME = ABERDEEN, MARCH STONE 11, EAST ROCKLANDS
20247	PITFODDEL'S CASTLE	NJ 91030 02960	CASTLE. ALTNAME = PITFODELS, PITFODDELS CASTLE, NORWOOD HOUSE HOTEL
20257	ABERDEEN, 4 GAITSIDE TERRACE	NJ 91380 03260	BARBED AND TANGED ARROWHEAD (FLINT)
20265	BANCHORY HOUSE, WEST LODGE	NJ 90870 02500	LODGE
20275	ABERDEEN, CRAIGTON ROAD, BOUNDARY MARKER 10	NJ 90293 03947	BOUNDARY MARKER. ALTNAME = ABERDEEN, MARCH STONE 10, SLOPEFIELD RESERVOIR
20284	BANCHORY-DEVENICK, ST DEVENICK'S CHURCH	NJ 90670 02476	BURIAL GROUND, CHURCH, WAR MEMORIAL (20TH CENTURY). ALTNAME = BANCHORY-DEVENICK PARISH KIRK, BANCHORY-DEVENICK OLD PARISH CHURCH, WAR MEMORIAL ROLL OF HONOUR
207661	EAST MIDDLETON	NJ 91100 03290	COTTAGE, CROFT. ALTNAME = ABERDEEN, AUCHINYELL ROAD, NORTH GARTHDEE
207662	NORTH GARTHDEE	NJ 91060 03360	COTTAGE, CROFT. ALTNAME = NORTH GARTHLEE
207664	BRAESIDE COTTAGE	NJ 91050 03730	COTTAGE, CROFT. ALTNAME = ABERDEEN, NORTH DEESIDE ROAD
207665	WOODLAND COTTAGE	NJ 90920 03900	COTTAGE, CROFT. ALTNAME = ABERDEEN, AIRYHALL ROAD, BRAEHALL, VIEWBANK COTTAGE
207666	AIRYHALL ROAD	NJ 90530 03880	WALLED GARDEN. ALTNAME = ABERDEEN, AIRYHALL ROAD, AIRY HALL
209835	CLIFF HOUSE, BOUNDARY STONE	NJ 89750 03640	BOUNDARY STONE
209836	CLIFF HOUSE	NJ 89797 03590	HOUSE
210199	CLIFF HOUSE, QUARRY	NJ 89780 03550	QUARRY
219531	BANCHORY-DEVENICK, OLD MANSE	NJ 90489 02382	MANSE. ALTNAME = MANSEFIELD HOUSE
219532	BANCHORY-DEVENICK, OLD SCHOOLHOUSE	NJ 90676 02412	SCHOOLHOUSE. ALTNAME = KIRKTON COTTAGE
236840	ABERDEEN, NORTH DEESIDE ROAD, WOODBANK, WALLED GARDEN AND GATEPIERS	NJ 90447 03596	GATE PIER(S), VILLA (19TH CENTURY), WALLED GARDEN. ALTNAME = WOODBANK SPORTS CENTRE, AIRYHALL ROAD, BAIRDS BRAE
236989	ABERDEEN, PITFODELS, NORTH DEESIDE ROAD, VIEWBANK	NJ 90775 03749	AIR RAID SHELTER (20TH CENTURY), HOSTEL, SCHOOL, TOWER. ALTNAME = PITFODELS HOUSE, PITFODELS HOSTEL, PITFODELS SCHOOL
241206	PITFODELS STATION	NJ 90650 03310	RAILWAY STATION. ALTNAME = PITFODELS STATION ROAD

241257	BANCHORY-DEVENICK, ST DEVENICK'S CHURCH, WATCH HOUSE	NJ 90672 02438	WATCH HOUSE
287754	ABERDEEN, COUNTESSWELLS ROAD, CRAIGIEBUCKLER HOUSE, DOOCOT	NJ 90000 04000	DOVECOT
293847	ABERDEEN, PITFODELS, NORTH DEESIDE ROAD, VIEWBANK, BUNKER	NJ 90808 03720	BUNKER (20TH CENTURY)(POSSIBLE)
293975	CULTS, WOODLANDS	NJ 90100 03740	NO CLASS (EVENT)
294229	ABERDEEN, PITFODELS, NORTH DEESIDE ROAD, VIEWBANK TOWER	NJ 90809 03752	FOLLY, HOUSE (POST MEDIEVAL), TOWER
311832	CRAIGTON ROAD	NJ 90670 04110	NO CLASS (EVENT)
311835	ABERDEEN, GARTHDEE CAMPUS	NJ 91060 03130	BUILDING, BLADE (FLINT)(NEOLITHIC)
316654	PITFODELS, INCHGARTH ROAD, INCHGARTH HOUSE, VICTORIAN GREENHOUSE	NJ 90587 03057	GLASSHOUSE
320303	GARTHDEE ROAD, ROBERT GORDON'S INSTITUTE OF TECHNOLOGY	NJ 91060 03130	NO CLASS (EVENT)
320405	AIRYHALL ROAD, BRAESIDE	NJ 90818 03948	FIELD DRAIN(S), QUARRY PIT(S) (19TH CENTURY)
331372	ABERDEEN, LOIRSBANK ROAD, GENERAL	NJ 89580 02760	NO CLASS (EVENT)
332222	INCHGARTH RESERVOIR	NJ 90209 02714	RESERVOIR
339870	ABERDEEN, CULTS, NORTH DEESIDE ROAD, WAR MEMORIAL	NJ 90471 03410	WAR MEMORIAL (20TH CENTURY). ALTNAME = MAJ REID WW1 WAR MEMORIAL FOUNTAIN
351915	ABERDEEN, NORTH DEESIDE ROAD, THE MARCLIFFE AT PITFODELS	NJ 90610 03632	HOTEL. ALTNAME = BALNAGARTH HOUSE
70528	ABERDEEN, GARTHDEE ESTATE	NJ 91000 03000	GENERAL VIEW. ALTNAME = PITMEDDEN ROAD
77013	ABERDEEN, GARTHDEE ROAD, NORWOOD	NJ 90983 02973	HOTEL, HOUSE. ALTNAME = PITFODELS, NORWOOD HALL HOTEL, NORWOOD HOUSE HOTEL
80077	TOLLOHILL WOOD, PARKNOOK	NJ 90200 02340	OBELISK
81288	CULTS, NORTH DEESIDE ROAD	NJ 90410 03390	PILLBOX (20TH CENTURY). ALTNAME = CULTS, 216 ARNLEE LODGE, NORTH DEESIDE ROAD, BAIRNS RD
85148	ABERDEEN, 154 DEESIDE GARDENS	NJ 91000 03500	BARBED AND TANGED ARROWHEAD (FLINT), FLAKE(S) (FLINT), SCRAPER (TOOL)(S) (FLINT)

APPENDIX 2 LISTED BUILDINGS WITHIN 1KM (RCAHMS CANMORE Online)

Dataset UID	Name	OS NGR
333839	MORISON'S BRIDGE OVER RIVER DEE	NJ 89770 02609
349396	INCHGARTH, GARTHDEE ROAD	NJ 90556 03016
349417	FAIRVIEW, INCHAGARTH ROAD	NJ 89769 02714
349418	MORRISON'S BRIDGE (THE SHAKKIN' BRIGGIE) OVER RIVER DEE.	NJ 89770 02609
349459	MILL OF CULTS, MILLDEN ROAD,	NJ 89611 02993
349466	WINDMILL, DRUMGARTH, GARTHDEE ROAD	NJ 90702 02957
349467	NORWOOD, GARTHDEE ROAD	NJ 90983 02973
349468	NORWOOD LODGE, GARTHDEE ROAD	NJ 90819 03156
349471	PITFODELS NORTH DEESIDE ROAD PITFODELS HOUSE	NJ 90642 03464
349473	CULTS, NORTH DEESIDE ROAD WELLWOOD	NJ 90030 03403
395300	GARTHDEE ROAD, GARTHDEE HOUSE (SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE), INCLUDING TERRACE WALLS AND STEPS, EAST AND WEST LODGES	NJ 91376 03057
395301	GARTHDEE ROAD, GARTHDEE HOUSE (SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE), INCLUDING TERRACE WALLS AND STEPS, EAST AND WEST LODGES	NJ 91038 03186
395302	GARTHDEE ROAD, GARTHDEE HOUSE (SCOTT SUTHERLAND SCHOOL OF ARCHITECTURE), INCLUDING TERRACE WALLS AND STEPS, EAST AND WEST LODGES	NJ 91430 03120
400043	CULTS, PITFODELS STATION ROAD, FORMER STATION BUILDING	NJ 90650 03311
405743	Garthdee House (Scott Sutherland School of Architecture), including Terrace Walls and Steps and excluding 1956 and later additions to south and east, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91316 03058
405744	West Lodge including gatepiers and rear outbuilding and excluding former ancillary building to west, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91038 03186
405745	West Lodge including gatepiers and rear outbuilding and excluding former ancillary building to west, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91065 03186
405746	East Lodge including gatepiers, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91430 03120
405747	East Lodge including gatepiers, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91425 03134
406119	Garthdee House (Scott Sutherland School of Architecture), including Terrace Walls and Steps and excluding 1956 and later additions to south and east, Robert Gordon University, Garthdee Road, Aberdeen	NJ 91292 03044
406248	Inchgarth House including garden terrace, Inchgarth Road, Aberdeen	NJ 90556 03015
406249	Inchgarth House including garden terrace, Inchgarth Road, Aberdeen	NJ 90523 02979
406329	Windmill, Drumgarth, Inchgarth Road, Aberdeen	NJ 90702 02957
406334	Norwood Hall Hotel, excluding 2-storey extension to west and south, and 2-storey extension to east, Garthdee Road, Aberdeen	NJ 90983 02973

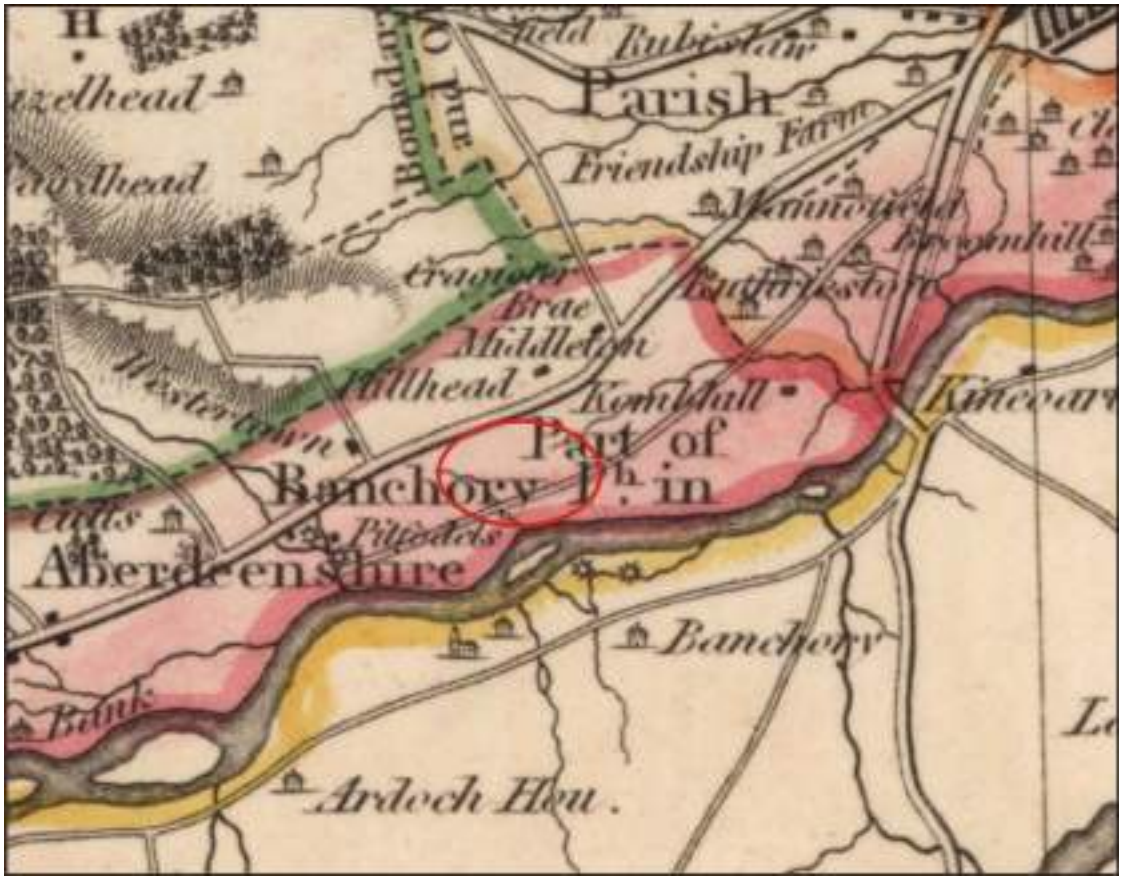
APPENDIX 3 MAPS

Illus 3 Pont map of 1583-96 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*

Illus 4 Gordon map of 1636-52 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*

Illus 5 Blaeu map of 1654 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*

Illus 6 Moll map of 1745 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*



Illus 7 Thomson map of 1826 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*

Illus 8 Robertson map of 1822 showing approximate area of proposed development circled in red (*copyright National Library of Scotland)*

Illus 9 First Edition OS map showing site outline in red (*copyright National Library of Scotland)*
Kincardine Sheet IV.5 (Combined) Survey date: 1865 Publication date: 1868

Illus 10 Second Edition OS map showing site outline in red (*copyright National Library of Scotland)* Aberdeenshire 086.02 (includes: Aberdeen; Banchory-Devenick; Nigg; Peterculter) Publication date: 1901 Revised: 1899*I* Aberdeenshire 086.01 (includes: Aberdeen; Peterculter)

Illus 11 Third Edition OS map showing site outline in red (*copyright National Library of Scotland)* Aberdeenshire 086.01 (includes: Aberdeen; Peterculter) Publication date: 1925 Revised: 1923 Levelled: 1899*I* Aberdeenshire 086.02 (Banchory-Devenick; Nigg; Peterculter)

Illus 12 1946 aerial photograph with site outline in red; (copyright NCAP) Date: 16 April 1946 Date known. Location: Easter Ardoe; Peterculter; ABERDEENSHIRE; SCOTLAND. Coordinates (lat, lon): 57.117538, -2.163619. UNI: NCAP-000-000-091-805

SANDY BROWN

Consultants in Acoustics, Noise & Vibration

16523-R01-C

25 May 2018

Land at North Deeside Road / Inchgarth Road, Aberdeen

Noise assessment report

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Version	Date	Comments	Author	Reviewer
A	20 Jun 17	Initial issue	Gordon Dolbear	Craig Simpson
B	21 May 18	Revised issue	Gordon Dolbear	Craig Simpson
C	25 May 18	Minor update to masterplan	Gordon Dolbear	Craig Simpson

Summary

Sandy Brown has been commissioned by Cults Property Development Company Ltd to carry out a noise assessment for the proposed masterplan development on land adjacent to North Deeside Road / Inchgarth Road, Aberdeen.

An application for planning permission in principle is to be made.

The proposed development is to include a new relief road, residential accommodation, retail units and car parking.

An environmental noise survey has been carried out and predictions of noise levels on the proposed site have been made using road traffic flow data.

To provide suitable conditions for the proposed residential developments on areas 1, 3, 4 and 6, it is recommended that noise mitigation measures should be provided. Outline recommendations for suitable noise mitigation measures are given.

To protect the amenity of the existing dwellings located to the west of the proposed relief road, it is recommended that a noise barrier be constructed to screen the road from these properties. Outline recommendations for the construction of the barrier are given.

Noise limits for proposed building services plant associated with the development are given and the design of these will need to ensure the limits are met.

It is recommended that deliveries and service collections to and from the retail units should where feasible be limited to daytime hours i.e. between 7am and 9pm.

Contents

1 Introduction

Sandy Brown has been commissioned by Cults Property Development Company Ltd to carry out a noise assessment for the proposed masterplan development on land adjacent to North Deeside Road / Inchgarth Road, Aberdeen.

This report presents the methodology and results of the noise survey undertaken, assesses the development proposals, and provides recommendations for noise mitigation measures.

The purpose of this report is to support the planning permission in principle application.

2 Site and development description

2.1 The site and its surroundings

An aerial view of the site and the approximate site boundary is shown in Figure 1.

Figure 1 Aerial view of site (courtesy of Google Earth Pro)

The existing site comprises areas of grassland and is located to the south of North Deeside Road (the A93), to the west of Pitfodels Station Road and to the north of Inchgarth Road. The

Deeside Walkway footpath runs in an approximate east to west direction across the middle of the site.

Existing noise-sensitive dwellings are located adjacent to the site on all of its boundaries.

The Aberdeen Western Peripheral Route (AWPR) will be opened prior to the development being complete. The opening of the AWPR is anticipated to reduce road traffic in the area.

2.2 Proposed development

The proposed site plan is given in Figure 2.

Figure 2 Proposed site plan

The proposed development comprises the following:

- A new relief road to connect North Deeside Road and Inchgarth Road
- A community retirement village with residential accommodation provided over a range of dwelling types
- 50 bedroom care home
- 5 retail units
- External and undercroft car parking

The retail units are likely to include a doctor and dental surgery, a pharmacy, a newsagent and a hairdresser.

The proposed development in each of the eight areas of the site is described in Table 1.

Table 1 Proposed development

Area	Development description
1	6 no. houses, each containing 4 or 5 apartments
2	16 no. two bedroom semi-detached apartments
3	6 no. houses, each containing 4 or 5 apartments
4	50 bedroom carehome
5	5 no. retail units
6	14 no. amenity housing
7	12 no. two bedroom apartments
8	Architectural feature

3 Noise survey methodology

A noise survey was carried out on the site from Monday 12 December 2016 until Tuesday 13 December 2016.

The survey was conducted by Gordon Dolbear and Scott Boughton of Sandy Brown.

A combination of unattended and attended noise measurements were taken.

The measurement positions are shown in Figure 1 and are described Table 2.

Table 2 Noise measurement positions

Position	Description
L	Approximately 10 m to the south of the stone wall on the north site boundary to the A93 to the east of the site. Free-field measurements
1	Approximately 3 m to the south of the A93 near-side edge to the east of the site. Free-field measurements
2	Approximately 1 m to the nearside edge of Pitfodels Station Road. Free-field measurements
3	Approximately 6 m to the nearside edge of Inchgarth Road on the south site boundary. Free-field measurements
4	To the rear of dwellings located off Pitfodels Station Road. Free-field measurements
5	To the east of dwellings located off Inchgarth Road to the west of the site. Free-field measurements
6	To the rear of dwellings located off North Deeside Road. Free-field measurements
7	To the west of dwellings located off North Deeside Road to the east of the site. Free-field measurements

Details of the equipment used, the key noise indices measured, and the weather conditions during the survey are provided in Appendix A. Further information of the survey methodology is provided below.

3.1 Unattended noise measurements

Unattended noise measurements were taken at Position L using a Larson Davis 820 sound level meter. The measurements were conducted over 5 minute periods between approximately 13:00 on Monday 12 and 10:00 on Tuesday 13 December 2016.

The microphone was attached to a pole which was elevated approximately 4 m above the local ground level. Although elevated, the microphone was still partially screened from North Deeside Road by the existing stone wall on the north boundary.

A photograph of the unattended noise monitoring equipment is shown in Figure 3.

Figure 3 Unattended noise monitoring equipment

3.2 Attended noise measurements

Attended sample noise measurements were taken at Positions 1 – 7 using a Bruel and Kjaer 2250 sound level meter. Measurements were taken during the daytime and evening on Monday 12 and during the early hours of Tuesday 13 December 2016.

At each position the microphone was mounted on a tripod approximately 1.2 m above local ground level.

4 Noise survey results

4.1 Observations

The dominant sources of noise on the site were road traffic from North Deeside Road and Inchgarth Road.

Less significant noise sources included road traffic on other roads, occasional aircraft activities and birdsong.

4.2 Unattended noise measurement results

A graph showing the results of the unattended noise measurements is provided in Appendix B.

The average daytime and night-time noise levels were measured to be:

- Daytime (07:00 – 23:00) $L_{Aeq,16h}$ 62 dB
- Night-time (23:00 – 07:00) $L_{Aeq,8h}$ 55 dB

4.3 Attended noise measurement results

The results of the attended noise measurements are summarised in Table 3. The attended measurements were carried out over 10 minute periods during the daytime and evening, and 5 minutes during the night-time.

Table 3 Attended noise measurement results

Position	Start time	Sound pressure levels (dB)				Noise sources
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A10,T}$	$L_{A90,T}$	
Monday 12 December 2016						
1	13:15	76	86	79	65	Road traffic on the A93
2	13:33	62	79	65	53	Road traffic on Pitfodels Station Road, distant traffic on the A93
3	13:59	63	75	68	46	Road traffic on Inchgarth Road, distant road traffic
4	14:14	53	60	56	49	Road traffic on Inchgarth Road, hedge trimming in garden
5	14:33	52	66	55	47	Road traffic on the A93, distant road traffic, birdsong, aircraft
6	14:47	51	62	52	48	Road traffic on the A93, distant road traffic, birdsong
2	15:03	62	74	66	53	Road traffic on Pitfodels Station Road, distant traffic on the A93
3	15:21	64	81	69	48	Road traffic on Inchgarth Road, occasional construction noise, birdsong
7	15:41	54	63	56	50	Road traffic on the A93, distant traffic, birdsong
1	15:55	75	90	79	64	Road traffic on the A93, bus stopping at bus stop
2	16:08	62	75	67	52	Road traffic on Pitfodels Station Road, distant traffic on the A93, overhead aircraft
3	16:25	64	80	69	46	Road traffic on Inchgarth Road
3	17:00	65	76	70	47	Road traffic on Inchgarth Road
2	17:18	62	76	66	52	Road traffic on Pitfodels Station Road, distant traffic on the A93

Table 3 Cont.

Position	Start time	Sound pressure levels (dB)				Noise sources
		$L_{Aeq,T}$	$L_{AFmax,T}$	$L_{A10,T}$	$L_{A90,T}$	
4	20:25	56	74	55	41	Road traffic on the A93, occasional traffic on Inchgarth Road, overhead aircraft
5	20:47	48	59	51	43	Road traffic on the A93, occasional traffic on Inchgarth Road, overhead aircraft
6	21:01	50	70	52	45	Road traffic on the A93, occasional traffic on Inchgarth Road, overhead aircraft
7	21:16	52	62	56	46	Road traffic on the A93, overhead aircraft
Tuesday 13 December 2016						
4	00:22	39	51	42	34	Distant road traffic, occasional traffic on the A93
5	00:34	38	47	41	33	Distant road traffic, occasional traffic on the A93
6	00:43	37	47	41	33	Distant road traffic, occasional traffic on the A93, electricity pylon
7	00:53	39	53	43	31	Distant road traffic, occasional traffic on the A93

5 Assessment criteria

5.1 Local authority consultation

Sandy Brown has discussed the proposed development and the assessment methodology with Nick Glover at Aberdeen City Council Environmental Health department and the following criteria reflect the discussions.

5.2 Criteria – noise-sensitive development

Planning Advice Note 1/2011 *Planning and Noise* provides general advice on the role of the planning system in helping to prevent and limit the adverse effects of noise. The associated companion document, *Technical Advice Note - Assessment of Noise* (TAN) gives more detailed technical advice and worked examples.

In the case of new noise-sensitive development, example 1 of the TAN document can be applied. In this example, the World Health Organisation (WHO) guideline external noise levels of $L_{Aeq,16h}$ 55 dB during the day, and $L_{Aeq,8h}$ 45 dB during the night are used. The amount by which these noise levels are exceeded determines the impact. The quantitative assessment from example 1 of the TAN is reproduced in Table 4.

Table 4 Assessment of magnitude of impacts criteria

External free field night-time noise level x = (Existing – 45*) $L_{Aeq,8h}$ (dB)	External free field daytime noise level x = (Existing – 55) $L_{Aeq,16h}$ (dB)	Magnitude of impact
> 15	>10	Major adverse
10 ≤ x ≤ 15	5 ≤ x ≤ 10	Moderate adverse
5 ≤ x < 10	3 ≤ x < 5	Minor adverse
0 ≤ x < 5	0 ≤ x < 3	Negligible
x < 0	x < 0	No adverse impact

* The $L_{Aeq,8h}$ 45 dB external noise level is based on an internal noise level of $L_{Aeq,8h}$ 30 dB and a partially open window providing a 15 dB attenuation, both as prescribed in the WHO guidelines. It is denoted in this way for convenience in this example. It should be borne in mind that people will normally be inside at night.

5.3 Criteria – noise generating development

5.3.1 General principles

Table 5 identifies the magnitudes of impact associated with an increase (or decrease) in noise level due to the introduction of a new noise generating source based on the guidance of the TAN.

Table 5 Magnitude of impact with change in noise level

Change in noise level, x (dB)	Magnitude of impact
$x \geq 5$	Major adverse
$3 \leq x < 5$	Moderate adverse
$1 \leq x < 3$	Minor adverse
$0 < x < 1$	Negligible adverse
$x = 0$	No change
$-1 < x < 0$	Negligible beneficial
$-3 < x \leq -1$	Minor beneficial
$-5 < x \leq -3$	Moderate beneficial
$x \leq -5$	Major beneficial

The level of significance is determined based on the above quantitative assessment, any additional qualitative assessments, and taking into consideration the sensitivity of the noise-sensitive receptors. In this case, all of the noise-sensitive receptors (dwellings) have a high sensitivity.

The levels of significance associated with the magnitudes of impact are shown in Table 6.

Table 6 Assessment of the level of significance

Magnitude of impact	Level of significance
Major	Large / very large
Moderate	Moderate / large
Minor	Slight / moderate
Negligible	Slight
No change	Neutral

5.3.2 External building services noise

BS 4142:2014 *Method for rating and assessing industrial and commercial sound* provides a framework for assessing the likelihood of complaints from noise sources such as building services plant. The method compares the noise level due to the source against the background sound level.

BS 4142 suggests that if the noise level is 10 dB or more above the existing background sound level, it is likely to be an indication of a significant adverse impact. If the level is 5 dB above the

existing background sound level, it is likely to be an indication of an adverse impact. If the level does not exceed the background level, it is an indication of having a low impact.

If the noise contains 'attention catching features' such as tones, bangs etc, a penalty, based on the type and impact of those features, is applied.

Following the guidance of BS 4142, it is recommended that the rating noise level from all proposed new building services plant associated with the development should be no greater than the existing background sound levels.

5.4 Standard guidance for suitable internal noise levels

Guidance on acceptable internal noise levels in residential dwellings is given in BS 8233:2014 *Sound insulation and noise reduction for buildings*, and is also provided by the World Health Organisation. The guidance given by BS 8233 and WHO is shown in Table 7.

Table 7 Internal noise criteria for sleeping/resting

Internal space	Indoor ambient noise level L_{Aeq} (dB)		
	BS 8233 (07:00 to 23:00)	BS 8233 (23:00 to 07:00)	WHO
Living rooms	35	-	30/35[1]
Dining room	40	-	-
Bedrooms	35	30[2]	30[2]

[1] WHO does not differentiate between different types of living spaces, but recommends L_{Aeq} 30 dB in relation to sleep disturbance and L_{Aeq} 35 dB in relation to speech intelligibility. WHO provides a 16 hour time base when referring to speech intelligibility and an 8 hour time base when referring to sleep disturbance.

[2] BS 8233 notes that individual noise events can cause sleep disturbance, and that a guideline value may be set depending on the character and number of events per night, although no specific limit is provided. Section 3.4 of the WHO guidelines for community noise suggests that good sleep will not generally be affected if internal levels of L_{Amax} 45 dB are not exceeded more than 10-15 times per night.

6 Assessment of new dwellings

To assess the suitability of the proposed development, external noise levels across the site have been predicted using the environmental noise modelling software, CadnaA, which has been used to create a noise map of the site.

The noise predictions are based on the predicted 18 hour road traffic flows on the surrounding roads with the development, including the new relief road, and the proposed development plans present. The traffic flow data has been provided by the transportation engineer. The relevant network diagrams are provided in Appendix C.

It is important to note that small changes in traffic flows have negligible effects on noise levels. As an illustration of this, for noise levels to increase or decrease by 3 dB, traffic would have to double or half respectively.

The predicted external noise levels are shown in the form of a noise map in Figure 4. The results are presented in terms of the average daytime ($L_{Aeq,16h}$) noise levels. The night-time noise levels are expected to be around 7 – 8 dB lower than the predicted daytime levels. This is based on the results of the noise survey, and guidance given in the DEFRA publication, *Method for converting the UK road traffic noise index $L_{A10,18h}$ to the EU noise indices for road noise mapping*.

Figure 4 Noise map of the proposed site

It is important to note that the noise map does not show the screening effects that are likely to be provided by the site topography and the existing stone wall on the site boundary to North Deeside Road. The attenuation provided by these features will be dependent on the degree to which line of sight of the road is blocked from the receiver position, but typically a reduction of around 5 – 10 dB would be expected where line of sight is clearly broken.

The noise map shows that higher noise levels will be experienced at receiver points closer to the roads. Conversely, lower noise levels will be experienced further from the roads and where other buildings provide screening.

A summary of the external noise levels predicted outside the facades of the proposed buildings and the magnitude of impacts (following Table 4) are presented in Table 8.

Table 8 Assessment of noise levels on the proposed development

Area	Predicted external noise levels	Magnitude of impact
1	$L_{Aeq,16h}$ 54 – 65 dB $L_{Aeq,8h}$ 46 – 57 dB	Negligible adverse impact – moderate adverse impact
2	$L_{Aeq,16h}$ 51 – 55 dB $L_{Aeq,8h}$ 43 – 47 dB	No adverse impact – negligible adverse impact
3	$L_{Aeq,16h}$ 53 – 65 dB $L_{Aeq,8h}$ 45 – 57 dB	No adverse impact – moderate adverse impact
4	$L_{Aeq,16h}$ 56 – 61 dB $L_{Aeq,8h}$ 48 – 53 dB	Negligible adverse impact – moderate adverse impact
6	$L_{Aeq,16h}$ 56 – 63 dB $L_{Aeq,8h}$ 48 – 55 dB	Negligible adverse impact – moderate adverse impact
7	$L_{Aeq,16h}$ 53 – 58 dB $L_{Aeq,8h}$ 45 – 50 dB	No adverse impact – negligible adverse impact

The assessment indicates that areas 2 and 7 will unlikely require any form of noise mitigation.

It is recommended that noise mitigation measures for areas 1, 3, 4 and 6 be provided. Outline recommendations are given in section 8.1.

7 Assessment of existing dwellings

7.1 Road traffic noise

7.1.1 Existing roads

Table 9 summarises the 18 hour predicted road traffic flows on North Deeside Road and Inchgarth Road, and the predicted change in noise level with the introduction of the proposed development.

The base traffic flows include contributions from currently committed developments and the opening of the AWPR. The traffic flows are taken from network diagrams provided by the transportation engineer and the relevant network diagrams are given in Appendix C.

Table 9 Traffic flows on North Deeside Road and Inchgarth Road

Road	18 hour traffic flow		Predicted change in noise level (dB)
	Base (including committed development and opening of the AWPR)	With development	
North Deeside Road (to the east of the new relief road)	11995	11087	-0.3
North Deeside Road (to the west of the new relief road)	11995	12975	+0.3
Inchgarth Road (to the east of the new relief road)	4439	8848	+3.0
Inchgarth Road (to the west of the new relief road)	4439	1593	-4.5

The data provided suggests significant reductions in road traffic on Pitfodels Station Road and Westerton Road. The road traffic flow modelling assumes 100% of the traffic on these roads will be redistributed to the new relief road.

Table 9 shows that, with the exception of the section of Inchgarth Road to the east of the new relief road, the change in noise level will either be beneficial (i.e. is reduced), or of negligible adverse impact.

The change in road traffic on the section of Inchgarth Road to the east of the new relief road is predicted to increase noise levels in this area by 3 dB. With reference to Table 5, this increase is at the border of minor and moderate adverse impact. In a qualitative sense, the impact is considered to be minor due to it being a change to an existing noise source. The overall level of significance is considered to be slight/moderate.

Given the predicted levels of significance, it is considered that noise mitigation in relation to changes to the existing roads is not required.

7.1.2 New relief road

The proposed location of the new relief road brings it to within approximately 85 m of the nearest existing dwelling to the west, and approximately 35 m to the nearest residential garden.

The distances to other existing dwellings are greater, and the proposed development itself will provide screening to the receptors to the east.

The predicted traffic flows on the relief road indicate that noise levels due to this road outside the nearest existing dwelling are likely to be approximately $L_{Aeq,16h}$ 57 dB and $L_{Aeq,8h}$ 49 dB.

The existing noise climate in the vicinity of the dwelling, as measured a similar distance from North Deeside Road (at position 7), is around $L_{Aeq,T}$ 54 dB during daytime hours. The baseline average daytime and night-time noise levels at this location are envisaged to be around $L_{Aeq,16h}$ 54 dB and $L_{Aeq,8h}$ 46 dB.

With the introduction of the new road, the total noise level outside the nearest dwelling is expected to increase by 4.7 dB. With reference to Table 5, this change in noise level is of moderate adverse impact. Given the introduction of the new road, the qualitative assessment is considered to be of moderate impact. The overall level of significance is considered to be moderate/large.

In the garden areas, the noise level from the new road will be greater, and the change in noise level greater still.

It is recommended that noise mitigation measures should therefore be provided to protect the amenity of the nearby existing dwellings located to the west of the proposed relief road and to the south of North Deeside Road.

Outline recommendations are given in section 8.2.1.

7.2 External building services noise

7.2.1 Basic limits

Based on the criteria presented in section 5.3.2 and the noise survey results, the cumulative noise level resulting from the operation of all new building services plant 1 m from the worst affected windows of the nearest noise-sensitive premises should not exceed the limits set out in Table 10.

Table 10 Plant noise limits at 1 m from the nearest noise sensitive premises

Location	Daytime (07:00 – 23:00) (dB $L_{Aeq,1h}$)	Night-time (23:00 – 07:00) (dB $L_{Aeq,15min}$)
Dwellings on Inchgarth Road to the south of area 2 (measurement pos. 4)	41	34
Dwellings on North Deeside Road to the west of the proposed plat park (measurement pos.6)	45	33
Dwellings on North Deeside Road and Pitfodels Station Road to the east of area 1 (measurement pos.7)	46	31

The limits set out in Table 10 do not include any attention catching features. The penalties for attention catching features may be significant, and will need to be considered as the building services design progresses. Further information is provided in Appendix D.

7.2.2 Assessment

All building services plant associated with the development will need to be designed to meet the noise limits set out above, including any corrections for attention catching features.

7.3 Car parking and deliveries

7.3.1 Car parking

Car parking is proposed to be provided for the residential and retail units.

Vehicle trip data provided by the transportation engineer indicates that around 310 vehicles are predicted to enter and exit the development site over the course of a day.

The residential parking is proposed to be distributed across the development site and noise levels from parking associated with this is not expected to be significant.

At the closest point, the external car parking associated with the retail units is approximately 55 m to the nearest existing dwelling to the southeast. The masterplan indicates the retail units will have around 22 car parking spaces.

Noise levels from busy external car parks are typically in the region of $L_{Aeq,T}$ 58 dB at 5 m distance from the parking zone. This is based on measurements taken of around 40 car movements over a 15 minute period. The proposed retail units' car park is unlikely to be as busy and therefore noise levels will be lower. Distance losses and screening from the proposed retail units themselves will also reduce the noise levels experienced outside the nearest dwellings. It is considered unlikely that the noise level due to the introduction of the retail unit car parking will significantly change the noise climate outside the nearest dwellings.

Noise mitigation measures in relation to car parking is therefore not considered necessary.

7.3.2 Deliveries

Deliveries to the retail units are anticipated to be via small trucks and vans rather than articulated vehicles.

Sandy Brown has previously measured noise from a range of delivery vehicles. Smaller vehicles such as vans typically measure around $L_{Aeq,T}$ 50 dB at a distance of 10 m.

To the closest dwellings, noise levels from such deliveries would be expected to be reduced to around L_{Aeq} 40 dB although maximum noise from impacts such as doors closing, goods being moved etc would be expected to be higher. The existing daytime ambient noise in the area is around $L_{Aeq,T}$ 53 dB.

To minimise the risk of disturbance due to deliveries, it is recommended that the delivery times should be managed. Recommendations are given in Section 8.2.3.

8 Recommendations

8.1 New dwellings

Outline recommendations for noise mitigation measures for the new dwellings are given in the following sections.

8.1.1 Area 1

- The existing stone wall to the north boundary should be retained (or a new wall constructed) to act as a barrier to reduce noise from North Deeside Road
- The location and height of the north group of houses should be such that line of sight to North Deeside Road is broken to the upper floor windows on the north facing facades by the wall / noise barrier described above
- Windows to noise-sensitive living accommodation should be avoided on the facades directly facing the new relief road
- Windows to the facades highlighted in Figure 5 should have a minimum sound insulation performance of R_w+C_{tr} 27 dB. This performance will be capable of being achieved with double-glazed windows comprising 6 mm glass, 16 mm cavity and 6 mm glass. Trickle ventilators to the same facades should have a minimum sound insulation performance of $D_{n,e,w}$ 31 dB when in the open position
- If a suitable noise barrier cannot be provided on the north boundary, the trickle vents on the north facing facades of the north group of houses should be enhanced and should have a minimum sound insulation performance of $D_{n,e,w}$ 38 dB when in the open position.

8.1.2 Area 3, 4 and 6

- Windows to the facades highlighted in Figure 5 should have a minimum sound insulation performance of R_w+C_{tr} 27 dB. Trickle ventilators to the same facades should have a minimum sound insulation performance as shown in Figure 5 when in the open position.

Figure 5 Facade sound insulation mark-up

For all other facades, standard double glazed windows and standard trickle ventilators will be acceptable.

8.2 Existing dwellings

8.2.1 Road traffic

To protect the amenity of the existing dwellings located to the west of the new relief road, it is recommended that a noise barrier should be constructed to screen the road from these properties.

The approximate extent of the noise barrier is shown in Figure 6.

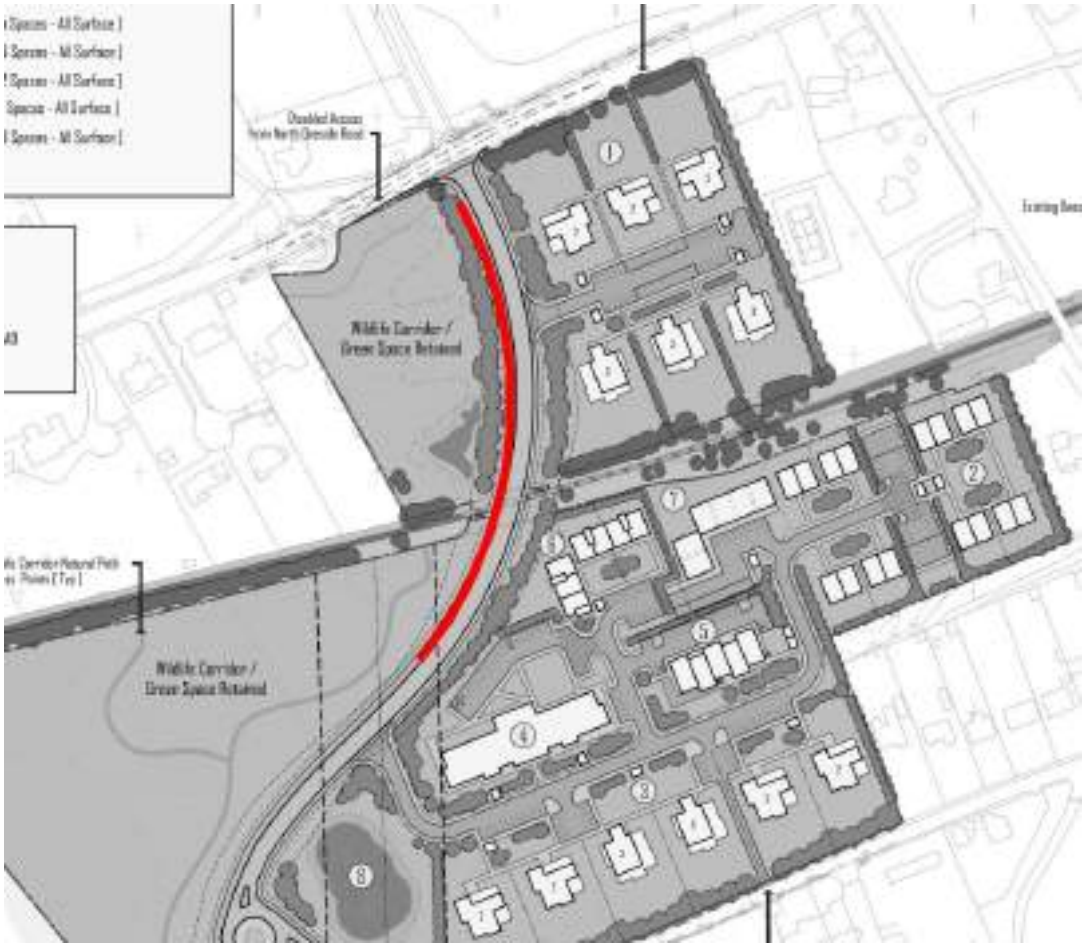


Figure 6 Indicative location of noise barrier to the new relief road

The barrier would need to be continuous along the indicated length and sufficient in height to break line of sight from the road to the upper floor windows of the existing dwellings. A bund and barrier combination may be suitable.

The barrier should be constructed from an imperforate material with a minimum mass of 8 kg/m^2. To prevent increasing noise levels to the development to the east, the inner face of

the barrier (facing into the road) should be lined with a sound absorbing finish. Proprietary sound absorbing noise barrier systems are available.

Provided line of sight is sufficiently broken, the barrier would be expected to reduce noise generated by the new road to the existing dwellings by around 5 – 10 dB which would be expected to reduce the level of significance to slight/moderate.

8.2.2 External building services noise

External noise limits for building services plant associated with the proposed development are given in Section 7.2.1.

Building services plant should be designed to ensure the noise limits are met, including any corrections for attention catching features.

At this stage, no information is available in relation to the proposed installation of building services plant, and this will need to be assessed as the design progresses. Achieving the noise limits is however unlikely to be onerous given the anticipated scale of building services plant and with standard noise attenuation measures.

8.2.3 Retail unit deliveries

It is recommended that deliveries and service collections to and from the retail units should where feasible be limited to daytime hours i.e. between 7am and 9pm.

Appendix A

Survey details

Equipment

The calibration details for the equipment used during the survey are provided in Table A1.

Table A1 Equipment calibration data

Equipment description	Type/serial number	Manufacturer	Calibration expiry	Calibration certification number
Larson Davis 820				
Sound level meter	820 /A1140	Larson Davis	17 Sep 2017	1509515
Microphone	4189/1869412	B&K	17 Sep 2017	1509515
Pre-amp	PRM828/1585	Larson Davis	17 Sep 2017	1509515
Calibrator	CAL200/8583	Larson Davis	10 Sep 2017	1509501
2250				
Sound level meter	2250/3010038	B&K	9 Jun 2018	09298/CDK1603788
Microphone	4189/3036540	B&K	9 Jun 2018	09298/CDK1603788
Pre-amp	ZC-0032/24531	B&K	9 Jun 2018	09298/CDK1603788
Calibrator	4231/3016410	B&K	9 Jun 2018	09298/CDK1603776

Calibration of the sound level meters used for the measurements is traceable to national standards. The calibration certificates for the sound level meters used in this survey are available upon request.

The sound level meters and microphones were calibrated at the beginning and end of the measurements using their respective sound level calibrators. No significant deviation in calibration occurred.

Noise indices

The equipment was set to record a continuous series of broadband sound pressure levels. Noise indices recorded included the following:

- $L_{Aeq,T}$ The A-weighted equivalent continuous sound pressure level over a period of time, T.
- $L_{AFmax,T}$ The A-weighted maximum sound pressure level that occurred during a given period with a fast time weighting.
- $L_{A90,T}$ The A-weighted sound pressure level exceeded for 90% of the measurement period. Indicative of the background sound level.

Sound pressure level measurements are normally taken with an A-weighting (denoted by a subscript 'A', eg L_{A90}) to approximate the frequency response of the human ear.

A more detailed explanation of these quantities can be found in BS7445: Part 1: 2003 *Description and measurement of environmental noise, Part 1. Guide to quantities and procedures.*

Weather conditions

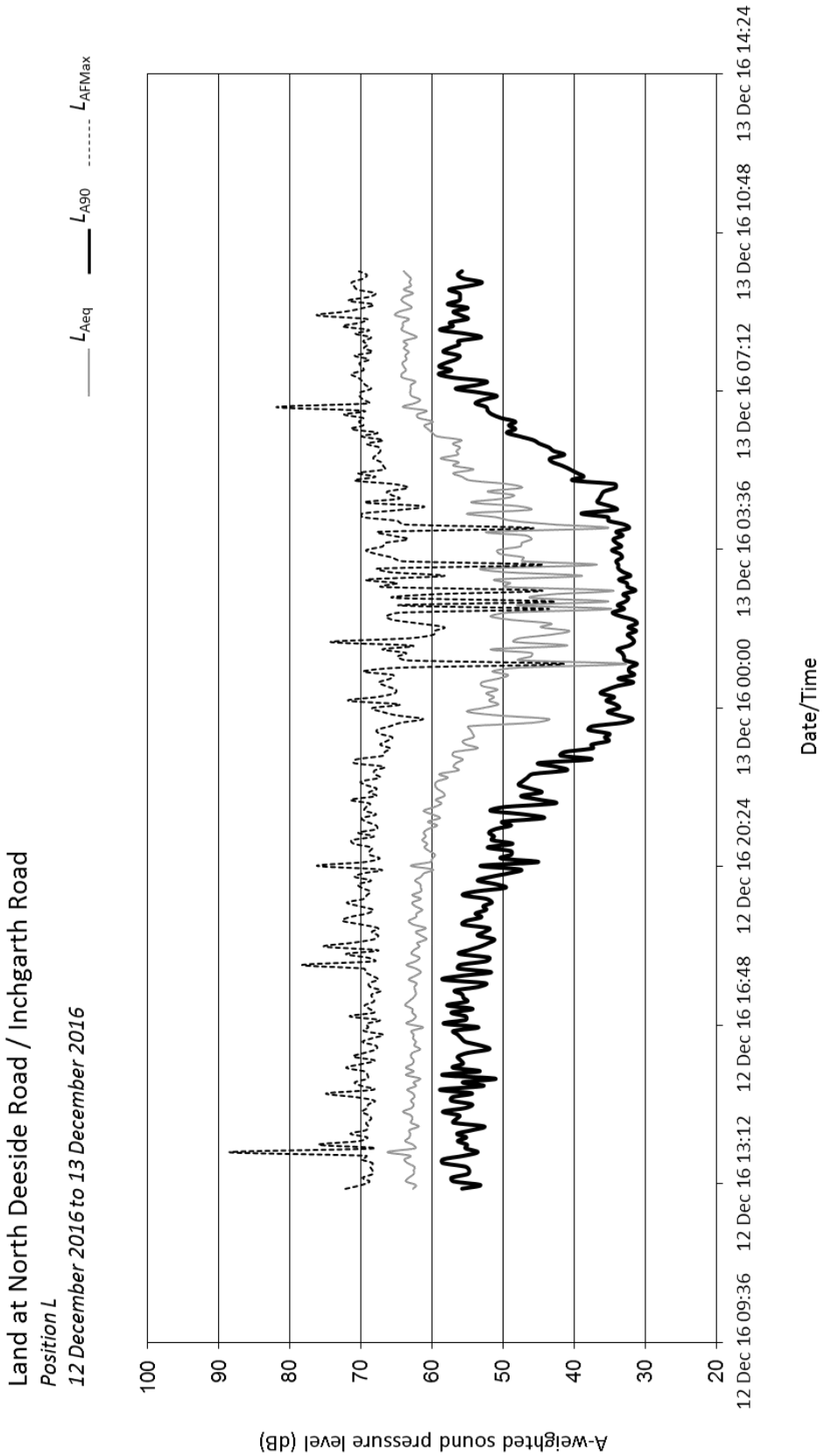
During the daytime, the weather was partially cloudy with dry surface conditions and no rain. Wind speeds were up to approximately 0.6 m/s from the southwest.

During the evening and night-time, the weather was partially cloudy with dry surface conditions and no rain. Wind speeds were less than 0.1 m/s.

The weather conditions are considered suitable for obtaining representative measurements.

Appendix B

Results of unattended measurements at Position L


Land at North Deeside Road / Inchgarth Road
Position L
12 December 2016 to 13 December 2016
L_{Aeq}
L_{A90}
L_{AFMax}
A-weighted sound pressure level (dB)
100
90
80
70
60
50
40
30
20
12 Dec 16 09:36
12 Dec 16 13:12
12 Dec 16 16:48
12 Dec 16 20:24
13 Dec 16 00:00
13 Dec 16 03:36
13 Dec 16 07:12
13 Dec 16 10:48
13 Dec 16 14:24
Date/Time

Appendix C

Road traffic network diagrams

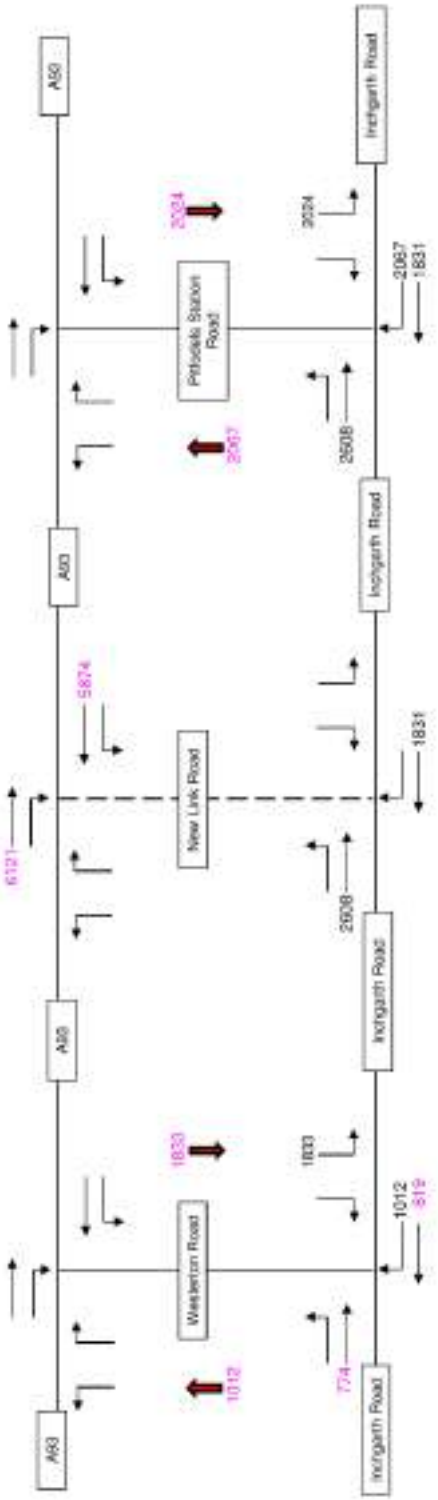


Figure E12: Base + Committed 18hr post AWPR

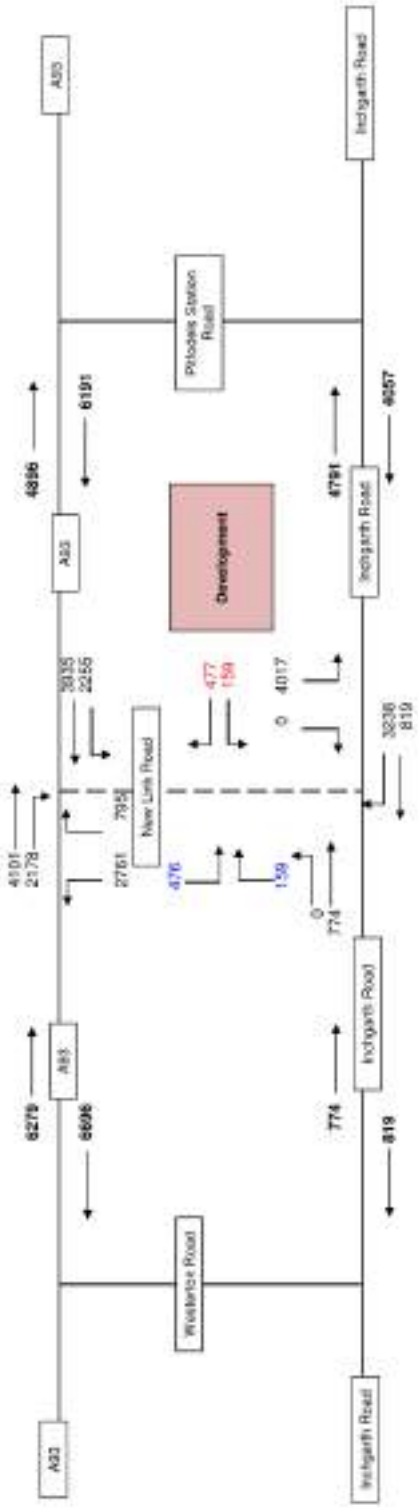


Figure E24: Inchgarth Link Road - 18 Hour (Post WPR) + Daily Development Trips Sensitivity

Appendix D

Attention catching features

If the proposed plant noise contains attention catching features (such as tonal elements, whines, whistles, bangs etc), the plant should be designed to achieve a limit below those set out above, based on the type and impact of the features.

If appropriate, a subjective assessment of the plant features can be adopted. Where the plant noise contains tonal elements, the following corrections can be made depending on how perceptible the tone is at the noise receptor:

- 0 dB where the tone is not perceptible
- 2 dB where the tone is just perceptible
- 4 dB where the tone is clearly perceptible
- 6 dB where the tone is highly perceptible

Where the plant noise is impulsive, the following corrections can be made depending on how perceptible the impulsivity is at the noise receptor:

- 0 dB where the impulse is not perceptible
- 3 dB where the impulse is just perceptible
- 6 dB where the impulse is clearly perceptible
- 9 dB where the impulse is highly perceptible

For noise which is equally both impulsive and tonal, then both features can be taken into account by linearly summing the corrections for both characteristics.

If the plant has other distinctive characteristics, such as intermittency, then a 3 dB correction can be made.

If a subjective assessment is not appropriate then an objective assessment can be made. A noise source is deemed to be tonal if the time averaged sound pressure level in a one-third octave band exceeds the level in adjacent one-third octave bands by the level differences given below:

- 15 dB in the low frequency one-third octave bands (25 Hz to 125 Hz)
- 8 dB in the mid frequency one-third octave bands (160 Hz to 400 Hz)
- 5 dB in the high frequency one-third octave bands (500 Hz to 10000 Hz)

If an objective assessment identifies the plant noise to be tonal then a 6 dB correction must be made.

astell associates
arboricultural, environmental and landscape consultants

Inchgarth Retirement Community

Landscape & Visual Assessment

23rd May 2018

Ref: IRC-1805-VIA

[redacted]
www.astellassociates.co.uk

23rd May 2018
IRC-1805-VIA

Landscape and Visual Assessment

Inchgarth Retirement Community

Contents

23rd May 2018
IRC-1805-VIA

Landscape and Visual Assessment

Inchgarth Retirement Community

1. Executive Summary

This report has been prepared to accompany the planning application for a retirement community in Pitfodels, on the south facing slope which runs from the North Deeside road down to Inchgarth road. The report sets out the findings of a Landscape and Visual Assessment carried out at the request of Cults Property Development Ltd.

An assessment of landscape character, designated sites and structures and local ecology was undertaken within the area. Detailed information is contained in this report with associated maps and illustrations. An assessment of the effects of this development was used to establish if there would be deterioration in the character of the local landscape.

Key visual receptor locations were chosen to maximize the representation of receptor types. Field assessments were then undertaken at a number of locations to ascertain potential or actual views in the area. The landscape and visual effects of each location are discussed in detail in the report and photos and site inspection notes were used to describe the effect that the development would have on the views from each location.

1.1.1. Conclusion

The above analysis of landscape and visual impacts do not indicate any significant effects and, having carefully assessed the potential landscape and visual effects throughout the study area, it is considered that the proposed retirement community in the land between the North Deeside road and Inchgarth road is visually acceptable and will not significantly alter the character of the landscape in this area.

There are large houses and large woodland gardens in the vicinity, and also smaller houses with gardens with mature trees immediately adjacent to the proposed development. This landscape character is extended into the proposed area of the development.

1.1.2. Mitigation

The majority of trees on the site will be retained, maintaining much of the natural screening and biodiversity of this area. The western third of the site will be retained as green space and wildlife corridors; this area will have tree and shrub planting throughout, increasing biodiversity and screening in this area. Landscaping and planting is proposed adjacent to the North Deeside road and a mound with further tree and shrub planting is proposed adjacent to Inchgarth road. Furthermore, along the edges of the proposed link road and throughout the rest of the site there is proposed extensive tree and shrub planting. This will further screen the development from view and to increase the current biodiversity and habitat connectivity of the site.

2. Introduction

Astell Associates is an ecological consultancy, based in Milltimber. The company was established in 1975 and has performed specialist surveys for small and large-scale development projects in different areas of Scotland and England.

Nigel Astell has performed landscape design and visual assessments for projects in the Cairngorms National Park and Loch Lomond World Invitational Golf Course, Cameron House, Loch Lomond. He has also carried out visual assessment and landscaping at Slaley Hall, Northumberland; and Belton Woods, Lincolnshire.

Astell Associates have been commissioned by Cults Property Development Ltd to carry out a Landscape and Visual Impact Assessment (LVIA) of land to the west of Pitfodels Station road, a site in which it is proposed to build 64 houses, 5 retail units, and a 50 bedroom care home. This Landscape and Visual Impact Assessment (LVIA) examines the existing landscape conditions in the setting of the proposed development and its context within the countryside. The landscape and visual characteristics have been investigated to establish quality, character, defining features, and any sensitivity to change.

The assessment of existing landscape and visual receptors, allows the assessment of the degree of change to the landscape, how the landscape will be affected and the potential impact of the development on the landscape.

2.1. Scope of the Assessment

This report covers:

- An assessment of the present landscape and landform.
- Analysis of impact of proposed development on the landscape.
- Photographs from within and out with the proposed development area.
- Analysis of the impact from or to these viewpoints.
- Mitigation measures.

2.2. Project Description.

It is proposed to have a mixed use development in this 9.9 ha site. This will be housing, commercial units, retirement homes, amenity and recreation space, footpaths, cycle ways and areas of natural wildlife corridors. Tree and shrub planting to maintain the woodland connectivity of the area and the formation of planted wildlife corridors will be carried out.

3. Assessment Methodology & Criteria

This report is based on 'Guidelines for Landscape and Visual Impact Assessments' 2002, Edition 2, produced by the landscape Institute and The Institute of Environmental Management And Assessment. It is also based on an analysis of information from site visits, design team meetings, photographs and reference documents.

Landscape and visual effects assessments are separate procedures, but linked in a number of ways. The landscape effects are derived from alterations to the physical landscape which may give rise to changes in the fabric or character of the landscape. Visual effects of those changes arise in the composition of use as a result of the landscape changes.

Following an initial desktop search, including relevant publications, ordnance survey data, and aerial mapping, the findings can be verified in the field. This forms the following:

- The existing situation, topography, built features and patterns of the study area.
- The existing landscape character which is assessed firstly within the desktop study, then verified by field studies.
- The venue and sensitivity of the existing landscape. This will include all relevant statutory and non-statutory designations and the sensitivity of the landscape to change.

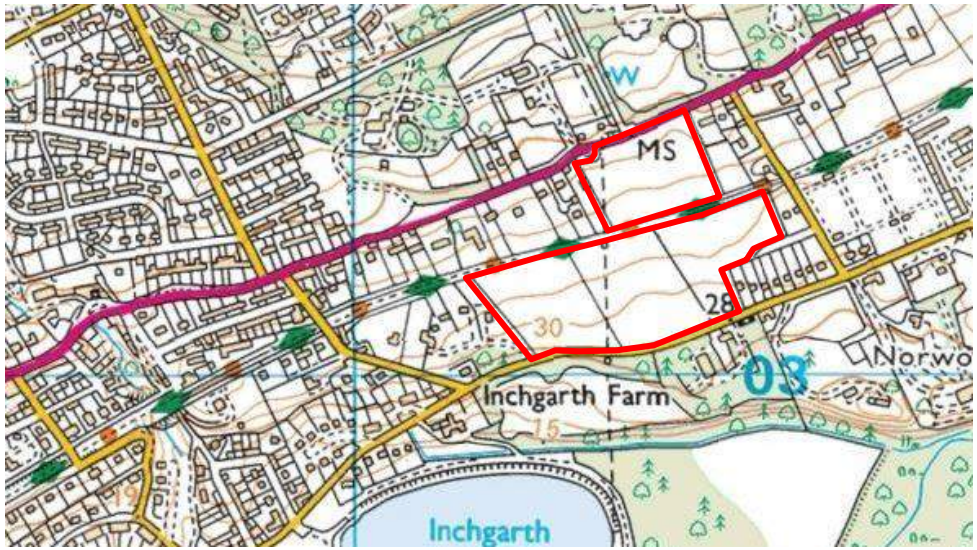
Field studies were carried out in October 2016 and August 2017 to assess the landscape, woodlands, and ecology, to photograph the site from many viewpoints, and to ascertain the impact of proposals at different times of the year.

3.1. Key Stages of the Assessment

This involves the following key stages.

- Establishing the baseline landscape character, quality and value.
- Site reconnaissance and defining the scope of the assessment.
- Assessing the sensitivity to change of the existing landscape.
- Evaluating the impact of the proposed development on the landscape character.
- Assessing these impacts based on magnitude and sensitivity to change.
- Describing the significance of these anticipated effects.

4. Site Location and Description.



The area is made up of two agricultural fields, divided by the Deeside Way / Old Deeside Railway line. The northern field is bordered on the south and east by old beech hedges which have grown to maturity. On the northern edge of this field there is a row of mature, mixed, deciduous trees, immediately adjacent to the North Deeside Road.

The southern field has scattered semi-mature and mature broadleaved trees immediately to the south of the Deeside Way. There are also dense areas of sycamore sapling regrowth and some pockets of scrub further down the slope. This field extends down to Inchgarth Road. There are two drystane dykes which run north to south, which originally divided this area into three fields. Sporadic mature sycamore trees grow adjacent to the dyke along Inchgarth Road.

The agricultural fields were originally used for grazing. However, they have lain unused for a number of years resulting in them being in an unkempt condition. The trees and scrub present on site have established during the period of disuse and are of low ecological value.

Both fields are bordered to the east and west by private, residential gardens.

4.1. Topography and Landuse

The entire site is on a south facing slope, with good drainage and lies between 25m and 50m above sea level. The site is a mixture of rough ruderal and open grass fields, scrubland, scattered trees, and woodland. The area has not been used for agriculture or grazing for a number of years.

4.2. Landscape Value/Designations.

The site is situated within the Pitfodels Conservation Area and many of the trees are protected by a tree preservation order.

The Deeside Way Local Nature Conservation Site runs through the centre of this area, and will be retained.

The site fields are designated as Green Space Network features, and much of these are retained, to the west of the access road.

The area to the south of Inchgarth road and the area to the north of the North Deeside road are classified as ancient woodland (Long Established of Plantation Origin). None of the areas of the site are classified as ancient woodland.

4.3. Archeological, Historic and Cultural Features

The site does not contain any designated cultural heritage assets.

4.4. Public Access

Currently, there is no way-marked walking or cycling route within the proposed site. There are informal desire line paths formed by dog walkers.

The Deeside Way, a long-distance walking and cycling route which links towns along the Dee valley, passes between the two fields of the site. This will provide an excellent means to link the proposed development with the existing community of Pitfodels and other areas along Deeside.

Walkways and cycle ways have been designed into the proposals to give access and connections from the North Deeside Road and Inchgarth Road to the Deeside Way, increasing connectivity in the area.

5. Assessment of Landscape Features, Woodlands, and Trees

Tree grouping is taken directly from the tree assessment (report IRC-1708-TR). The trees on the site have been grouped into eleven areas (labelled A – J) for ease of description. Group G has been separated into two halves to clarify the description of the management. The trees on the edge of the site have been grouped into eight groups (labelled S – Z). These tree groupings will be used to describe line-of-sight implications and alterations from the baseline.

5.1.1. Group A

An area of mature trees, a mixture of beech, sycamore, lime, and horse chestnut, with other species present as individuals. These trees are growing along the base of the retaining wall supporting the North Deeside Road. The development site is currently mainly screened from view by these trees. However, there are some areas, especially in winter, where the field can be glimpsed by pedestrians, but not by car users. The road is proposed to enter the site from the North Deeside road, opposite Baird's Brae. In this area five trees will be felled.

The majority of the trees in Group A will be retained. Immediately south of this area of trees a number of trees and shrubs will be planted. These retained and newly planted trees and shrubs will increase the screening and reduce views into the proposed development.

5.1.2. Group B

This is a dense stand of blackthorn bushes with little natural light penetrating the stand. These bushes will be removed. There will be no impact on the visual amenity.

5.1.3. Group C

Bordering the eastern edge of the north field, is a beech hedge which has been left to grow to maturity and now forms a close-grown line of trees.

The western branches of these trees will be cut back and the trees will be reduced in height. This will encourage adventitious growth, reducing any gaps currently between these trees, further obscuring the eastern edge of this site from view. Views into this part of the development site are only from private gardens, and the screening will be maintained.

5.1.4. Group D

In the southeast corner of the northern field this strip of mature broadleaved trees is mostly sycamore and lime. These trees are situated at the base of the old railway embankment of the Deeside Way. Currently there are gaps between these large mature trees allowing views north, from the Deeside Way, into the northern field of the site.

It is proposed to plant trees and shrubs in the gaps between these mature trees to further screen the proposed development from views.

5.1.5. Group E

This borders the southern edge of the north field and the Deeside Way. It was originally planted as a beech hedge but has been left to grow to maturity, and is now a line of close-grown trees.

The northern branches of these trees will be cut back and the trees will be reduced in height. This will encourage adventitious growth, therefore reducing any gaps currently between these trees further obscuring the development in the eastern part of this northern field from view.

The road through the site will cross the Deeside Way in this area. A section of the mature beech trees at the west end of this hedge will be felled for the road construction.

Following the construction stage of the development the gap created for the road will be reduced with the planting of replacement trees and shrubs.

5.1.6. Groups F, S, & T

Down the western boundary of the north field there are sparse mature trees (F) and a mature cypress hedge (S) partially obstructing this site from view from the west. In the northwest corner, bordering a driveway off the North Deeside Road is an area of scrub and small trees (T). The proposed road through the site will enter the site to the east of this area. Some of the scrub and small trees will be removed for the road construction. This area is to be reinforced with new tree and shrub planting.

It is proposed to retain this entire western area of the northern field as a green space, which will be planted as a wildlife corridor. The western edge of the proposed road will be planted with trees. The green space and line of trees will obscure the site from the west, and from the North Deeside Road.

5.1.7. Groups G1 & U

Along the southern edge of the Deeside Way there is a strip of mature trees. Immediately south of this is a strip of semi-mature woodland bordering the north of the southern field of the site.

This strip of woodland is to be retained as a wildlife corridor and the entire western area of the southern field is to be planted as green space to continue the habitat connectivity from the northern field. This green space will minimize the visual impact from the west and northwest of the site. It will also reduce views into the area from the southwest.

5.1.8. Groups G2 & V

This area of the field has more sparsely growing semi-mature trees. These trees will be felled for the proposals. On top of the railway embankment at the old Pitfodels Station platform there are mature sycamore and ash, which will be retained.

These trees, coupled with the elevation of the embankment screen the development from views from the Deeside Way. Where the embankment levels off to the west a mix of birch and cherry and shrubs will be planted to merge with the existing scattered semi-mature trees in this area, to further reduce views.

5.1.9. Groups H & Z

The properties on the western edge of the southern field of the site are lined with a strip of mature woodland (Z). Immediately to the east of this woodland is a dense stand of semi-mature sycamore (H).

The strip of woodland (Z) will not be affected by the proposals. Its retention will effectively screen the site from the west. The dense sycamore (H) will be felled and in its place a woodland corridor will be planted with indigenous trees and shrubs to increase biodiversity and to extend the woodland area. This green space will minimize the visual impact from the west, southwest and northwest of the site.

5.1.10. Groups I & Y

These are trees positioned sporadically along Inchgarth Road, on the southern edge of the site. They are mostly mature sycamore. Many of the trees are growing close to and damaging the pavement. They are also destroying the drystone dyke along the pavement. Many of these trees will be felled to protect further degradation of the dyke and pavement.

A strip of native woodland will be planted along this southern edge of the site. Inchgarth Road is the lowest point of this site therefore the proposed development will be visible for most of its length along this road. However, as the woodland strip matures and thickens, visibility will be reduced along much of its length. The road in this area will be 2 – 3m below the landscaping contour and this will further reduce views up the hill. Where the proposed road joins with Inchgarth Road, a roundabout is to be constructed and the southern tree line will be broken. To the west of this area is the tree and shrub planting of the open space/wildlife corridor. The new trees planted along this southern boundary and the roadside plantings within the proposed development will interrupt views of the houses and flats from Inchgarth Road.

On the south side of Inchgarth Road, mature tall deciduous and coniferous trees screen views down to and from the River Dee SAC. Between Inchgarth Road and the River Dee are tree fringed fields which screen views into the area from the River Dee walkways and from south of the river.

5.1.11. Group J

This group comprises all the trees growing on the former agricultural field. These young and semi-mature trees are dispersed widely throughout the area. The trees are predominantly sycamore, although there are several spruce in the southeast corner, and some willow.

All of the trees in this field area will be felled. In the eastern area will be the development and new landscape tree and shrub planting. West of the new road the felled trees will be replaced with indigenous species forming the wildlife corridor and public open space.

5.1.12. Group W

There are several large trees in the gardens bordering the eastern edge of the south field of the site.

These trees will be unaffected by the development and the planting of native trees and shrubs along this eastern boundary will enhance screening of the site from this perspective.

5.1.13. Group X

On the southern edge of the eastern end of the site there is a bund bordering a small residential cul-de-sac. There are several large, mature trees growing on this bund. There are also several large, mature trees growing at the northern edge of the gardens immediately to the west of this bund.

The trees on the bund and in the neighbouring gardens will be unaffected by the proposed development. Beyond the western end of the bund trees and shrubs will be planted. These trees will combine with the existing trees to increase screening in this area.

5.2. Site Landscape Features

This is a relatively low-lying site which has existed in its current form for many years and, as such, has few distinctive features, apart from the mature woodland and trees on the field edges.

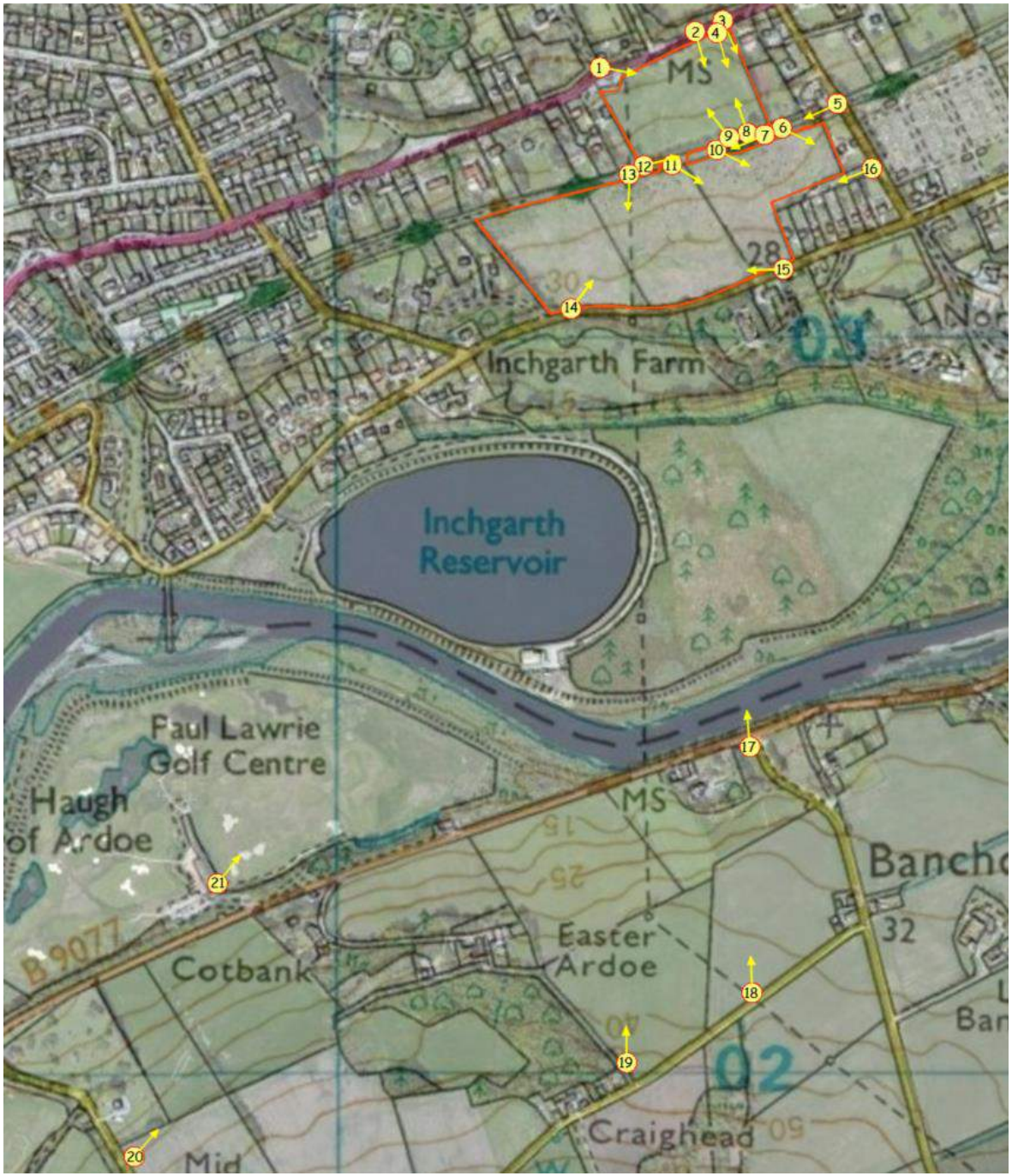
The southernmost boundary is bordered by Inchgarth Road, where there are large numbers of mature trees growing on different contours down to the river Dee. The canopies of these trees mesh together and visually join with the tree belts along the Deeside Way. This prevents views into the site from any areas on the south bank of the Dee Valley. The existing tree cover and proposed planting will mitigate the extent to which any changes to the landscape are visible.

New planting will improve the public open space and pathways through the tree and shrub areas will improve the woodland experience for pedestrians and dog walkers who use these areas at present.

5.3. Summary of Woodland and Landscpe Assessment

The mature trees and woodland areas throughout the site are to be retained. The western area of the proposed development is to be retained as open space and planted as a woodland wildlife corridor. This will increase the biodiversity of the area and maintain habitat connectivity from the North Deeside Road to the Deeside Way, and then south to Inchgarth Road and the River Dee SAC.

It is assessed that the main landscape features, the trees, will not be affected by the development. Limited views to the north from Inchgarth road and to the south from the North Deeside Road will be maintained. These views will be minimized by the maturing of the trees and shrubs planted within the development.



6. Photographic Assessment

Views from the south side of the River Dee, from Banchory-Devenick, Easter Ardoe, Craighead, and from the houses along the Craighead Road to Ardoe House and Mid Ardoe, are also screened by small copses of trees that are found on field edges and corners and associated with gardens in the area.

The visual assessment only found views into the application site along the electricity wayleave, under the pylons that run from north to south across the application site and cross the River Dee towards Easter Ardoe. The mature trees between the proposals and the River Dee will screen the two story houses at the top of the site and the two and three story houses adjacent to Inchgarth Road, on a lower contour. The various woodland and trees on the north facing bank up to Broadgreens, Lochend and around Ardoe House policies screen even distant views into the proposals from these areas.

Views from the golf driving range and 9-hole golf course in the River Dee SAC across Inchgarth Reservoir, only view a very small area of the agricultural fields to the west of Inchgarth House, with no views into the application site.

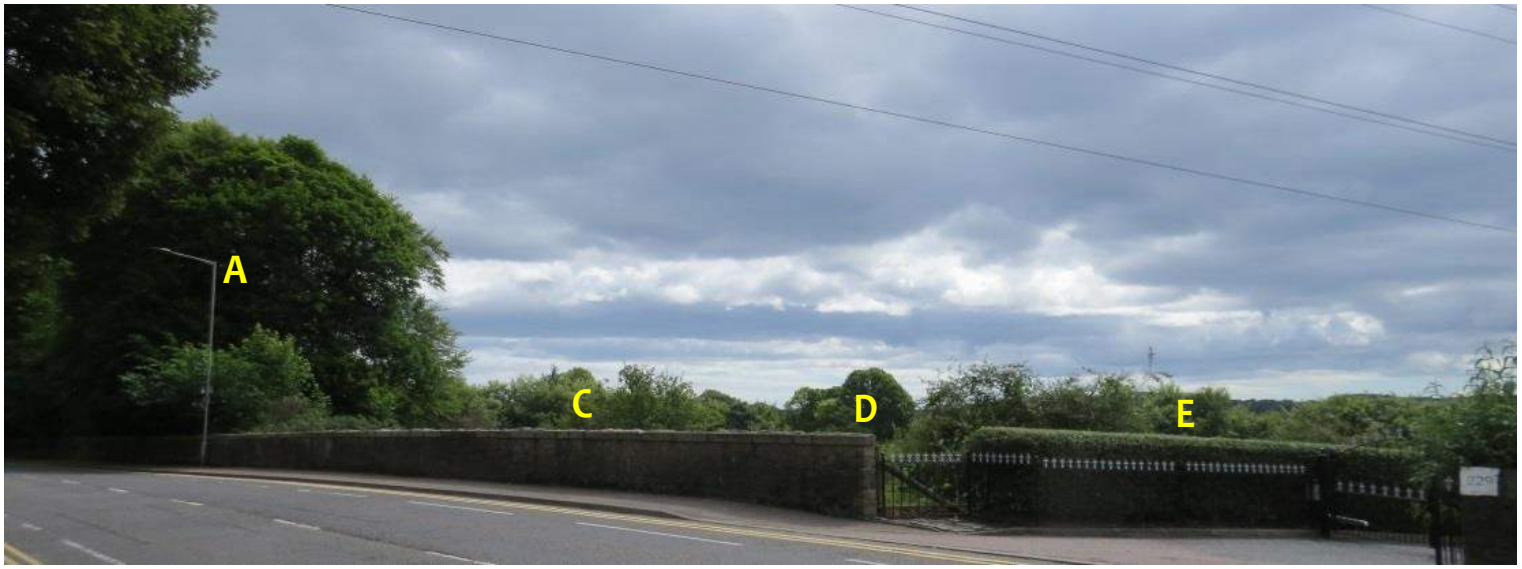


Photo 1:
North Deeside Road, view southeast, over area of public open space. The houses will be constructed on lower ground at the centre of photo. Roofs will be briefly visible as cars go to the east. This view will be screened by new tree and shrub planting.

Photo 1a:
Photo from position 1, adjacent to fence and wall on south side of North Deeside Road. The proposed footpath will enter the site from this position. The ground falls away toward the Deeside Way. View of proposed houses and noise barrier on the western side of the road will be limited and eventually obscured by new tree and shrub planting in the area. Tree belt A is on left of photo and beech hedge C can be seen at the centre of the photo.

Photo 1b:
View during November to show limited view into proposed development. In future the trees on the left of the photo will blend in with the wildlife corridor planting which will extend to the right, increasing the woodland in the area and will screen views towards the new access road.

Photo 2:
View south through tree belt A along North Deeside road. Views of proposed houses will be screened and limited. Further planting will reduce these views during the winter months.

Photo 3:
View towards proposed house positions through tree belt A. Ground contours are reduced as ground falls towards the Deeside Way. Houses are at a lower contour and views into the site are limited. The houses will not be on the skyline but at a lower level, seen against the backdrop of trees. This tree screen is to be thickened by new planting which will widen the tree belt and reduce views during the winter months.

Photo 4:
View from existing field entrance into north field. Beech hedge (trees) (area E) on the north side of Deeside Way are seen across the middle of the photo. Houses in this view will be 7m high and due to the cut and fill operation, will be on a lower contour and less visible against the backdrop of trees. Tree area D is seen on the centre left of this photo.

Photo 5:
View from bridge on Pitfodels Station Road. Deciduous sycamore trees screen views from the bridge and Station Road. One gap into the proposed development area is seen in the centre left of photograph.

Photo 6:
View east on Deeside Way. The old platform is seen in the foreground. Buildings will be visible in the short term in this area.

Photo 7:
View southwest along Deeside Way. Mature trees line the north side of the Deeside Way giving views into the proposed development area. These views are greatly reduced during the summer months. The new tree and shrub planting will increase the depth of the tree screen in this area. This will increase screening and reduce impacts.

Photo 8:
View northwest from Deeside Way. The open area visible is part of the house development area. The sycamore trees in the foreground and birch on the left are growing on the old platform area. The new trees and shrubs planted as part of the development proposals will reduce views into this area.

Photo 9:
View northwest from Deeside Way. A view from further southwest on the Deeside Way. Views of the proposed development will be seen in the winter, but are obscured in summer by trees. Proposed new planting will reduced visibility further.

Photo 10:
View south from Deeside Way. The new buildings will be seen from this area. New tree and shrub planting will reduce this view.

Photo 11:
View southeast from Deeside Way. This view is open at present. In the future the new relief road from north to southwest will remove all views as it crosses the Deeside Way at (4.7m) and effectively removes views of the proposals.

Photo 12:
View northeast along Deeside Way. The beech hedge (Area E), on the left, will be felled to allow the elevated relief road to cross the Deeside Way in this area.

Photo 13:
View south from Deeside Way into amenity area and wildlife corridor. The pylon wayleave is in the area that is to be amenity open space and will be retained as a wildlife corridor. New tree planting will connect the tree belts to the south (Inchgarth Road) with tree belts along the Deeside Way.

Photo 14:
View from Inchgarth Road into site across area of retained public open space. New road and houses will be constructed to the right. Public open space will be central and extending to the left. New tree planting in this public open space, and along Inchgarth Road, will further restrict and screen views into the area.

Photo 14a:
View east along Inchgarth Road from position 6. Mature deciduous and evergreen trees on south side of Inchgarth Road screen the proposed development from views from and to the River Dee SAC. Trees within the proposed development area, along Inchgarth Road, will be felled and replaced with screening trees and shrubs, on contoured mounds at a higher level.

Photo 15:
View west along Inchgarth Road. Mature trees to the south screen the proposals as in Photo 6a. Sycamore trees on north side of Inchgarth Road will be felled and new trees and shrubs planted to screen the proposed development. This photo shows the screening that will be achieved using tree and shrub planting.

Photo 16:
View west towards proposal along access track from Pitfodels Station Road. Views into proposed development screened by trees and large shrubs.

Photo 17:
View across South Deeside Road. Trees and hedging along the South Deeside Road, (B9077) prevent views across to the proposed development. Trees along the South Deeside Road screen the area. Further trees to the north (adjacent to Inchgarth reservoir) also screen the proposals.

Photo 18:
View from Craighead Road. The fields of the proposed development are distant and screened by mature trees.

Photo 18a:
Close up of Photo 9. Proposed development screened by mature trees of ancient woodland along Inchgarth Road and also the proposals are set against the backdrop of trees on the north side of the proposals, the woodland area of Cults and Pitfodels. Small areas of the development can be seen. These areas will be part of the open space/wildlife corridors designed into the west area of the site.

Photo 19:
View from across access road down to Easter Ardoe. View of site restricted to glimpses caused by pylon wayleave.

Photo 19a:
Close up of photo 10. View of application site. The only views are along the pylon wayleave. The views of the site are mainly prevented by the mature trees in the ancient woodland along Inchgarth Road. From these areas of Deeside, the application site is distant with many areas with limited views to the application site. The open areas of the site seen in this photograph are retained as open areas with new tree planting forming wildlife corridors.

Photo 20:
View northeast from above Mid Ardoe. There is no view of the application site from this area. It is screened by mature deciduous and coniferous trees on various levels of the north Deeside bank.

Photo 20a:
Close up of Photo 11 showing no views of the site. The site is screened by mature trees from all areas.

Photo 21:
View northeast from Aspire golf range. Application site is screened by woodlands and tall trees. There are no views of the application site from the golf driving range.

Photo 21a:
Close up of photo 12, mature trees and woodland showing no views into the application site area.

Photo 21b:
Further close up of Photo 12 showing mature trees along the north bank of the River Dee and other mature trees along Inchgarth Road. The field seen centre left (circled) to the west of Inchgarth House is a grass field to the south of Inchgarth Road, not the application site.

7. Viewpoint Analysis

Tables detailing the definitions of the terms used and their categorization are given in Appendices 10.1, 10.2 and 10.3, which should be referred to in association with the following tables.
All photos referred to in tables 7.1 and 7.2 are shown in Section 6.

7.1. Photographs taken close to the development site.

Photo no.	Location	Description	Sensitivity to Change	Magnitude of Change	Level of Impact
1.	Northern site boundary, west – view southeast	The North Deeside Road and the wall and railing at the southern edge of the pavement. Tall trees to the left of the photo and a tree line in the background can be seen over the wall.	Low	Medium	Minor Adverse
1a.	Northern site boundary, west – view southeast	The above wall and railing in the immediate foreground. High bushes to the right, tall trees to the left, between these a view down into a field with a mature tree line in the background.	Medium	Medium	Moderate/ Minor Adverse
2.	Northern site boundary, centre – view south	Mature trees and foliage, the top of a wall visible in the bottom of the photo.	High	Negligible	Negligible
3.	Northern site boundary, east – view south	A gap through thick vegetation, view of green field with mature trees in background.	High	Medium	Moderate Adverse
4.	Northeast corner of site – view south	A green field framed with tall trees and mature vegetation.	High	Medium	Moderate Adverse
5.	Vehicular bridge on Station Road, over Deeside Way.	Mature trees line both sides of the Deeside Way. One gap into the development site is seen.	Medium	Medium	Moderate/ Minor Adverse
6	Adjacent to south platform on old Pitfodels Station.	Mature trees will be retained, as will ruderal vegetation. New flats will be glimpsed through the trees.	Medium	Medium	Moderate/ Minor Adverse
7	Deeside Way, view west. Proposed development on left and right	Views through the trees are readily apparent in winter, but are canopy screening means that only glimpses are seen in summer.	Medium	Medium	Moderate Adverse
8	Deeside Way, looking north, during November.	View north over raised Northern Platform area of Deeside Way. This view is between mature trees to the tree belt along the North Deeside Road.	Medium	High	Moderate Adverse
9	Deeside Way, looking north, during November.	View north over raised Northern Platform area of Deeside Way. This view is between mature trees to the tree belt along the North Deeside Road.	Medium	High	Moderate Adverse

Photo no.	Location	Description	Sensitivity to Change	Magnitude of Change	Level of Impact
10	View south from the Deeside Way. New development to the southeast.	Field slopes from north to south with open views from the Deeside Way. The cut and fill, terraced levels will reduce the apparent height and views of the buildings.	Medium	High	Moderate Adverse
11	View southeast across east area by proposed development.	The development on the east will be seen at present, but in the future, views will be prevented by the elevated relief road crossing the Deeside Way.	Medium	High	Moderate Adverse
12	View east along Deeside Way.	The impact will be greater from east of the new relief road, and negligible from west of the road.	Medium	High	Moderate Adverse
13	View from Deeside Way along existing power line way leave.	Views are of open fields which will be a wildlife corridor and open space planted with many trees and shrubs.	Medium	Negligible	Negligible
14.	Southwest corner of site – view northeast	A sloping field with some scattered trees and a mature tree line at the top. Some tall ruderal vegetation in the foreground partially obscures this view. Area will be open space.	Medium	Negligible	Minor Adverse
14a.	Southern site boundary, west – view east	Inchgarth road and mature trees to the south on the right of the photo, tall ruderal vegetation and scattered trees on left. Field with mature trees in background can be viewed between this vegetation.	Medium	Medium	Moderate/ Minor Adverse
15.	Southern site boundary, east – view west	Inchgarth road and mature trees to the south on the left of the photo, tall ruderal vegetation and dense trees on right. No views into the site through this vegetation.	Medium	Medium	Moderate/ Minor Adverse
16	View west along unnamed access track from Pitfodels Station road.	An unpaved track with large shrubs on the right hand side foreground and mature trees on the left and right background. No views into the site through these trees and shrubs.	Low	Negligible	Negligible

7.2. Photographs taken from South of River Dee.

Photo no.	Location	Description	Receptor Sensitivity	Sensitivity to Change	Magnitude of Change	Level of Impact
17.	South Deeside Road (B9077), adjacent to Banchory Devenick turn off – view north	Dense, tall trees and shrubs bordering roadside. Taller, scattered mature trees are visible behind (above) this.	Low	High	Negligible	Negligible
18.	Craighead road above (south of) South Deeside Road – view north	Field with dense tree line in background, scattered houses and a pylon are visible in the distance.	Low	Low	Negligible	Negligible
18a.	Close up of previous photo	Mature trees up a slope. A line of pylons cuts through with one green field and two roofs visible.	Low	High	Negligible	Negligible
19.	Access road from Craighead road to Easter Ardoe – view north	Access track and fence line with wooden gate in foreground of photo, hedge to left of the photo. Beyond the fence a grass field, beyond this the River Dee surrounded by mature trees, especially on northern bank. Some scattered houses and a line of pylons are the only breaks in otherwise continuous canopy.	Low	High	Negligible	Negligible
19a.	Close up of previous photo.	Tree-covered slopes with pylon wayleave up centre of picture. There are some scattered roofs visible.	Low	High	Negligible	Negligible
20.	Mid Ardoe, south of South Deeside Road – view northeast	Field in foreground, house to left of photo. Beyond the house, a wooded slope with scattered houses.	Medium	Low	Negligible	Negligible
20a.	Close up of previous photo.	A slope entirely obscured by tree canopies, one pylon protrudes. A telegraph pole is in the foreground of the photo.	Medium	High	Negligible	Negligible
21.	Aspire golf range, southern end of driving range sheds – view northeast	Golf course with bunkers in foreground, tall trees to right of photo. Beyond golf course a wooded slope with scattered houses visible.	Medium	Medium	Negligible	Negligible
21a.	Close up of previous photo.	Golf course with bunkers in foreground, scattered scrub beyond with a large, white-roofed shed to the right. Beyond the scrub is a tree-covered slope.	Medium	High	Negligible	Negligible
21b.	Close up of previous photo.	Well-cut grass (golf course) in foreground, scrub beyond, and then wooded hillside. A gap in the trees to the left of the photo shows a green field.	Medium	High	Negligible	Negligible

7.3. Summary of Viewpoint Analysis

Many of the views taken from close to the development site (Nos 1 – 15) were classed as Moderate/Minor Adverse. This is commensurate with the change in use from fields to an urban environment. Views are readily seen into the area from the Deeside Way, both to the north and south. Mitigation measures will be in place to ensure that the existing environmental characteristics of the area are preserved using retained woodlands and tree belts, new tree and shrub plantings, wildlife corridors and pedestrian paths.

The views from the Deeside Way (photos 5 – 13) had a level of impact of Moderate Adverse. This is due to the fact that half of the field areas will be changed to buildings and glimpses of parts of this area will be seen from the Deeside Way. The many mature trees surrounding these areas will be retained, limiting views into the development, especially during summer. New tree and shrub planting will reduce this impact in the near future.

All the views taken from out with the development site (Nos 17 – 21) were classed as Negligible. This is because the site is surrounded by large trees and views of the site are restricted in all directions.

Positions north of the North Deeside Road, from the east at Pitfodels Station Road, and west of the proposed development have no view into the proposed development. Visibility is restricted by topography, buildings and trees. Views from the South Deeside Road are restricted by trees growing at field edges, along the River Dee, and by topography.

The construction phase will require the felling of a number of trees, especially for the link road. Views from the South Deeside Road will not be opened up by this tree felling as they will remain interrupted by trees on different contours in other areas. This can be seen in photos 18a and 19a. The roundabout which connects the link road with Inchgarth Road will not be visible from the south. South of Inchgarth Road and north of the River Dee there is an area of raised elevation woodland, this topography conceals views of the southwest of the site from the south.

The link road curves to the south and southwest and tree and shrub planting on both sides of the new link road will reduce views along the road from areas immediately adjacent to the site. The retained trees adjacent to the Deeside Way will also break up views along the road from different positions on the North Deeside road and Inchgarth road.

8. Conclusion

The assessment of the proposed retirement community at land to the west of Pitfodels Station Road has established that the development will change the landscape and visual amenity baseline conditions during the construction and operational phases.

The construction phases of the proposed development would be relatively short and are considered to have only temporary effects on the landscape and visual amenity of the area.

Once the retirement community is in place, the assessment has shown that there are not likely to be significant effects upon receptors in the study area. It is noted that the visual impacts are generally restricted due to the existing topography, trees, woodlands and existing man-made structures such as housing.

In conclusion, although there would be some localised effects for a small number of receptors located in close proximity to the site, there would be **no significant adverse effect** on the character of the landscape and **no significant adverse effect** on the wider visual amenity.

9. Mitigation

The main adverse effects will be seen from the North Deeside Road, Inchgarth Road, and the Deeside Way, which have close proximity to the proposals, these adverse effects will be short-lived. Along Inchgarth road there will be a raised mound of tree and shrub planting which will screen the proposals from view; the effectiveness of this screening will increase as the planting matures. The tree and shrub planting along the northern edge of the site will soften the proposals from the North Deeside road and eventually screen these proposals from this area. The western third of the site is allocated as green space and wildlife corridor, this, coupled with the tree and shrub planting to the north and south of the Deeside Way will screen these proposals from this area.

The extensive tree and shrub planting in the wildlife corridors, amenity areas, gardens, throughout the site, and adjacent to the new relief road will soften the proposals and eventually screen these proposals from outwith the site.

10. Appendices

10.1. Appendix A: Landscape Impact Assessment & Evaluation Criteria

The *sensitivity to change* of the designated site within the landscape character is arrived at by the review of landscape values and scenic quality.

The *magnitude of change* experienced by the landscape character from designated sites can be evaluated from the development proposal, usually by the description of the impact on specific landscape components in the area.

The *degree of significance of the impact* of the development on the landscape character can be assessed by relating the magnitude of the changes to the sensitivity of the change.

10.2. Landscape Character

The landscape character of an area can be divided into a number of parts, as detailed below:

1. Geological landscape: information on hydrology and human activity.
2. Landscape habitat: landscape features, the land characteristics and vegetation cover.
3. Landscape characteristics and qualities: Through the series, mainly visual - enclosure, diversity, colour, views, features to conserve / enhance.
4. Historic landscape: boundaries, building styles and features of archaeological interest.
5. Cultural landscape: this describes the human activity on the landscape and human cultural influences.

10.3. Landscape Impact

10.3.1. Sensitivity to Change

The sensitivity to change can be related to scenic quality and value, and will be rated as high, medium or low as shown in Table 1.

Table 1: Landscape Sensitivity

Sensitivity	Typical Descriptors
High	A highly valued landscape of high scenic quality, susceptible to change from any development, or small-scale complex landforms with distinctive landscape features.
Medium	A landscape of medium scenic quality which has occasional distinctive features. Settlements may be present in the vicinity.
Low	A landscape of large-scale simple landforms with no distinctive landscape features which will be tolerant of change arising from development. Contains few, if any valued features and existing settlements will be close by.

10.3.2. Landscape Impact – Magnitude of Change

Predicted impacts are reflected by the magnitude of change on the landscape character. This is assessed as shown in Table 2.

Table 2: Magnitude of change on landscape character

Magnitude of Change	Typical descriptors
High	Large scale change that would alter the overall perception and key characteristics of the view
Medium	Changes to a view that would be readily noticeable but not change the overall perception or key characteristics of the view
Low	Some measurable, small scale visual changes to the overall perception and key characteristics of the view.
Negligible	Very minor changes to the overall perception and key characteristics of the view that would barely noticeable with the naked eye

10.3.3. Landscape Impact - Sensitivity Criteria Matrix.

These criteria are a combination of receptor sensitivity and magnitude of change: See tables 1 and 2.

Table 3: Landscape Impact - Sensitivity Criteria Matrix

	Magnitude of Change			
Sensitivity of Landscape	**High**	**Medium**	**Low**	**Negligible**
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Moderate / Minor	Minor	Negligible
Low	Moderate / Minor	Minor	Negligible	Negligible

10.3.4. Landscape Impact – Level of Impact Explained

The level of impact refers to the Sensitivity Criteria Matrix which associates the magnitude of change experienced by a designated site or landscape character area with its sensitivity to change from the development proposal. A direct impact on landscape elements, and whether features will have their relationships modified, are all taken into account when assessing direct impacts on landscape features and key characteristics.

These impacts are recorded in terms of a scale ranging from major – moderate – minor adverse through to negligible then on to minor– moderate – major beneficial. Explanations of the various impacts are given in Table 4 below.

Table 4: Levels of Impact Explained

	The proposed development would result in effects that potentially:
Major Adverse	Would be at considerable variance with the existing landscape character, degrading its integrity Would permanently degrade, diminish or destroy the integrity of valued characteristic features, elements and / or their setting; and/or Cannot be fully mitigated and may cumulatively amount to a major adverse effect.
Moderate Adverse	Would be at noticeable variance with the existing landscape character; and/or Cannot be fully mitigated and may cumulatively amount to a moderate adverse effect.
Minor Adverse	Would be at slight variance with the existing landscape character; and/or Can be largely mitigated with only slight residual adverse effect.
Negligible	Would be compatible with the existing landscape character.
Minor Beneficial	Would improve and enhance the existing landscape character; and/or Would restore valued characteristic features partially lost through other land uses.
Moderate Beneficial	Would markedly improve and enhance the existing landscape character; and/or Would restore valued characteristic features largely lost through other land uses.
Major Beneficial	Would substantially improve and enhance the existing landscape character; and/or Would restore or reinstate valued characteristic features of the area lost through other land uses

10.4. Appendix B: Contact details

Client: Cults Property Development Company Limited

[redacted]

Architect: Fitzgerald & Associates

[redacted]

Environmental Consultant: Astell Associates

[redacted]

10.5. Appendix C: Professional Qualifications

Nigel Astell has been involved in arboriculture for over 40 years. He holds degrees in Botany and Zoology and is a member of the Arboricultural Association and The Chartered Institute of Environmental and Ecological Management.

Tim Stephen has a BSc (hons) in Ecology from the University of Aberdeen. He has been involved in ecological surveying and monitoring work both in the UK and overseas for five years, and has taught on ecology courses for the University of Aberdeen for the past three years.

10.6. Appendix D: Bibliography

- The Landscape Institute with the Institute of Environmental Management and Assessment. *Guidelines for Landscape and Visual Impact Assessment*, 2nd Edition, 2010 Spon Press, Taylor and Francis Group, 270 Madison Ave. New York, NY 10016.
- Natural England and SNH, 2002: *Landscape character assessment: Guidance for England and Scotland. (April 2002)* [Accessed online at http://www.snh.org.uk/pdfs/publications/LCA/LCA.pdf]
- SNH1, 2002: Scottish Natural Heritage. Natural Heritage Zones: a National Assessment of Scotland's Landscapes. 2002. [Accessed online] http://www.snh.gov.uk/docs/B464892.pdf
- Aberdeenshire Local Development Plan 2012, p2 [Accessed online] http://www.aberdeenshire.gov.uk/planning/plans_policies/SGMARR.pdf

10.7. Appendix E: Legislation

Town & Country Planning (Scotland) Act 1997 (as amended)
Town & Country Planning (Trees) Regulations 1999
Health & Safety at Work Act 1974
Construction (Design & Management) Regulations 2015

Directive 92/43/EEC The Conservation of National Habitat & of Wild Flora & Fauna,
Directive 79/409/EEC, The Conservation of Wild Birds (The Birds Directive)
The Wildlife and Countryside Act 1981
Nature Conservation (Scotland) Act 2004
Badgers Act 1992
Natural Environment and Rural Communities Acts 2006
The Conservation (Habitats & c.) Regulations 1994
Annex IV of the EC Habitats Directive 1994

astell associates
arboricultural, environmental and landscape consultants

Inchgarth Retirement Community

Survey of Trees for Bats

23rd May 2018
Ref: IRC-1805-BS

[redacted]

www.astellassociates.co.uk

23rd May 2018
IRC-1805-BS

Survey of Trees for Bat Roost Potential

Inchgarth Retirement Community

Development Proposals

It is proposed to build a retirement community and playing fields in these former agricultural fields. A public road is proposed to connect the North Deeside road to the north of the site with Inchgarth road to the south. Footpaths and wildlife corridors are also proposed.

Purpose of Report

This report, and the accompanying information, is supplied in order to:

- Determine if there is any bat roost potential in the trees.
- Identify the presence or absence of bats roosts in the trees, which may have an impact on the development proposals.
- Recommend mitigation measures, if required, both prior to commencement of the project and after its completion.

Survey Summary

There are several trees in the northern field of the site with bat roost potential. None of the trees in the southern field have bat roost potential. Four trees with bat roost potential are to be felled for woodland management. Two trees with bat roost potential are to be felled for the proposed development. These six trees will be aerially inspected to identify any bat roosts present, before they are felled.

Data Collection & Survey Methodology

A daytime survey of the site was carried out by Nigel Astell and Tim Stephen on 28th November 2016. A follow-up survey was carried out in October 2017 to assess if there had been any changes to the bat roosting potential of the trees following the strong winds of 2017.

The trees in the development site of Inchgarth Retirement Community were surveyed, following the guidelines set out in the Bat Conservation Trust – Bat Surveyors Good Practice Guidelines, and English Nature, Bat Mitigation Guidelines.

The trees in the properties bordering the development site were not surveyed for bats unless they were to be felled for the development.

The following features of trees which can be used as a bat roost were looked for, as on page 64, box 8.1 of the BCT Bat Survey Guidelines:

- Natural holes
- Woodpecker holes
- Cracks / splits in major limbs
- Loose bark behind dense thick ivy
- Hollows and cavities
- Roosts within dense epicormic growth
- Bird and bat boxes

The survey looked for signs indicating possible use of a tree by bats:

- Scratches around entry points
- Staining around entry points
- Bat droppings in / around / below entrance exit points.
- Audible squeaking at dusk or in warm weather.
- Flies round holes / cavities.
- Smoothing of surfaces around cavity.
- Distinctive smell of bats.

Survey Constraints

The conclusions relate to conditions found at the time of inspection. The recommendations contained within this report are valid for a period of one year only.

Trees were inspected from ground level with binoculars. No aerial inspection has been carried out. Due to the time of year there were few leaves on the trees and trees could be assessed easily. Aerial inspection of trees to be felled, which are identified as having bat roost potential, will be required.

Assessment of Environment

This site is located between the North Deeside road and Inchgarth road, immediately to the east of Pitfodels Station road. It is two former agricultural fields, separated by the Old Deeside Way / Old Deeside Railway line and has mature deciduous trees in some areas.

The area is made up of two agricultural fields which have lain fallow for a number of years and are now in an unkempt condition. The Deeside Way / Old Deeside Railway line passes between these fields. The northern field is bordered on the south and east by old beech hedges which have grown to maturity. On the northern edge of this field there is a row of mature, mixed, deciduous trees, immediately adjacent to the North Deeside Road.

The southern field has scattered semi-mature broadleaved trees immediately to the south of the Deeside Way. There are some pockets of scrub further down the slope. This field extends down to Inchgarth Road. There are two drystane dykes which run north to south, equally dividing this field into three. The trees in the southern fields are mainly young / semi-mature trees which do not have features giving any bat roost potential

Both fields are bordered to the east and west by private, residential properties.

The main areas of trees with possibility of bat roost potential are adjacent to the North Deeside \Road and also on the north site of the Deeside Way.

Survey Results & Interpretation

The trees on the north, east and south borders of the northern field (trees 1 – 57 and tree 200), including the mature beech hedges, were surveyed. All the trees in the southern field (trees 58 – 153), and trees 229 – 231 (these lie outwith the development site but are to be felled) were also surveyed.

Each tree was surveyed following the Bat Conservation Trust guidelines. They were studied for cavities, holes, cracks, bark peeling or any other areas of bat roost potential. At this stage, the trees were not climbed. Only those trees with bat roost potential which are to be felled for health and safety or for the proposals will be climbed. The presence or absence of bat roosts in these trees will be established at that time.

No trees in the southern field were found to have bat roost potential. The following table highlights those trees in the northern field with bat roost potential which cannot be identified as bat roosts from the ground. The full survey of trees is detailed in Appendix A.

1	Beech	6	Sycamore	8	Elm	18	Sessile Oak
35	Sycamore	43	Sycamore	44	Ash	57	Birch
200	Norway Maple						

The follow-up survey in October 2017 found no changes to the trees with bat roosting potential since the previous inspections.

Further Inspection

Beech 1 and Norway maple 200 are the only trees with bat roost potential which are to be felled for the proposed development. Elm 8, sycamore 35, ash 44 and birch 57 are recommended to be felled for woodland management. These trees will be climbed to ascertain whether the bat roost potential is capable of supporting bat roosts. Any tree with evidence of bat roosts present will be climbed 24 hours before it is felled to ascertain if bats are occupying these structures.

If trees with bat roost potential are not to be felled they will not be climbed.

Refer to Appendix B for table detailing tree categories for bat surveys, or refer to BCT bat survey guidelines, page 65, box 8.2 - Bat Survey Protocol for trees due to be affected by arboricultural works.

Mitigation

It is recommended that 6 Schwegler 2FN Bat Boxes are installed in the trees bordering the Deeside Way at the south of the northern field (area C). 6 Schwegler 2FN Bat Boxes will also be installed in the trees adjacent to the North Deeside road (area A). 4 Schwegler 2FN Bat Boxes will be installed in the beech trees on the east side of the northern field of the proposal (area B). 5 Schwegler 2FN Bat Boxes will be installed in the retained birch woodland to the southwest of the Deeside way (area D).
These bat boxes will provide additional roosting areas to compensate for any lost in the development.

Appendix A: Detail of Survey of Trees for Evidence of Bats

No.	Species	Age	Class	Bat Roost Potential
1	Beech	M	B	Where limb has come off in southeastern limb.
2	Lime	M	B	No bat roost potential.
3	Lime	M	B	No bat roost potential.
4	Norway Maple	M	C	No bat roost potential.
5	Beech	M	B	No bat roost potential.
6	Sycamore	M	C	Bat roost potential.
7	Sycamore	SM	C	No bat roost potential.
8	Elm	M	C	Bat roost potential in hollow at base, on north.
9	Sycamore	M	C	No bat roost potential.
10	Horse Chestnut	M	C	No bat roost potential.
11	Beech	M	B	No bat roost potential.
12	Beech	SM	B	No bat roost potential.
13	Lime	M	B	No bat roost potential.
14	Sycamore	M	B	No bat roost potential.
15	Horse Chestnut	M	C	No bat roost potential.
16	Lime	M	B	No bat roost potential.
17	Norway Maple	M	B	No bat roost potential.
18	Sessile Oak	M	B	Possibly, under ivy.
19	Lime	M	B	No bat roost potential.
20	Sycamore	M	B	No bat roost potential.
21	Lime	M	B	No bat roost potential.
22	Norway Maple	M	C	No bat roost potential.
23	Horse Chestnut	M	B	No bat roost potential.
24	Horse Chestnut	M	C	No bat roost potential.
25	Lime	M	B	No bat roost potential.
26	Lime	M	B	No bat roost potential.
27	Sycamore	M	C	No bat roost potential.
28	Cypress	M	U	No bat roost potential.
29	Beech	M	B	No bat roost potential.
30	Beech	M	B	No bat roost potential.
31	Beech	M	B	No bat roost potential.
32	Beech	M	B	No bat roost potential.
33	Sycamore	M	B	No bat roost potential.
34	Beech	M	B	No bat roost potential.
35	Sycamore	M	U	Large cavity in main stem.
36	Lime	M	B	No bat roost potential.
37	Sycamore	M	B	No bat roost potential.
38	Norway Maple	M	B	No bat roost potential.
39	Sycamore	M	B	No bat roost potential.
40	Lime	M	B	No bat roost potential.
41	Lime	M	C	No bat roost potential.
42	Lime	M	C	No bat roost potential.
43	Sycamore	M	B	Bat roost potential.
44	Ash	M	U	Bat roost potential.
45	Beech	M	B	No bat roost potential.
46	Beech	M	B	No bat roost potential.
47	Beech	M	B	No bat roost potential.
48	Beech	M	B	No bat roost potential.
49	Beech	M	B	No bat roost potential.
50	Beech	M	B	No bat roost potential.
51	Holly	M	B	No bat roost potential.
52	Beech	M	B	No bat roost potential.
53	Beech	M	B	No bat roost potential.
54	Cherry	M	C	No bat roost potential.
55	Cherry	M	C	No bat roost potential.
56	Cherry	M	C	No bat roost potential.
57	Birch	M	U	Woodpecker hole on north at 5.5m.

No.	Species	Age	Class	Bat Roost Potential
58	Birch	M	B	No bat roost potential.
59	Birch	M	B	No bat roost potential.
61	Willow	SM	C	No bat roost potential.
62	Birch	SM	B	No bat roost potential.
63	Birch	SM	B	No bat roost potential.
64	Willow	SM	B	No bat roost potential.
65	Willow	SM	B	No bat roost potential.
66	Birch	SM	C	No bat roost potential.
67	Birch	SM	B	No bat roost potential.
68	Birch	M	C	No bat roost potential.
69	Birch	SM	C	No bat roost potential.
70	Willow	SM	C	No bat roost potential.
71	Willow	M	C	No bat roost potential.
72	Willow	M	C	No bat roost potential.
73	Birch	M	C	No bat roost potential.
74	Birch	SM	B	No bat roost potential.
75	Willow	SM	B	No bat roost potential.
76	Willow	M	C	No bat roost potential.
77	Birch	SM	B	No bat roost potential.
78	Willow	M	B	No bat roost potential.
79	Willow	M	B	No bat roost potential.
80	Birch	M	B	No bat roost potential.
81	Willow	M	C	No bat roost potential.
82	Birch	SM	B	No bat roost potential.
83	Sycamore	SM	B	No bat roost potential.
84	Willow	SM	B	No bat roost potential.
85	Willow	SM	B	No bat roost potential.
86	Willow	M	U	No bat roost potential.
87	Willow	M	B	No bat roost potential.
88	Willow	M	B	No bat roost potential.

No.	Species	Age	Class	Bat Roost Potential
89	Willow	M	B	No bat roost potential.
90	Birch	SM	B	No bat roost potential.
91	Birch	SM	B	No bat roost potential.
92	Birch	SM	C	No bat roost potential.
93	Ash	M	C	No bat roost potential.
94	Birch	M	B	No bat roost potential.
95	Birch	M	A	No bat roost potential.
96	Willow	SM	B	No bat roost potential.
97	Birch	SM	C	No bat roost potential.
98	Birch	SM	B	No bat roost potential.
99	Birch	SM	B	No bat roost potential.
100	Birch	SM	B	No bat roost potential.
101	Birch	SM	B	No bat roost potential.
102	Birch	M	C	No bat roost potential.
103	Birch	M	B	No bat roost potential.
104	Birch	SM	B	No bat roost potential.
105	Birch	SM	B	No bat roost potential.
106	Birch	SM	B	No bat roost potential.
107	Willow	SM	B	No bat roost potential.
108	Birch	SM	B	No bat roost potential.
109	Birch	SM	B	No bat roost potential.
110	Birch	SM	B	No bat roost potential.
111	Birch	SM	C	No bat roost potential.
112	Birch	SM	B	No bat roost potential.
113	Birch	SM	B	No bat roost potential.
114	Birch	M	C	No bat roost potential.
115	Birch	SM	B	No bat roost potential.
116	Birch	SM	B	No bat roost potential.
117	Birch	SM	A	No bat roost potential.
118	Birch	SM	B	No bat roost potential.

No.	Species	Age	Class	Bat Roost Potential
119	Birch	SM	B	No bat roost potential.
120	Birch	SM	B	No bat roost potential.
121	Birch	M	B	No bat roost potential.
122	Birch	SM	B	No bat roost potential.
123	Birch	SM	B	No bat roost potential.
124	Willow	SM	B	No bat roost potential.
125	Birch	SM	B	No bat roost potential.
126	Birch	SM	B	No bat roost potential.
127	Birch	SM	B	No bat roost potential.
128	Birch	SM	B	No bat roost potential.
129	Birch	SM	B	No bat roost potential.
130	Birch	SM	B	No bat roost potential.
131	Birch	SM	B	No bat roost potential.
132	Birch	SM	B	No bat roost potential.
133	Birch	SM	B	No bat roost potential.
134	Birch	SM	B	No bat roost potential.
135	Birch	SM	B	No bat roost potential.
136	Birch	SM	B	No bat roost potential.
137	Birch	SM	B	No bat roost potential.
138	Birch	SM	A	No bat roost potential.
139	Beech	M	B	No bat roost potential.
139A	Elm	M	B	No bat roost potential.
140	Norway Maple	M	B	No bat roost potential.
141	Beech	M	C	No bat roost potential.
142	Sycamore	M	C	No bat roost potential.
143	Sycamore	M	C	No bat roost potential.
144	Sycamore	SM	B	No bat roost potential.
145	Sycamore	SM		No bat roost potential.
146	Sycamore	SM	B	No bat roost potential.
147	Sycamore	SM	C	No bat roost potential.

No.	Species	Age	Class	Bat Roost Potential
148	Sycamore	M	C	No bat roost potential.
149	Sycamore	SM	B	No bat roost potential.
150	Birch	SM	B	No bat roost potential.
151	Birch	SM	B	No bat roost potential.
152	Birch	SM	B	No bat roost potential.
153	Birch	SM	B	No bat roost potential.
200	Norway Maple	M	C	Some cavities in crown.
229	Elm	M	C	No bat roost potential.
230	Elm	M	C	No bat roost potential.
231	Sycamore	M	C	No bat roost potential.

Appendix B: Extract from 'Bat Surveys, Good Practice Guidelines'

Page 65, Box 8.2, Bat Survey Protocol for Trees due to be Affected by Arboricultural Work

Tree category and description	Stage 1 Survey requirements prior to determination	Stage 2 Further measures to inform mitigation	Stage 3 Likely mitigation
Category 1 Confirmed bat roost tree with field evidence of the presence of bats, e.g. droppings, scratch marks, grease marks or urine staining.	Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence. Ecologist involvement will be required.	Avoid disturbance to trees where possible[1]. Further dusk and dawn surveys to establish more accurately the presence, species, numbers and type of roost present, and to inform the requirements for mitigation if felling is required.	Felled under Habitats Regulations licence[2] following the installation of equivalent habitats as a replacement. Felling would be undertaken taking reasonable avoidance measures[3] such as 'soft felling' to minimise the risk of harm to individual bats.
Category 2a Trees that have a high potential to support bat roosts	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats. Ecologist involvement may be required.	Avoid disturbance to trees where possible[1]. More detailed, off-the-ground visual assessment Further dusk and dawn surveys to establish the presence of bats and, if present, the species, numbers and type of roost to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey would be upgraded to Category 1 and felled under licence as above. Trees with no confirmed roosts would be downgraded to Category 2b and felled taking reasonable avoidance measures[3].
Category 2b Trees with a moderate/low potential to support bat roosts	None. Ecologist involvement is unlikely to be required.	Avoid disturbance to trees where possible[1]. No further surveys.	Trees would be felled taking reasonable avoidance measures[3].
Category 3 Trees with negligible potential to support bat roosts	None. Ecologist involvement will not be required unless new evidence is found.	None.	No mitigation for bats required.

Appendix C: Bats in Scotland

Bats are nocturnal animals which roost all day, huddled together in dark sheltered places. At dusk they will leave their roosts and forage. All British bats primarily feed on invertebrates, with most of their diet consisting of flies, beetles and moths. Bats therefore prefer to forage in areas with a high insect population such as woodlands, scrub, wetlands, river corridors and flower rich grasslands.

Bat Habitat

Bats use different roosts during different times of year, and for different purposes. A bat colony will generally return to the same roosts year after year.

Bats hibernate over winter in a communal roost and generally remain inside from autumn to spring, although some can be drawn out of hibernation by a moderately high midday temperature or a mild night, when a temperature of 40°F (4.5°C) is sufficient to wake them and bring them out for an hour's hunt. Winter roosts are typically caves, mines, buildings and hollow trees which have constant low temperatures and high humidity.

In spring, the bats may use alternative roost sites which are used during the day.

By summer the female bats will be found at a maternity roost where they will give birth and suckle young. Preferred sites for a maternity roost are hollow trees, buildings and bridges.

Signs of Bat Habitation

In areas where bats are roosting dark pellet-like droppings will be found on walls and floors, as well as dark smudges and urine stains.

Due to the bats using roosting areas for many years, these droppings will accumulate and become an obvious sign of the presence or absence of bats.

On exiting the roost area bats normally void urine, which over time will leave characteristic marks at the entrance/exit to the roost.

Appendix D: Bat Licensing

Much bat work can be carried out without a license. Survey planning, bat detection and looking for signs of bat presence do not require a license. A license is only needed once it has been established that there are bats present.

A license is required by anyone needing to disturb, take, or possess bats for either scientific or survey purposes.

Further advice is available from the
Bat Conservation Trust, www.bats.org.uk and
Scottish Natural Heritage www.snh.gov.uk 01224 642863

Appendix E: Bats and the Law

Because populations of most species have declined in past decades, all British bats have been protected by law since 19821. The legal protection they receive has recently been strengthened by changes to the law arising from European Union obligations. All bat species found in Scotland are classed as European Protected Species.

All bat species are protected by the Wildlife and Countryside Act, 1981 (as amended), and the Conservation (Natural Habitats, etc.) Regulations, 1994. This legislation makes it illegal to intentionally or recklessly kill, injure or disturb bats, or destroy their roosts. It is therefore essential to establish whether the works being proposed will affect bats or their roosts.

Appendix F: Surveyor Qualifications

Nigel Astell has been involved in ecology and arboriculture for over 45 years. He holds degrees in Botany and Zoology and is a member of the Arboricultural Association and The Chartered Institute of Environmental and Ecological Management.

Nigel Astell is also a trained and experienced climber / arborist and has been climbing in the northeast for the last 40 years.

Tim Stephen has a BSc (Hons) Ecology from The University of Aberdeen, and has been involved in ecological surveying, research, species identification and teaching on ecology field courses in the UK and overseas for the past four years.

Appendix G: References

- www.nbn.org.uk - National Biodiversity Network web site.
- Bat Surveys - Good Practice Guidelines (3rd Edition - 2016) Bat Conservation Trust, 250 Kennington Lane, London.
- Bat Workers Manual 3rd Ed - Mitchell-Jones & Mc Leish (2012), Joint Nature Conservation Committee. Peterborough.

Appendix H: Contact Details

Client: Cults Property Development Company Limited,
[redacted]

Environmental Consultant: Nigel Astell
Astell Associates
[redacted]

Nigel Astell
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astell associates
arboricultural, environmental and landscape consultants

Inchgarth Retirement Community

Tree Survey

23rd May 2018
Ref: IRC-1805-TR

[redacted]

www.astellassociates.co.uk

23rd May 2018
IRC-1805-TR

Inchgarth Retirement Community

Contents

Tree Survey

Inchgarth Retirement Community

Introduction

Astell Associates have been instructed by Cults Property Development Company Limited to advise on trees and the constraints on development at Inchgarth Retirement Community.

This report is intended to accompany the Planning Application as a document supporting the application and demonstrating that the implications of the proposed development on the arboricultural, landscape and cultural (conservation) value of the trees on the site have been fully considered.

Limitations

This is a preliminary assessment from ground level and observations have been made solely from visual inspection for the purposes of assessment for planning and the proposed development. No invasive or other detailed internal decay detection instruments have been used in assessing trunk condition.

The conclusions relate to conditions found at the time of inspection. The recommendations contained within this report (Tree Schedule) are valid for a period of one year only. Any significant alteration to the site that may affect the trees that are present or have a bearing on the planning implications (including level changes, hydrological changes, extreme climatic events or other site works) will necessitate a re-assessment of the trees and the site.

It should be noted that this survey is not a tree safety inspection. It is carried out in order to inform the planning process

Site Visit and Tree Assessment Methodology

Site visits were undertaken in October, November and December 2016 by Nigel Astell and Tim Stephen. A follow-up survey was carried out in October 2017 to ascertain if there had been any changes to the trees on the site after the high winds during 2017. This current survey updates the 2016 survey.

The inspection took place from ground level aided by the Visual Tree Assessment method (Mattheck and Breloer, 1994). A Laser Ace Hypsometer was used to establish tree heights and canopy distances.

The development design is guided by the tree constraints on site, and the locations of roads and buildings conform with BS: 5837 (2012) (Trees in Relation to Design, Demolition and Construction – Recommendations).

Survey Methodology

Many trees with a diameter of over 12cm have been numbered and surveyed for tree species, height, number of stems, stem diameter, branch spread (to N, S, E and W), condition, tree category and suitability for retention. See Appendix B for a plan showing location of each tree and its arboricultural tree category (Drawing IRC-1708-AA).

Data collected regarding individual trees and groups of trees is detailed in the Tree Schedule, Appendix A.

Development Proposals

It is proposed to build residential properties, retail units, and a care home in these former agricultural fields. A public road is proposed to connect the North Deeside road to the north of the site with Inchgarth road to the south. Footpaths and wildlife corridors are also proposed.

Tree Preservation Orders / Conservation Areas

The site is situated within a Conservation Area.

All of the trees at this site are protected by a Tree Preservation Order. However, the majority of the trees to be felled are semi-mature sycamore and willow which have self-established in the southern field since it has lain fallow. The mature trees around the fringes of the fields and along the Deeside Way will mostly be unaffected by the developments. Any trees which are to be felled will be replaced in the landscaping of the site following the construction phase.

The area to the south of Inchgarth road and the area to the north of the North Deeside road are classified as ancient woodland (Long Established of Plantation Origin). None of the areas of the site are classified as ancient woodland.

Site Description

The site is made up of two agricultural fields, divided by the Deeside Way/Old Deeside Railway line. The northern field is bordered on the south and east by old beech hedges which have been left to grow into mature trees. On the northern edge of this field, bordering the North Deeside Road, there is a row of mature, broadleaved trees, mainly sycamore, beech and lime.

The southern field has scattered, semi-mature, broadleaved trees (sycamore, willow, and birch) immediately to the south of the Deeside Way. This band of trees thickens to woodland to the west of the site. Down the western border of the south field there is a dense stand of semi-mature sycamore and dense sycamore saplings. Along Inchgarth road there are several mature, broadleaves (mainly beech and sycamore). Towards the southeastern corner of the site there is a stand of semi-mature sycamore and spruce. Many of the trees in this area are small diameter close-grown sycamore saplings with little ground flora below.

The agricultural fields were originally used for grazing. However, they have lain unused for a number of years resulting in them being in an unkempt condition. The trees and scrub present on site have established during the period of vacancy and in many cases are of low value.

The tree inspection of October 2017 found no significant differences had occurred since previous surveys in 2016.

Trees Within Site

The trees on the site have been grouped into ten areas (labelled A – J) for ease of description. Group G has been separated into two halves to clarify the description of the management. The trees on the edge of the site, which will have implications for the development, have been grouped into eight groups (labelled S – Z).

Group A (trees 1 – 28)

An area of mature trees, a mixture of beech, sycamore, lime, and horse chestnut, with a few other species present as individuals. These trees are growing along the base of the retaining wall of the North Deeside road.

The road enters the site from the North Deeside road, opposite Baird's Brae. In this area five trees (1 – 4 and 200) will be felled. An embankment is formed from the North Deeside road down to the development which involves a raise in height of the new road of around 1.5m

Group B

This is a dense stand of blackthorn bushes with little natural light penetrating the stand. These bushes will be felled.

Group C (trees 29 – 34)

Bordering the eastern edge of the north field, is a beech hedge which has been left to grow to maturity and now forms a close-grown line of trees. Five of the largest beeches within the hedge line were measured to give a root protection area of this tree belt. A large sycamore growing in the southern area of this hedge (tree 33) was also measured.

The western branches of these trees will be cut back and trees will be reduced in height by 5 – 7m. This will reduce the required root protection area of these trees, however the existing root protection area will be used to protect the trees.

Group D (trees 35 – 44)

In the southeast corner of the northern field this strip of mature broadleaved trees is mostly sycamore and lime. These trees are situated at the base of the old railway embankment of the Deeside Way.

These trees will be unaffected by the development as it is outwith the root protection area.

Group E (trees 45 – 53)

This borders the southern edge of the north field and the Deeside Way. It was originally planted as a beech hedge but has been left to grow to maturity, and is now a line of close-grown trees. There are some birch and holly growing amongst these beeches. Eight of the beeches were measured to give a root protection area for this overgrown hedge.

The northern branches of these trees will be cut back and the trees will be reduced in height by 5 – 7m. This will reduce the root protection area of these trees, however the existing root protection area will be used to protect the trees.

The new road will cross the Deeside way adjacent to an existing field entrance here. The line of close-grown beech hedge trees to the east and west of the new road will be felled back to a distance of 13m (including trees 46 – 49), as shown on plan IRC-1711-TP.

Group F (trees 54 – 56)

These are three mature cherry trees, which are situated in the southwest of the north field of the site.
These trees will be unaffected by the proposals.

Group G (trees 61 – 77, 86 – 88, 110 – 138, and 150 – 153)

This strip, along the northern edge of the southern field, is a stand of semi-mature trees. These are mostly sycamore with some birch and willow. Only those trees which have a DBH larger than 20cm have been measured and recorded. The remaining trees are often close-grown, self-seeded trees growing in this former agricultural field.

G1 This area will be retained as a 25m wide woodland wildlife corridor. The sycamore saplings in this area will be removed.

G2 This is the area of field with more sparsely growing semi-mature trees. These trees will be felled for the proposals.

Group H

This is a dense stand of semi-mature sycamore. They have been cut to the ground in the past and have grown back coppiced. The trees grow very closely together and do not allow penetration by natural light. These trees have not been individually labelled or measured.
This area will be clear-felled and mulched.

Group I (trees 93 and 139 – 149)

These trees are positioned sporadically along Inchgarth Road, on the southern edge of the site. They are mostly mature sycamore. Many of the trees are growing on, or from under, the dyke along the Inchgarth Road pavement.

The new road will form a roundabout with Inchgarth road here. Trees 93, 139, 139A, and 140 – 149 will be felled for this roundabout and also for the emergency vehicle access.

Group J (trees 78 – 82, 84 – 92, and 94 – 109)

This group comprises all the other trees growing on the former agricultural field. These young and semi-mature trees are dispersed widely throughout the area. Only willow and birch with a DBH larger than 20cm have been labelled and measured. Smaller trees within these agricultural fields have not been labelled. The trees are predominantly sycamore, although there are several spruce in the southeast corner.

All of the trees in this area will be felled for the development.

Trees Outwith Development Site

Group S

This is a mature cypress hedge adjacent to the boundary wall of the site. The largest cypress in the hedge was measured to offer a root protection area for the whole hedge. This hedge will be unaffected by the development.

Group T

This is an area of scrub and small trees bordering a driveway to the northwest of the site. Any small trees /scrub adjacent to the new access road will be felled. A footpath runs through the wildlife corridor and joins the North Deeside Road around 30m west of the access road, through group T .

Group U (trees 207 – 212)

This is a strip of trees along the southern edge of the Deeside Way. The majority of these trees are birch and sycamore although there are some pine present. Six of the trees in this strip were measured to give a root protection area for the largest trees present.

These trees will be unaffected by the development.

To the east of area U is an open area with no trees between area E and area G. In this position there are no trees bordering the Deeside Way.

Group V (trees 58, 59, and 213 – 218)

These trees are on top of the railway embankment at the old Pitfodels Station platform. These are mostly sycamore and birch. Not all of the trees in this area were labelled and measured, only the largest trees have been measured to give a root protection area for the trees in this area.

Group W (trees 219 and 220)

There are several large trees in this garden bordering the eastern edge of the south field of the site. Two of the larger trees, a birch and a beech, have been measured and labelled in order to provide a root protection distance for this edge of the site.

These trees will be unaffected by the development.

Group X (trees 221 – 228)

On the southern edge of the eastern end of the site there is a bund bordering a small residential cul-de-sac. There are several large, mature trees growing on this bund, including a particularly large sycamore. There are also several large, mature trees growing at the northern edge of the gardens immediately to the west of this bund. Eight of these trees have been measured to provide a root protection distance from this edge of the site.

These trees will be unaffected by the development.

Group Y (trees 93 and 229 – 231)

There are several trees growing on the edge of the pavement on Inchgarth road, They grow from the top of a ruinous wall. Three of the trees in this area have been measured.

Trees 93 and 229 – 231 will be felled for health and safety as they are further damaging the ruinous dyke.

Group Z (trees 201 – 206)

The properties on the western edge of the southern field of the site are lined with a strip of mature woodland. Six of the largest trees on the edge of these properties have been measured and described in order to provide a root protection distance for this edge of the site.

Tree 201 will be felled for the access road. The other trees will be unaffected by the development.

The cut and fill does not extend within 25m of the western boundary. A wildlife woodland corridor will be planted to extend the woodland area in this part of the development and give connectivity from the northwest to southwest of the site.

Tree Felling for Management

The following trees are recommended to be felled for woodland management or health and safety. No 202 onward are outwith the site boundary but are either dead or present a danger to public safety and should be felled.

7 Sycamore	8 Elm	9 Sycamore
24 Horse Chestnut	28 Cypress	44 Ash
93 Ash	202 Elm	203 Elm
229 Elm	230 Elm	231 Sycamore

Tree felling in relation to bats

The trees below have been identified as having bat roost potential from a ground level assessment. These trees are to be felled for the proposals or for woodland management. There are other trees with bat roost potential which are to be retained see report IRC-1801-BS for details of these trees. The trees below will be climbed to ascertain whether the bat roost potential is capable of supporting bat roosts. Any tree with evidence of bat roosts present will be climbed 24 hours before it is felled to ascertain if bats are occupying these structures. Refer to report IRC-1801-BS for details.

1 Beech	8 Elm	35 Sycamore	44 Ash
57 Birch	200 Norway Maple		

Tree Management in Relation to Development

The following trees will be felled for the proposed development:

1 Beech	2 Lime	3 Lime	4 Norway Maple
46 Beech	47 Beech	48 Beech	61 Willow
62 Birch	63 Birch	64 Willow	65 Willow
66 Birch	67 Birch	68 Birch	69 Birch
70 Willow	71 Willow	72 Willow	75 Willow
76 Willow	77 Birch	78 Willow	79 Willow
80 Birch	81 Willow	82 Birch	84 Willow
85 Willow	86 Willow	87 Willow	88 Willow
89 Willow	90 Birch	91 Birch	92 Birch
94 Birch	95 Birch	96 Willow	97 Birch
98 Birch	99 Birch	100 Birch	101 Birch
102 Birch	103 Birch	104 Birch	105 Birch
106 Birch	107 Willow	108 Birch	109 Birch
110 Birch	111 Birch	112 Birch	113 Birch
114 Birch	115 Birch	116 Birch	117 Birch
118 Birch	126 Birch	127 Birch	128 Birch
139 Beech	139A Elm	144 Sycamore	145 Sycamore
146 Sycamore	147 Sycamore	200 Norway Maple	

The tree schedule with management recommendations for each tree is given in Appendix A

Tree Protection

All trees shown as retained within the tree table and site plans that accompany this report, should be protected in accordance with British Standard BS:5837 2012 - Trees in Relation to Design, Demolition and Construction, prior to the commencement of any development activity at the site.

The Tree Protection fencing will be erected in the locations shown in Drawing IRC-1711-TP (Appendix C). Details of fencing can be found in Appendix F.

Tree felling and remedial tree works will be undertaken before this fencing is erected.

After any tree felling and remedial tree works have been completed, the tree protection fencing must be erected before any demolition, site preparation or construction work commences, i.e. as the first operation on site following Planning Approval.

Paths

Footpaths have been designed to run from north to south, connecting the North Deeside Road with the Deeside Way (Old Railway Line) and also from the Deeside Way to Inchgarth Road.

One public footpath runs through the public open space on the west side of the access road. The second connects the Deeside Way with Inchgarth Road on the west side of the development proposals.

The paths are designed to go around the retained trees and where they pass over root plates of trees these areas will be constructed using the 'no-dig' construction method using a cellular confinement system, as detailed in Appendix H.

Underground Service Installation

Details of any proposed service runs associated with the proposed development have not been provided. However, any service runs in proximity to the retained trees will be excavated in accordance with National Joint Utilities Group (NJUG) Guidelines for installing and maintaining services close to trees (NJUG 10) or using thrust-bore technology.

Arboricultural Method Statement

1. All tree felling and tree surgery to overgrown beech hedges will be carried out. All works to BS3998: 2010 'Recommendations for Tree Works'.
2. Position of tree protection fencing will be marked out by the arboricultural consultant and site manager.
3. Tree protection fencing will then be erected as shown on plan IRC-1711-TP.
4. After erection the fencing will be inspected by the arboricultural consultant to confirm its correct positioning and construction.
5. The location and construction of the tree protection fence will then be confirmed in writing to the architect, the client and Aberdeen City Council Environmental Planners.
6. Tractor mounted mulchers will then remove the blackthorn scrub in the northern field and the sapling sycamore and semi-mature trees in the development area of the southern field.
7. Ground preparation to include topsoil stripping and benching of the site for roads and houses will then be carried out.

General Precautions

No materials that are likely to have an adverse effect on tree health will be stored or discharged within 10 metres of the trunk of a tree that is to be retained. Consideration will be given to the implications of storing materials upslope of retained trees to avoid the risk of potential spillages leaching down-slope and contaminating the Root Protection Area of a tree.

Such materials include:

- Oil
- Bitumen
- Cement

No fires will be lit within 20 metres of the trunk of any tree that is to be retained. Concrete mixing will not take place within 10 metres of the trunk of any tree.

Contingency Plans

In the event of unforeseen incidents occurring, that may adversely affect or threaten the welfare or security of the trees, the resident Site Agent/Manager shall inform the Arboricultural Consultant at the earliest opportunity and not more than one working day following the incident.

The Arboricultural Consultant will visit the site to inspect and assess the circumstances and make any appropriate recommendations. The Local Planning Authority Tree Officer will be informed by the Arboricultural Consultant of such incidents and recommendations will be submitted for approval to the Local Planning Authority, initially verbally, and subsequently in writing.

A record of any emergency incidents and works shall be maintained by the Arboricultural Consultant.

Incidents which may merit such contingency plans include:

- Accidental / unauthorised damage to the limbs, roots or trunk of trees
- The spillage of chemicals within or adjacent to a Root Protection Area
- The discharge of toxins / waste within or adjacent to a Root Protection Area
- The un-scheduled and / or un-supervised breaching of a tree protective barrier or Construction Exclusion Zone.

Supervision and Monitoring

An Arboricultural Consultant will be responsible for monitoring of all operations relating to arboricultural issues and will issue written confirmation of satisfactory completion of the following operations:

- Remedial tree works
- The erection of protective barriers around the retained trees in accordance with Drawing DCA-1711-TP
- The installation of all ground protection measures
- The excavation of trenches for any services if within the root protection area of trees.
- The excavation of any foundations within the identified Root Protection Areas
- The construction of all new hard surfaces within the Construction Exclusion Zones as marked on Drawing IRC-1711-TP.
- The construction of any new structures within the identified Root Protection Areas

Astell Associates will visit the site twice monthly and a record of site visits completed by the Arboricultural Consultant will be maintained for inspection.

The record of these site visits will be communicated in writing to the client, the architect, the contractor and Aberdeen City Council environmental planners.

On completion of the development the tree belts will be inspected for health and safety and reports written to inform future management of the woodlands and tree belts in the area.

The responsibility for these inspections will be passed on to the management company.

Replacement Planting

Following the tree felling for the proposals, woodland management and health and safety, replacement and landscape planting will be carried out, as detailed on plan IRC-1708-LS.

Appendix A Tree Schedule

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
1	*Beech*	84	12	16	5	3	21	10.1	M	B	*Twin-stemmed from 3m, tree has slight lean west, canopy suppressed to north and south but tree appears healthy.*	*Fell for development.*
2	*Lime*	61	7	12	9	3	19	7.3	M	B	*Canopy suppressed to south, adventitious stems at base, tree appears healthy.*	*Fell for development.*
3	*Lime*	58	6	10	6	4	17	7.0	M	B	*Tree has slight lean northwest, ivy becoming dominant in crown.*	*Fell for development.*
4	*Norway Maple*	64	5	7	4	6	18	7.7	M	C	*Twin-stemmed from 9m, tree leans southeast. Canopy one-sided to southeast, suppressed to north by beech, but tree appears healthy.*	*Fell for development.*
5	Beech	76	8	12	12	5	18	9.1	M	B	Tree leans northwest, canopy mainly one-sided to northwest, some large canopy branches growing to southeast, tree appears healthy.	Retain
6	Sycamore	78	6	10	4	3	16	9.4	M	C	Tree has slight lean southwest, canopy suppressed by neighbouring, tree appears healthy	Retain at present.
7	*Sycamore*	30	5	6	2	1	9	3.6	SM	C	*Tree suppressed by neighbouring trees.*	*Fell for management.*
8	*Elm*	86	5	16	3	6	19	10.3	M	C	*Three-stemmed from 4m, tree has substantial lean southeast. Canopy one-sided to southeast, dead wood, snags, and broken and hanging branches apparent in crown. There are some signs of Dutch elm disease and substantial rot at base to northwest.*	*Fell for safety.*
9	*Sycamore*	49	6	9	2	5	17	5.9	M	C	*Twin-stemmed from 2.75m, tree leans southeast, with a one-sided canopy to southeast. Tree suppressed by neighbouring trees.*	*Fell for woodland management.*
10	Horse Chestnut	68	12	12	5	6	16	8.2	M	C	Tree leans northwest, canopy mainly one-sided to northwest, there is some rot at base, but not extensive.	Retain and inspect at regular intervals.
11	Beech	75	10	12	5	6	21	9.0	M	B	Tree leans southeast, canopy one-sided to southeast, tree appears healthy.	Retain
12	Beech	29	4	6	5	4	8	3.5	SM	B	Canopy one-sided to southeast, canopy to northwest suppressed by large branches from neighbouring beech and lime.	Retain
13	Lime	60	10	11	7	4	20	7.2	M	B	Canopy one-sided to east, canopy suppressed by neighbouring trees, but tree appears healthy.	Retain
14	Sycamore	48	8	9	5	2	17	5.8	M	B	Twin-stemmed from 6m, canopy suppressed to north and south by neighbouring trees, but tree appears healthy.	Retain
15	Horse Chestnut	70	7	11	9	5	16	8.4	M	C	Tree has slight lean southeast, canopy one-sided to southeast, with large branches stretching to southeast, dead wood and snags apparent in crown.	Retain at present.
16	Lime	53	7	7	5	4	19	6.4	M	B	Canopy suppressed to north by neighbouring trees, substantial adventitious growth at base, tree appears healthy.	Retain

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
17	Norway Maple	46	4	5	5	3	15	5.5	M	B	Twin-stemmed from 5m, canopy suppressed to north and south by neighbouring trees, ivy becoming dominant in crown, bark damage at base but rot not evident.	Cut ivy, retain and inspect at regular intervals.
18	Sessile Oak	80	8	10	7	6	20	9.6	M	B	Canopy one-sided to east and southeast, ivy becoming dominant in crown, but tree appears healthy.	Cut ivy, retain and inspect at regular intervals.
19	Lime	68	7	6	6	8	16	8.2	M	B	Twin-stemmed from 8m, tree has slight lean north, appears healthy.	Retain.
20	Sycamore	103	8	14	3	8	17	12.4	M	B	Canopy suppressed to north, mainly one-sided to south and southeast, some dead wood and snags but tree appears healthy.	Retain.
21	Lime	66	14	8	6	4	19	7.9	M	B	Twin-stemmed from 12m, canopy suppressed to east, and one-sided to west, dead wood and snags apparent but tree appears healthy.	Retain
22	Norway Maple	52	12	12	4	4	16	6.2	M	C	Twin-stemmed from 5m, canopy suppressed to northwest, one-sided to southeast, dead wood, snags, and cavities apparent.	Retain and inspect at regular intervals.
23	Horse Chestnut	72	14	12	8	5	17	8.6	M	B	Canopy suppressed to northwest, one-sided to southeast, trunk damage at base, rot present but not extensive.	Retain and inspect at regular intervals.
24	*Horse Chestnut*	57	7	18	7	6	15	6.8	M	C	*Twin-stemmed from 3.5m, tree leans southeast with one-sided suppressed canopy mainly to southeast, tree suppressed by neighbouring trees.*	*Fell for woodland management.*
25	Lime	75	14	10	5	5	21	9.0	M	B	Canopy mainly one-sided to southeast, tree appears healthy.	Retain
26	Lime	67	9	12	8	3	21	8.0	M	B	Tree has slight lean north, canopy suppressed to south, tree appears healthy.	Retain
27	Sycamore	27, 16, 25	4	6	5	6	12	4.1	M	C	Three-stemmed from 0.1m, tree leans east, canopy mainly one-sided to south, tree appears healthy.	Retain at present.
28	*Cypress*	51	4	4	2	5	10	6.1	M	*U*	*Multi-stemmed from 6m where tree has been pollarded in past, tree has uprooted to southwest.*	*Fell*
29	Beech	19, 28, 27	3	1	2	11	17-23	4.8	M	B	Trees 29, 30, 31, 32 and 34 forma substantial beech hedge.	Cut back western branches and reduce height by 5-7m.
30	Beech	62, 33	2	2	4	12		8.4	M	B	Tree appears healthy.	Cut back western branches and reduce height by 5-7m.
31	Beech	30, 32, 17, 14	2	2	5	13		5.9	M	B	Tree appears healthy.	Cut back western branches and reduce height by 5-7m.
32	Beech	18, 17, 25, 18, 24, 22, 24	2	2	8	10		6.8	M	B	Tree appears healthy.	Cut back western branches and reduce height by 5-7m.
33	Sycamore	59	4	4	5	8	14	7.1	M	B	Tree has slight lean to southwest, canopy mainly one-sided to southwest, tree appears healthy.	Retain

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
34	Beech	25, 19	2	2	8	6		3.8	M	B	Tree appears healthy.	Cut back western branches and reduce height by 5-7m.
35	Sycamore	113	9	0	2	2	6	13.6	M	U	Top has broken off at 6m in the past, substantial rot in main stem where limb has broken off in past, rot extended to base.	Remove large limb to northwest, retain as wildlife monolith.
36	Lime	76	8	8	4	5	21	9.1	M	B	Twin-stemmed from 3m, tree leans south, canopy suppressed to north, tree appears healthy.	Retain
37	Sycamore	97	10	10	7	8	21	11.6	M	B	Twin-stemmed from 4.5m, canopy suppressed to north and south by neighbouring trees, dead wood and snags apparent, but tree appears healthy.	Retain
38	Norway Maple	68	12	13	3	5	21	8.2	M	B	Twin-stemmed from 6m, canopy suppressed to north and south by neighbouring trees, appears healthy.	Remove lower large limb growing to northwest.
39	Sycamore	74	16	16	4	8	19	8.9	M	B	Three-stemmed from 4m, tree leans southwest, canopy suppressed to north and south, tree appears healthy.	Retain
40	Lime	100	12	10	8	12	25	12.0	M	B	Three main stems from 7m, tree appears healthy.	Retain
41	Lime	22	6	3	4	6	14	2.6	M	C	Tree has fallen in the past and is growing at the base of old railway line embankment.	Retain at present.
42	Lime	84	7	7	8	9	18	10.1	M	C	Tree has substantial lean north with many adventitious stems at base, tree appears healthy.	Retain at present.
43	Sycamore	116	12	12	7	7	18	13.9	M	B	Twin-stemmed from 4.5m, large limb growing to northeast at 2m, dead wood and snags apparent in crown.	Retain and inspect at regular intervals.
44	*Ash*	68	8	4	5	5	19	8.2	M	U	*Four main stems from 8m, north limb has broken and fallen into sycamore 43. Dead wood snags and rot apparent in crown, tree is in poor condition.*	*Fell*
45	Beech	104	10	11	5	2	18	12.5	M	B	Twin-stemmed from 1.5 and 3.5m, tree has substantial lean east, canopy mainly one-sided to east.	Retain at present.
46	*Beech*	82	12	7	4	3	16-21	9.8	M	B		*Fell for development.*
47	*Beech*	62	6	9	3	1		7.4	M	B		*Fell for development.*
48	*Beech*	67	6	9	3	1		8.0	M	B		*Fell for development.*
49	Beech	32, 36, 62, 20	8	9	3	7		9.7	M	B		Retain
50	Beech	33	6	7	6	1		4.0	M	B		Retain
51	Holly	52	4	5	5	5	9	6.2	M	B	Four main stems from 0.3 and 0.6m forming a multi-branched canopy, tree growing between beech hedge stems, appears healthy.	Retain

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
52	Beech	50, 50, 36	20	12	8	2		9.5	M	B		Retain
53	Beech	89	5	10	2	7		10.7	M	B		Retain
54	Cherry	21	3	3	5	2	14	2.5	M	C	Tree leans north, canopy one-sided to north, appears healthy.	Retain at present.
55	Cherry	25, 28	4	5	7	0	18	4.5	M	C	Twin-stemmed from 0.4m, tree leans north, canopy one-sided to north, appears healthy.	Retain at present.
56	Cherry	41	6	8	8	4	19	4.9	M	C	Twin-stemmed from 1.8m, tree leans northwest, canopy one-sided to northwest, appears healthy.	Retain at present.
57	Birch	82	5	5	1	1	8	9.8	M	U	Twin-stemmed from 5m, the top of one of the main limbs has broken off, birch polypore fructifications are evident in crown.	Pollard 1m above divergent angle, retain for wildlife.
58	Birch	59	5	6	7	3	10	7.1	M	B	Tree appears healthy.	Retain
59	Birch	48	5	6	3	6	10	5.8	M	B	Tree appears healthy.	Retain
61	*Willow*	17, 19, 15	5	5	5	5	8	3.5	SM	C	*Tree appears healthy.*	*Fell for development.*
62	*Birch*	15	4	1	5	4	8	1.8	SM	B	*Tree appears healthy.*	*Fell for development.*
63	*Birch*	18, 16, 12	4	4	5	5	7	3.2	SM	B	*Tree appears healthy.*	*Fell for development.*
64	*Willow*	19, 26	5	4	5	3	7	3.9	SM	B	*Tree appears healthy.*	*Fell for development.*
65	*Willow*	27, 13, 12	5	5	6	6	7	3.9	SM	B	*Tree appears healthy.*	*Fell for development.*
66	*Birch*	17, 13, 8, 10	5	3	4	3	6	3.0	SM	C	*Tree appears healthy.*	*Fell for development.*
67	*Birch*	22	4	3	3	3	9	2.6	SM	B	*Tree appears healthy.*	*Fell for development.*
68	*Birch*	29	3	6	4	4	9	3.5	M	C	*Tree appears healthy.*	*Fell for development.*
69	*Birch*	18, 18	2	3	2	2	8	3.1	SM	C	*Tree appears healthy.*	*Fell for development.*
70	*Willow*	16, 22	5	3	4	3	6	3.3	SM	C	*Tree appears healthy.*	*Fell for development.*
71	*Willow*	18, 12, 14	8	6	7	6	9	3.1	M	C	*Tree appears healthy.*	*Fell for development.*
72	*Willow*	14, 17, 16	6	5	5	6	10	3.3	M	C	*Tree appears healthy.*	*Fell for development.*
73	Birch	20, 13	2	3	3	3	8	2.9	M	C	Tree appears healthy.	Retain at present.
74	Birch	19	3	3	3	2	10	2.3	SM	B	Tree appears healthy.	Retain
75	*Willow*	21, 14, 8	4	5	4	5	7	3.2	SM	B	*Tree appears healthy.*	*Fell for development.*
76	*Willow*	23, 14, 12, 12, 15, 21, 18	8	8	8	6	7	5.4	M	C	*Tree appears healthy.*	*Fell for development.*

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
77	Birch	20	3	2	4	4	7	2.4	SM	B	Tree appears healthy.	Fell for development.
78	Willow	9, 8, 22, 8, 10, 10, 9, 12, 9, 10, 9	7	5	6	5	6	4.5	M	B	Tree appears healthy.	Fell for development.
79	Willow	54	5	5	5	4	9	6.5	M	B	Tree appears healthy.	Fell for development.
80	Birch	25	4	3	4	3	10	3.0	M	B	Tree appears healthy.	Fell for development.
81	Willow	22, 17, 14, 10	5	7	6	5	9	3.9	M	C	Tree appears healthy.	Fell for development.
82	Birch	17, 14	4	5	5	3	8	2.6	SM	B	Tree appears healthy.	Fell for development.
83	Sycamore	28	7	4	4	8	10	3.4	SM	B	Tree appears healthy.	Fell for development.
84	Willow	20, 11, 15	5	7	6	4	8	3.3	SM	B	Tree appears healthy.	Fell for development.
85	Willow	14, 11, 14, 13, 12, 10, 18	5	5	6	5	8	4.2	SM	B	Tree appears healthy.	Fell for development.
86	Willow	18, 17, 14, 13	7	2	7	2	8	3.8	M	U	Tree has fallen to southeast in the past, main stem lies on ground, height comes from branch growth.	Fell for development.
87	Willow	15, 16, 17, 19, 16, 27	8	5	7	8	11	5.5	M	B	Tree appears healthy.	Fell for development.
88	Willow	12, 17, 16, 10, 10, 12, 11, 14, 12	5	6	7	4	11	4.6	M	B	Tree appears healthy.	Fell for development.
89	Willow	12, 20, 20, 16	4	5	6	5	9	4.2	M	B	Tree appears healthy.	Fell for development.
90	Birch	20, 8, 12	4	5	2	5	9	3.0	SM	B	Tree appears healthy.	Fell for development.
91	Birch	17	2	4	4	4	8	2.0	SM	B	Tree appears healthy.	Fell for development.
92	Birch	18	5	2	6	6	8	2.2	SM	C	Tree appears healthy.	Fell for development.
93	Ash	18, 12	5	1	6	2	9	2.6	M	C	Tree appears healthy.	Fell for development.
94	Birch	24, 18, 18	2	5	4	4	10	4.2	M	B	Tree appears healthy.	Fell for development.
95	Birch	24	3	4	5	6	10	2.9	M	A	Tree appears healthy.	Fell for development.
96	Willow	27, 11	5	2	3	6	8	3.5	SM	B	Tree appears healthy.	Fell for development.
97	Birch	22, 15	5	4	5	5	10	3.2	SM	C	Tree appears healthy.	Fell for development.
98	Birch	13, 12, 11	3	4	3	5	7	2.5	SM	B	Tree appears healthy.	Fell for development.

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
99	Birch	11, 11	2	3	3	2	7	1.9	SM	B	Tree appears healthy.	Fell for health and safety due to position on dyke.
100	Birch	14, 11, 13	3	2	2	2	8	2.6	SM	B	Tree appears healthy.	Fell for development.
101	Birch	16	4	3	4	4	8	1.9	SM	B	Tree appears healthy.	Fell for development.
102	Birch	22, 12, 14	4	6	5	6	9	3.4	M	C	Tree appears healthy.	Fell for development.
103	Birch	20	6	7	6	6	10	2.4	M	B	Tree appears healthy.	Fell for development.
104	Birch	22, 12	5	5	5	6	9	3.0	SM	B	Tree appears healthy.	Fell for development.
105	Birch	15, 16	5	4	5	5	7	2.6	SM	B	Tree appears healthy.	Fell for development.
106	Birch	20	5	5	4	5	7	2.4	SM	B	Tree appears healthy.	Fell for development.
107	Willow	15, 10, 25	5	6	4	5	9	3.7	SM	B	Tree appears healthy.	Fell for development.
108	Birch	21	6	5	7	5	8	2.5	SM	B	Tree appears healthy.	Fell for development.
109	Birch	19, 12	8	2	5	4	8	2.7	SM	B	Tree appears healthy.	Fell for development.
110	Birch	16, 18, 13	4	4	5	4	10	3.3	SM	B	Tree appears healthy.	Fell for development.
111	Birch	14, 11, 14	3	4	2	3	8	2.7	SM	C	Tree appears healthy.	Fell for development.
112	Birch	14, 16	3	3	3	3	9	2.6	SM	B	Tree appears healthy.	Fell for development.
113	Birch	19	2	5	4	2	9	2.3	SM	B	Tree appears healthy.	Fell for development.
114	Birch	24, 19	4	6	4	6	10	3.7	M	C	Twin-stemmed from 0.5m, western stem broken off at 4.5m, eastern stem broken off at 6m.	Fell for development.
115	Birch	12, 16, 14	4	5	5	5	10	2.9	SM	B	Tree appears healthy.	Fell for development.
116	Birch	17	3	3	2	3	9	2.0	SM	B	Tree appears healthy.	Fell for development.
117	Birch	19	3	3	4	3	11	2.3	SM	A	Tree appears healthy.	Fell for development.
118	Birch	14, 18	3	3	5	4	10	2.7	SM	B	Tree appears healthy.	Fell for development.
119	Birch	22	2	3	3	2	10	2.6	SM	B	Tree appears healthy.	Retain
120	Birch	21	5	6	5	6	10	2.5	SM	B	Tree appears healthy.	Retain
121	Birch	28	3	4	2	3	11	3.4	M	B	Tree appears healthy.	Retain
122	Birch	18	3	3	2	3	9	2.2	SM	B	Tree appears healthy.	Retain

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
123	Birch	17	1	4	2	1	10	2.0	SM	B	Tree appears healthy.	Retain
124	Willow	13, 18	4	5	2	2	10	2.7	SM	B	Tree appears healthy.	Retain
125	Birch	12, 15	2	3	1	4	10	2.3	SM	B	Tree appears healthy.	Retain
126	*Birch*	15, 11, 14	5	4	5	1	*8*	2.8	SM	B	*Tree appears healthy.*	*Fell for development.*
127	*Birch*	29	3	5	5	3	10	3.5	SM	B	*Tree appears healthy.*	*Fell for development.*
128	*Birch*	12, 26	3	5	5	4	11	3.4	SM	B	*Tree appears healthy.*	*Fell for development.*
129	Birch	29	5	6	5	5	10	3.5	SM	B	Tree appears healthy.	Retain
130	Birch	23	4	4	3	3	9	2.8	SM	B	Tree appears healthy.	Retain
131	Birch	20	3	4	4	5	10	2.4	SM	B	Tree appears healthy.	Retain
132	Birch	23	2	4	5	1	10	2.8	SM	B	Tree appears healthy.	Retain
133	Birch	19	2	3	3	3	10	2.3	SM	B	Tree appears healthy.	Retain
134	Birch	18, 16	3	3	4	1	11	2.9	SM	B	Tree appears healthy.	Retain
135	Birch	14, 18	5	4	4	5	11	2.7	SM	B	Twin-stemmed from 1m, further divides at 2m, southeastern limb broken off. Tree appears healthy.	Retain
136	Birch	20	4	3	5	2	11	2.4	SM	B	Tree appears healthy.	Retain
137	Birch	23	4	4	4	5	9	2.8	SM	B	Tree appears healthy.	Retain
138	Birch	23	5	7	6	6	10	2.8	SM	A	Tree appears healthy.	Retain
139	*Beech*	39	9	7	7	7	10	4.7	M	B	*Three-stemmed from 1.,75 and 2m, tree appears healthy.*	*Fell for development.*
139A	*Elm*	20, 23	*8*	6	6	*8*	14	3.7	M	B	*Twin-stemmed from base, tree leans north, growing from base of drystane dyke, appears healthy.*	*Fell for development.*
140	Norway Maple	42, 32, 22, 36	10	10	10	8	10	8.1	M	B	Twin-stemmed from base, multi-stemmed from 1 and 1.2m to form spreading canopy, tree appears healthy.	Retain
141	Beech	36, 22, 11, 14, 54	8	9	8	9	11	8.5	M	C	Original tree uprooted and felled in past, now growing from base of old stump. Multi-stemmed from 0.75m, tree appears healthy.	Retain at present.
142	Sycamore	50	12	12	11	4	12	6.0	M	C	Tree leans northeast with one-sided canopy to northeast due to overshading by neighbouring lime and dead elms. Some dead wood and snags in canopy but tree appears healthy.	Retain at present.
143	Sycamore	39	10	10	12	6	11	4.7	M	C	Tree leans northeast with one-sided canopy to north and east due to overshading neighbouring dead elms. Tree appears healthy.	Retain at present.

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
144	Sycamore	18	4	2	3	4	7	2.2	SM	B	Tree leans north, appears healthy. (This is one of a group of sycamore of similar dimensions in this area.)	Fell for development.
145	Sycamore								SM		Line of sycamore growing from base of drystane dyke.	Fell for development.
146	Sycamore	13 stems	5	5	6	5	10	5.1	SM	B	Multi-stemmed (avg 12cm dia) from base to form spreading canopy, tree appears healthy.	Fell for development.
147	Sycamore	27 stems	6	6	5	6	10	7.8	SM	C	Multi-stemmed (avg 13cm dia) from base to form spreading canopy, some dead wood in centre of clump but tree appears healthy.	Fell for development.
148	Sycamore	11 stems	5	5	7	6	15	5.9	M	C	Originally single-stemmed but fell over to southeast in past, now multi-stemmed from base (avg 13cm dia). Fallen stem has taken root and now multi-stemmed in its own right. Growing on embankment of Inchgarth road, original clump leans north. Some dead wood at base but tree appears healthy.	Fell for development.
149	Sycamore	22	6	5	5	4	8	2.6	SM	B	Tree leans north, grows from base of wall at pavement of Inchgarth road, appears healthy.	Retain
150	Birch	17	1	3	3	2	9	2.0	SM	B	Tree leans south with one-sided canopy to south, appears healthy.	Retain
151	Birch	22	2	4	4	3	10	2.6	SM	B	Tree leans south, appears healthy.	Retain
152	Birch	17	1	3	2	2	10	2.0	SM	B	Tree appears healthy.	Retain
153	Birch	13, 9, 16	2	6	2	2	9	2.7	SM	B	Three-stemmed from 0.75m, southern stem splits to two at 1.75m. Canopy mainly one-sided to south but tree appears healthy.	Retain
200	Norway Maple	73	0	6	5	8	21	8.8	M	C	Twin-stemmed from 3m, tree leans southwest. Canopy suppressed to north, some dead wood, snags, and cavities present, but tree appears healthy.	Fell for development.

The following trees lie outwith the development site -

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
199	Cypress	50					8	6.0		C		
201	Lime	70					23	8.4			Twin-stemmed from 11m, some dead wood and snags in crown but tree appears healthy.	
202	*Elm*	85					20	10.2		***U***	*Tree leans east, growing on top of neighbours retaining wall. Some adventitious growth at base but otherwise tree is dead.*	*Fell.*
203	*Elm*	85					18	10.2		***U***	*Tree leans east, growing on top of neighbouring retaining wall. Tree is dead.*	*Fell.*
204	Sycamore	85					20	10.2			Tree leans east with canopy mainly to east, appears healthy.	
205	Lime	100					23	12.0			Twin-stemmed from 5.5m, canopy mainly one-sided to east, lots of adventitious growth at base. Tree appears healthy.	
206	Sycamore	70					21	8.4			Twin-stemmed from 3.5m, some dead wood and snags but tree appears healthy.	
207	Birch	29					12	3.5			Tall, thin tree with canopy mostly at height, appears healthy.	
208	Birch	46					12	5.5			Twin-stemmed from 3m, tree leans south with canopy mainly one-sided to south, appears healthy.	
209	Sycamore	70					14	8.4			Twin-stemmed from 1.5m, tree leans south, appears healthy.	
210	Pine	42					14	5.0			Tree leans north,canopy mainly one-sided to north, tree appears healthy.	
211	Birch	33					13	4.0			Twin-stemmed from 3m with scarring at divergent angle well calloused, tree appears healthy.	
212	Birch	30					15	3.6			Tree leans northeast, appears healthy.	
213	Birch	15, 17, 20, 11, 10, 12, 15					12	4.7			Multi-stemmed from base, eastern stem leans east, southwestern stem leans south, one central stem is dead and broken off at 2.2m, main central stem appears healthy.	
214	Sycamore	65, 43, 36					14	10.3			Multi-stemmed from 0.75m, further branching at 1.5 and 2m to form spreading canopy. Tree appears healthy.	
215	Ash	12, 15, 27, 23, 22, 9, 21, 27, 22					14	7.4			Multi-stemmed from base, tree appears healthy.	
216	Sycamore	34, 18, 20					12	5.2			Tree leans south, multi-stemmed from base and 0.6m, tree appears healthy.	
217	Sycamore	48					14	5.8			Tree leans south, twin-stemmed from 2m, tree appears healthy.	
218	Sycamore	20, 31, 36, 14, 15, 35, 45					15	9.5			Multi-stemmed from base, adventitious growth from base, some dead wood but tree appears healthy.	

No	Species	Dia at 1.5m (cm)	Canopy Radius (m)				Height (m)	RPA (m)	Age	Class	Description	Action
			N	S	E	W						
219	Birch	35					12	4.2			Tree appears healthy.	
220	Beech	47, 25, 42, 40, 38, 12					14	10.6			Multi-stemmed from 0.5m, some evidence of dead wood but tree appears healthy.	
221	Sycamore	56, 56, 12, 25, 49					15	11.7			Multi-stemmed from base, all stems lean in their respective directions, dominant stems to west and north, some evidence of dead wood and snags but tree appears healthy.	
222	Cherry	26, 40					13	5.7			Twin-stemmed from base, tree appears healthy.	
223	Spruce	32					13	3.8			Growing up through large laurel, canopy mostly at height, but tree appears healthy.	
224	Cypress	25, 23					13	4.1			Three stems from 1.25m, forms canopy with 225, tree appears healthy.	
225	Cypress	25, 39, 22					14	6.2			Three stems from 0.75m, forms canopy with 224, tree appears healthy.	
226	Fir	52					16	6.2			Tree appears healthy.	
227	Fir	45					18	5.4			Ivy becoming dominant in crown but tree appears healthy.	
228	Cherry	86, 35					14	11.1			Twin-stemmed from 1m, multi-stemmed from 1.75m, forms "witches broom"-like clumps in crown but appears healthy.	
229	*Elm*	37					10	4.4		C	*Tree leans east, large limb to north from 0.25m, appears healthy.*	*Fell for health and safety due to position on dyke.*
230	*Elm*	35, 20, 22					11	5.5		C	*Tree growing from edge of pavement, three-stemmed from 1m, some dead wood but tree appears healthy.*	*Fell for health and safety due to position on dyke.*
231	*Sycamore*	35, 33, 29					15	6.7		C	*Twin-stemmed from 0.5m, eastern stem splits into two at 1m, tree grows from top of boundary wall, leans north, appears healthy.*	*Fell for health and safety due to position on dyke.*

Appendix B Adapted from BS: 5837 2012 Trees in Relation to Construction.

Table 1: Cascade chart for tree quality assessment				
Category and definition	**Criteria (including subcategories where appropriate)**			**Identification on plan**
Category U Trees which cannot be retained long term (for longer than 10 years)	• Trees that have a serious structural defect which puts them at risk of collapse, including those that will become unviable after removal of other trees • Trees that are dead or dying • Trees infected with pathogens which could affect the health and/or safety of nearby trees, or very low quality trees which suppress trees of better quality *NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve.*			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
	1 Mainly arboricultural values	**2 Mainly landscape values**	**3 Mainly cultural values, including conservation**	
Category A Trees of high quality and value: in good condition; able to persist for long (a minimum of 40 years).	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups (e.g. the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance.	Trees, groups or woodlands of significant conservation, historical, or other value (e.g. veteran trees)	LIGHT GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees downgraded from category A because of impaired condition (e.g. presence of minor defects, including unsympathetic past management or storm damage).	Collections of trees (in groups or woodlands) with a higher rating than they would have as individuals.	Trees with some conservation or other cultural value	MID BLUE
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, without significantly greater collective landscape value; and/or trees offering low or only temporary landscape benefits	Trees with no conservation or other cultural value	GREY

Appendix C: Drawings

IRC-1708-AA: Arboricultural Assessment
Plan showing positions of all trees, root protection areas and arboricultural assessment.

IRC-1711-TP: Tree Management and Root Protection Areas
Plan showing position of proposed new building, with trees to be felled, root protection areas and tree protection fencing.

IRC-1708-LS: Replacement Planting
Plan showing position of proposed new building, showing retained trees and proposed replacement planting.

Appendix D: Legislation, Guidance and References

Legislation

Town and Country Planning (Scotland) Act 1997 (as amended)
Health & Safety at Work Act 1974
Construction (Design & Management) Regulations 2015
Scottish Government Policy on the Control of Woodland Removal

Appendix E: Professional Qualifications

Nigel Astell has been involved in arboriculture for over 40 years. He holds degrees in Botany and Zoology and is a member of the Arboricultural Association and The Chartered Institute of Environmental and Ecological Management.

Tim Stephen has a BSc (hons) in Ecology from the University of Aberdeen. He has been involved in ecological surveying and monitoring work both in the UK and overseas for four years, and has taught on ecology courses for the University of Aberdeen for the past two years.

Appendix F: Contact Details

Client: Cults Property Development Company Limited

[redacted]

Architect: Fitzgerald + Associates Ltd

[redacted]

Environmental Consultant:

Nigel Astell
Astell Associates

[redacted]

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Nigel Astell
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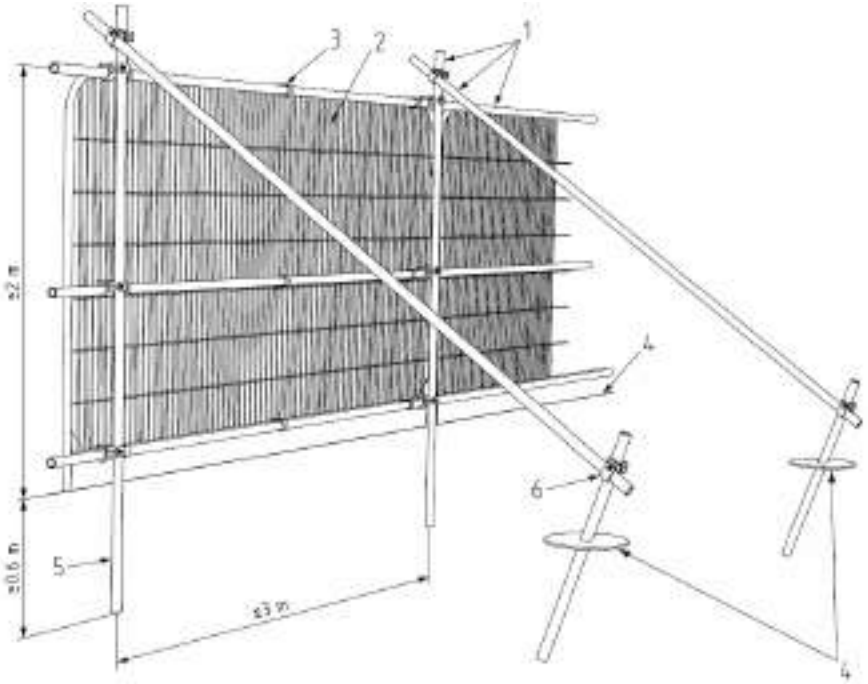
Appendix G Protective Barrier and Ground Protection - BS: 5837 - 2012

Figure 2 which is taken from BS: 5837 2012 “Trees in Relation to Design, Demolition & Construction – Recommendations” illustrate the systems to be employed for ensuring an adequate Construction Exclusion Zone about retained trees. Refer to BS: 5837 2012 for more details.



1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels.
3. Panels secured to uprights and cross members with wire ties.
4. Ground level.
5. Uprights driven into the ground until secure (minimum depth 0.6m)
6. Standard scaffold clamps

Figure 2. Protective Barrier

All-weather notices should be attached to the barrier with words such as: “CONSTRUCTION EXCLUSION ZONE – NO ACCESS”.