



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

- Foul:** A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
- Surface Water:** A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
- Combined:** A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

- Joint
- Trunk Surface Water
- Storm Relief
- Vent Pipe
- Proposed Thames Surface Water Sewer
- Gallery
- Surface Water Rising Main
- Sludge Rising Main
- Vacuum
- Trunk Foul
- Trunk Combined
- Bio-solids (Sludge)
- Trade Effluent
- Proposed Thames Foul Sewer
- Foul Rising Main
- Combined Rising Main
- Proposed Thames Water Rising Main
- Syphon

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) For symbols referred to as 'Other' on this key, please see the plan for further information.
- 5) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- AV** Air Valve
- LH** Lamp Hole
- BS** Blind Shaft
- LS** Lifting Shaft
- CP** Catch Pit
- ME** Meter
- DC** Dam Chase
- RE** Rodding Eye
- DF** Double Flushing Tank / Chamber
- VC** Vent Column
- SF** Single Flushing Tank / Chamber
- VT** Vent
- HB** Hatch Box
- WO** Washout
- Other (specified on plan)

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- BD** Backdrop Manhole
- HY** Hydrobrake
- BV** Butterfly Valve
- PI** Petrol Interceptor
- CL** Clough
- PS** Penstock
- DB** Dam Board
- RV** Reflux Valve
- DP** Drop Pipe
- ST** Step
- DS** Drop Shaft
- SV** Sluice Valve
- FL** Flume
- TA** Tank
- FV** Flap Valve
- WW** Weir
- HW** Headwall
- Other (specified on plan)

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- STW** Effluent Discharge
- Undefined End
- SA** Soakaway
- GU** Gully
- Outfall
- Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

- Public/Private Pumping Station
- Change of characteristic indicator (C.O.C.I.)
- Sewage Treatment Works
- Invert Level
- Summit

Areas

Lines denoting areas of underground surveys, etc.

- Building over Case (BOC No.) or Low Lying Land (LLL No.)
- Sewage Treatment Works or Pumping Station
- Area under Adoption Agreement
- Survey Area
- Drawing Area or chamber
- Licence Area
- Area pending Adoption Agreement
- Other Area (specified on plan)

Other Sewer Types (Not Operated or Maintained by Thames Water)

- Foul Sewer
- Surface Water Sewer
- Combined Sewer
- Highway Drain
- Culverted Watercourse
- Proposed
- Status Unknown
- Abandoned Sewer

Printbox (471124,173453) -> (471632,173961)
Central Mapsheet : SU7173NW
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At (471134, 173613)	there is a MANHOLE with SHORT	NUMBER=1656	COVER=	0.00	INVERT=	-9999.00
At (471137, 173612)	there is a MANHOLE with SHORT	NUMBER=1657	COVER=	42.13	INVERT=	39.43
At (471125, 173639)	there is a MANHOLE with SHORT	NUMBER=1662	COVER=	-9999.00	INVERT=	-9999.00
At (471131, 173711)	there is a MANHOLE with SHORT	NUMBER=1702	COVER=	39.32	INVERT=	36.22
At (471127, 173714)	there is a MANHOLE with SHORT	NUMBER=1752	COVER=	39.25	INVERT=	37.63
At (471138, 173791)	there is a MANHOLE with SHORT	NUMBER=1761	COVER=	-9999.00	INVERT=	36.29
At (471195, 173877)	there is a MANHOLE with SHORT	NUMBER=1802	COVER=	38.03	INVERT=	35.55
At (471198, 173883)	there is a MANHOLE with SHORT	NUMBER=1803	COVER=	37.86	INVERT=	35.57
At (471192, 173875)	there is a MANHOLE with SHORT	NUMBER=1853	COVER=	38.07	INVERT=	35.99
At (471190, 173837)	there is a MANHOLE with SHORT	NUMBER=1856	COVER=	38.45	INVERT=	36.46
At (471221, 173559)	there is a MANHOLE with SHORT	NUMBER=2501	COVER=	44.74	INVERT=	41.58
At (471263, 173564)	there is a MANHOLE with SHORT	NUMBER=2503	COVER=	45.08	INVERT=	41.21
At (471219, 173557)	there is a MANHOLE with SHORT	NUMBER=2551	COVER=	44.67	INVERT=	42.97
At (471270, 173567)	there is a MANHOLE with SHORT	NUMBER=2554	COVER=	45.13	INVERT=	43.01
At (471292, 173503)	there is a MANHOLE with SHORT	NUMBER=2555	COVER=	-9999.00	INVERT=	-9999.00
At (471269, 173739)	there is a MANHOLE with SHORT	NUMBER=2701	COVER=	38.42	INVERT=	34.43
At (471267, 173735)	there is a MANHOLE with SHORT	NUMBER=2751	COVER=	38.40	INVERT=	36.89
At (471209, 173757)	there is a MANHOLE with SHORT	NUMBER=2754	COVER=	-9999.00	INVERT=	-9999.00
At (471283, 173804)	there is a MANHOLE with SHORT	NUMBER=2801	COVER=	39.02	INVERT=	36.60
At (471273, 173810)	there is a MANHOLE with SHORT	NUMBER=2802	COVER=	38.81	INVERT=	36.59
At (471281, 173805)	there is a MANHOLE with SHORT	NUMBER=2851	COVER=	39.01	INVERT=	36.39
At (471219, 173928)	there is a MANHOLE with SHORT	NUMBER=2902	COVER=	37.55	INVERT=	35.75
At (471217, 173962)	there is a MANHOLE with SHORT	NUMBER=2951	COVER=	38.06	INVERT=	36.67
At (471272, 173520)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471274, 173541)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471293, 173559)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471296, 173542)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471215, 173739)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471278, 173522)	there is a MANHOLE with SHORT	NUMBER=	COVER=	-9999.00	INVERT=	-9999.00

Printbox (471124,173453)-> (471632,173961)
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At (471164, 173477)	there is a MANHOLE with SHORT NUMBER=1456	COVER=	44.43	INVERT=	42.66
At (471168, 173577)	there is a MANHOLE with SHORT NUMBER=1501	COVER=	43.40	INVERT=	40.34
At (471162, 173554)	there is a MANHOLE with SHORT NUMBER=1503	COVER=	44.38	INVERT=	41.04
At (471159, 173580)	there is a MANHOLE with SHORT NUMBER=1551	COVER=	43.35	INVERT=	41.10
At (471180, 173554)	there is a MANHOLE with SHORT NUMBER=1552	COVER=	44.50	INVERT=	41.85
At (471141, 173670)	there is a MANHOLE with SHORT NUMBER=1602	COVER=	39.48	INVERT=	37.13
At (471138, 173620)	there is a MANHOLE with SHORT NUMBER=1606	COVER=	0.00	INVERT=	-9999.00
At (471172, 173641)	there is a MANHOLE with SHORT NUMBER=1607	COVER=	43.34	INVERT=	40.40
At (471145, 173672)	there is a MANHOLE with SHORT NUMBER=1652	COVER=	39.44	INVERT=	38.24
At (471158, 173779)	there is a MANHOLE with SHORT NUMBER=1701	COVER=	0.00	INVERT=	-9999.00
At (471150, 173772)	there is a MANHOLE with SHORT NUMBER=1751	COVER=	0.00	INVERT=	-9999.00
At (471181, 173838)	there is a MANHOLE with SHORT NUMBER=1805	COVER=	38.45	INVERT=	35.43
At (471176, 173845)	there is a MANHOLE with SHORT NUMBER=1854	COVER=	38.31	INVERT=	36.21
At (471296, 173496)	there is a MANHOLE with SHORT NUMBER=2455	COVER=	0.00	INVERT=	0.00
At (471291, 173489)	there is a MANHOLE with SHORT NUMBER=2456	COVER=	0.00	INVERT=	0.00
At (471277, 173484)	there is a MANHOLE with SHORT NUMBER=2458	COVER=	0.00	INVERT=	0.00
At (471240, 173547)	there is a MANHOLE with SHORT NUMBER=2502	COVER=	44.93	INVERT=	41.96
At (471237, 173563)	there is a MANHOLE with SHORT NUMBER=2552	COVER=	44.85	INVERT=	42.93
At (471261, 173566)	there is a MANHOLE with SHORT NUMBER=2553	COVER=	44.94	INVERT=	42.74
At (471251, 173529)	there is a MANHOLE with SHORT NUMBER=2556	COVER=	-9999.00	INVERT=	-9999.00
At (471282, 173508)	there is a MANHOLE with SHORT NUMBER=2557	COVER=	-9999.00	INVERT=	-9999.00
At (471252, 173653)	there is a MANHOLE with SHORT NUMBER=2601	COVER=	41.69	INVERT=	38.63
At (471221, 173615)	there is a MANHOLE with SHORT NUMBER=2602	COVER=	44.09	INVERT=	41.59
At (471255, 173662)	there is a MANHOLE with SHORT NUMBER=2651	COVER=	41.08	INVERT=	39.26
At (471235, 173673)	there is a MANHOLE with SHORT NUMBER=2653	COVER=	40.43	INVERT=	39.04
At (471262, 173703)	there is a MANHOLE with SHORT NUMBER=2702	COVER=	38.93	INVERT=	36.87
At (471261, 173705)	there is a MANHOLE with SHORT NUMBER=2752	COVER=	38.90	INVERT=	37.14
At (471262, 173706)	there is a MANHOLE with SHORT NUMBER=2753	COVER=	38.85	INVERT=	37.12
At (471257, 173811)	there is a MANHOLE with SHORT NUMBER=2803	COVER=	38.61	INVERT=	36.58
At (471361, 173460)	there is a MANHOLE with SHORT NUMBER=3451	COVER=	45.34	INVERT=	44.52
At (471302, 173485)	there is a MANHOLE with SHORT NUMBER=3455	COVER=	0.00	INVERT=	0.00
At (471319, 173571)	there is a MANHOLE with SHORT NUMBER=3501	COVER=	45.42	INVERT=	41.65
At (471367, 173577)	there is a MANHOLE with SHORT NUMBER=3502	COVER=	45.59	INVERT=	41.92
At (471310, 173572)	there is a MANHOLE with SHORT NUMBER=3551	COVER=	45.36	INVERT=	43.37
At (471318, 173573)	there is a MANHOLE with SHORT NUMBER=3552	COVER=	45.43	INVERT=	43.40
At (471346, 173577)	there is a MANHOLE with SHORT NUMBER=3553	COVER=	45.49	INVERT=	43.51
At (471338, 173689)	there is a MANHOLE with SHORT NUMBER=3601	COVER=	39.03	INVERT=	36.67
At (471313, 173694)	there is a MANHOLE with SHORT NUMBER=3602	COVER=	38.96	INVERT=	36.25
At (471358, 173694)	there is a MANHOLE with SHORT NUMBER=3651	COVER=	39.09	INVERT=	37.42
At (471363, 173695)	there is a MANHOLE with SHORT NUMBER=3652	COVER=	39.08	INVERT=	37.54
At (471340, 173688)	there is a MANHOLE with SHORT NUMBER=3653	COVER=	39.07	INVERT=	37.54
At (471332, 173692)	there is a MANHOLE with SHORT NUMBER=3654	COVER=	39.02	INVERT=	37.52
At (471317, 173694)	there is a MANHOLE with SHORT NUMBER=3655	COVER=	38.96	INVERT=	37.43
At (471351, 173729)	there is a MANHOLE with SHORT NUMBER=3702	COVER=	38.80	INVERT=	-9999.00
At (471365, 173796)	there is a MANHOLE with SHORT NUMBER=3751	COVER=	42.39	INVERT=	36.71
At (471297, 173541)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471238, 173653)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471297, 173536)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471130, 173552)	there is a MANHOLE with SHORT NUMBER=1502	COVER=	44.36	INVERT=	40.65
At (471131, 173549)	there is a MANHOLE with SHORT NUMBER=1553	COVER=	44.31	INVERT=	41.19
At (471136, 173619)	there is a MANHOLE with SHORT NUMBER=1605	COVER=	42.88	INVERT=	38.69

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At (471185, 173841)	there is a MANHOLE with SHORT NUMBER=1858	COVER=	38.38	INVERT=	-9999.00
At (471382, 173457)	there is a MANHOLE with SHORT NUMBER=3401	COVER=	45.28	INVERT=	41.81
At (471376, 173463)	there is a MANHOLE with SHORT NUMBER=3450	COVER=	45.35	INVERT=	44.17
At (471490, 173464)	there is a MANHOLE with SHORT NUMBER=4401	COVER=	45.00	INVERT=	41.14
At (471427, 173470)	there is a MANHOLE with SHORT NUMBER=4402	COVER=	45.10	INVERT=	41.57
At (471445, 173460)	there is a MANHOLE with SHORT NUMBER=4451	COVER=	45.02	INVERT=	43.68
At (471446, 173471)	there is a MANHOLE with SHORT NUMBER=4452	COVER=	45.03	INVERT=	43.72
At (471428, 173475)	there is a MANHOLE with SHORT NUMBER=4453	COVER=	45.02	INVERT=	43.81
At (471441, 173459)	there is a MANHOLE with SHORT NUMBER=4454	COVER=	44.93	INVERT=	42.33
At (471444, 173458)	there is a MANHOLE with SHORT NUMBER=4457	COVER=	0.00	INVERT=	0.00
At (471492, 173471)	there is a MANHOLE with SHORT NUMBER=4460	COVER=	0.00	INVERT=	0.00
At (471431, 173584)	there is a MANHOLE with SHORT NUMBER=4501	COVER=	45.54	INVERT=	42.35
At (471420, 173551)	there is a MANHOLE with SHORT NUMBER=4502	COVER=	45.53	INVERT=	-9999.00
At (471446, 173586)	there is a MANHOLE with SHORT NUMBER=4503	COVER=	0.00	INVERT=	-9999.00
At (471411, 173585)	there is a MANHOLE with SHORT NUMBER=4551	COVER=	45.62	INVERT=	43.90
At (471422, 173549)	there is a MANHOLE with SHORT NUMBER=4552	COVER=	45.52	INVERT=	-9999.00
At (471427, 173501)	there is a MANHOLE with SHORT NUMBER=4553	COVER=	0.00	INVERT=	-9999.00
At (471421, 173556)	there is a MANHOLE with SHORT NUMBER=4556	COVER=	-9999.00	INVERT=	-9999.00
At (471417, 173562)	there is a MANHOLE with SHORT NUMBER=4557	COVER=	-9999.00	INVERT=	-9999.00
At (471410, 173562)	there is a MANHOLE with SHORT NUMBER=4558	COVER=	-9999.00	INVERT=	-9999.00
At (471420, 173676)	there is a MANHOLE with SHORT NUMBER=4606	COVER=	41.29	INVERT=	39.93
At (471426, 173639)	there is a MANHOLE with SHORT NUMBER=4652	COVER=	44.08	INVERT=	42.78
At (471422, 173660)	there is a MANHOLE with SHORT NUMBER=4653	COVER=	42.67	INVERT=	41.26
At (471413, 173697)	there is a MANHOLE with SHORT NUMBER=4654	COVER=	39.53	INVERT=	-9999.00
At (471413, 173699)	there is a MANHOLE with SHORT NUMBER=4655	COVER=	39.49	INVERT=	38.06
At (471428, 173622)	there is a MANHOLE with SHORT NUMBER=4656	COVER=	0.00	INVERT=	-9999.00
At (471479, 173679)	there is a MANHOLE with SHORT NUMBER=4659	COVER=	-9999.00	INVERT=	-9999.00
At (471446, 173781)	there is a MANHOLE with SHORT NUMBER=4702	COVER=	0.00	INVERT=	-9999.00
At (471492, 173727)	there is a MANHOLE with SHORT NUMBER=4705	COVER=	44.01	INVERT=	34.08
At (471416, 173727)	there is a MANHOLE with SHORT NUMBER=4706	COVER=	38.12	INVERT=	-9999.00
At (471492, 173720)	there is a MANHOLE with SHORT NUMBER=4707	COVER=	44.01	INVERT=	39.53
At (471494, 173763)	there is a MANHOLE with SHORT NUMBER=4751	COVER=	43.65	INVERT=	40.84
At (471470, 173782)	there is a MANHOLE with SHORT NUMBER=4752	COVER=	0.00	INVERT=	-9999.00
At (471437, 173787)	there is a MANHOLE with SHORT NUMBER=4753	COVER=	0.00	INVERT=	-9999.00
At (471477, 173703)	there is a MANHOLE with SHORT NUMBER=4756	COVER=	-9999.00	INVERT=	-9999.00
At (471493, 173706)	there is a MANHOLE with SHORT NUMBER=4757	COVER=	-9999.00	INVERT=	-9999.00
At (471492, 173725)	there is a MANHOLE with SHORT NUMBER=4758	COVER=	-9999.00	INVERT=	-9999.00
At (471512, 173460)	there is a MANHOLE with SHORT NUMBER=5401	COVER=	44.99	INVERT=	41.12
At (471551, 173458)	there is a MANHOLE with SHORT NUMBER=5402	COVER=	44.80	INVERT=	40.83
At (471551, 173465)	there is a MANHOLE with SHORT NUMBER=5450	COVER=	44.76	INVERT=	43.18
At (471556, 173489)	there is a MANHOLE with SHORT NUMBER=5451	COVER=	0.00	INVERT=	0.00
At (471525, 173485)	there is a MANHOLE with SHORT NUMBER=54NK	COVER=	0.00	INVERT=	0.00
At (471507, 173651)	there is a MANHOLE with SHORT NUMBER=5601	COVER=	44.61	INVERT=	40.83
At (471504, 173716)	there is a MANHOLE with SHORT NUMBER=5602	COVER=	45.13	INVERT=	0.00
At (471473, 173577)	there is a MANHOLE with SHORT NUMBER=5701	COVER=	44.08	INVERT=	39.83
At (471473, 173577)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471495, 173631)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471491, 173525)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471164, 173483)	there is a MANHOLE with SHORT NUMBER=1405	COVER=	0.00	INVERT=	0.00
At (471165, 173469)	there is a MANHOLE with SHORT NUMBER=1455	COVER=	44.43	INVERT=	42.80

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At (471181,173880)	there is a MANHOLE with SHORT	NUMBER=1852	COVER=	38.37	INVERT=	-9999.00
At (471150,173822)	there is a MANHOLE with SHORT	NUMBER=1861	COVER=	38.50	INVERT=	36.63
At (471131,173835)	there is a MANHOLE with SHORT	NUMBER=1862	COVER=	38.34	INVERT=	34.40
At (471135,173832)	there is a MANHOLE with SHORT	NUMBER=1863	COVER=	38.36	INVERT=	34.40
At (471291,173493)	there is a MANHOLE with SHORT	NUMBER=2457	COVER=	0.00	INVERT=	0.00
At (471225,173931)	there is a MANHOLE with SHORT	NUMBER=2952	COVER=	37.60	INVERT=	-9999.00
At (471235,173956)	there is a MANHOLE with SHORT	NUMBER=2953	COVER=	37.83	INVERT=	-9999.00
At (471382,173952)	there is a MANHOLE with SHORT	NUMBER=3951	COVER=	37.92	INVERT=	35.83
At (471444,173783)	there is a MANHOLE with SHORT	NUMBER=4701	COVER=	0.00	INVERT=	-9999.00
At (471465,173795)	there is a MANHOLE with SHORT	NUMBER=4703	COVER=	0.00	INVERT=	-9999.00
At (471461,173781)	there is a MANHOLE with SHORT	NUMBER=4704	COVER=	0.00	INVERT=	-9999.00
At (471405,173940)	there is a MANHOLE with SHORT	NUMBER=4951	COVER=	37.92	INVERT=	35.82
At (471511,173589)	there is a MANHOLE with SHORT	NUMBER=5501	COVER=	45.39	INVERT=	0.00
At (471518,173589)	there is a MANHOLE with SHORT	NUMBER=5502	COVER=	45.29	INVERT=	41.75
At (471515,173556)	there is a MANHOLE with SHORT	NUMBER=5503	COVER=	45.17	INVERT=	41.91
At (471512,173509)	there is a MANHOLE with SHORT	NUMBER=5504	COVER=	45.12	INVERT=	41.59
At (471569,173558)	there is a MANHOLE with SHORT	NUMBER=5505	COVER=	45.13	INVERT=	42.55
At (471578,173579)	there is a MANHOLE with SHORT	NUMBER=5551	COVER=	44.92	INVERT=	43.39
At (471514,173559)	there is a MANHOLE with SHORT	NUMBER=5553	COVER=	45.17	INVERT=	43.99
At (471537,173567)	there is a MANHOLE with SHORT	NUMBER=5555	COVER=	0.00	INVERT=	0.00
At (471552,173569)	there is a MANHOLE with SHORT	NUMBER=5557	COVER=	0.00	INVERT=	0.00
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At (471620,173619)	there is a MANHOLE with SHORT	NUMBER=66LH	COVER=	0.00	INVERT=	0.00
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Sewer Flooding

History Enquiry



Waterman Transport & Development Infrastructures

Clink Street

Search address supplied Station Hill
Reading
RG1 1NR

Your reference CIV13174 140616 DODTW

Our reference SFH/SFH Standard/2014_2795416

Received date **18 June 2014**

Search date **18 June 2014**

Thames Water Utilities Ltd

Property Searches
PO Box 3189
Slough SL1 4WW

DX 151280 Slough 13

T 0118 925 1504
E searches@thameswater.co.uk
I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Sewer Flooding

History Enquiry



Search address supplied: Station Hill, Reading, RG1 1NR

This search is recommended to check for any sewer flooding in a specific address or area

TWUL, trading as Property Searches, are responsible in respect of the following:-

- (i) any negligent or incorrect entry in the records searched;
- (ii) any negligent or incorrect interpretation of the records searched;
- (iii) and any negligent or incorrect recording of that interpretation in the search report
- (iv) compensation payments

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Reading RG1 8DB

Sewer Flooding

History Enquiry



History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is “overloaded” when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- “Internal flooding” from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- “At Risk” properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company’s reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0845 9200 800 or website www.thameswater.co.uk

Thames Water Utilities Ltd

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Reading RG1 8DB



E. Hoare Lea Below Ground Drainage Design Note

DESIGN NOTE



PROJECT STATION HILL

SUBJECT Below Ground Drainage Design Note

TO Watermans/ Stanhope

AUTHOR Catherine McDonald/ David Matthews

DATE 21st March 2013

OUR REF 0511464

The local below ground drainage infrastructure is owned and maintained by Thames Water Utilities Ltd (TWU). Please note that utility providers do not record privately owned sewers, which have been located (via survey) along Merchants Place. An extract of the TWU asset map is shown below in Figure 1.



Figure 1: Extract from Thames Water record info.

DESIGN NOTE



An existing primary combined sewer runs from West to East circa 4m below the existing buildings onsite. The developments above and adjacent to the site connect to this sewer that is considered important to the Thames Water network. The primary sewer has been surveyed and is considered to be on good condition however some of the braches connected to the sewer are in poor condition. In order to develop over the sewer, the architectural and structural designs will need to cater for a 3m (either side of centre line) easement zone and the proposal will need to be accepted by Thames water to allow them to issue a 'Build over agreement' . Some amendments to the existing primary sewer and branches will be required to accommodate the build over agreement. Alternatively, the sewer could be diverted to Garrard Street.

Implications of Sewer Remaining

The sewer is currently built over. However, the proposed buildings, in particular D, will affect the current man-hole access. Therefore TWU will want to enter into a new agreement with the developer to incorporate the following:

- Legal agreement granting an easement to and indemnifying Thames Water.
- The structural solution will need to satisfy TWU's criteria (pile type, location and cover).
- The space planning solution will need to satisfy TWU's criteria (to be agreed, but worse case - full access, 3m min headroom, liftable concrete channel cover, space not for storage of habitable use).

The project team will engage with TWU to see if the above criteria can be met.



DESIGN NOTE



Sewer relocation

TWU have completed a feasibility report as an initial overview to relocating the sewer to Garrard Street. The report contains a number of risks (routing, length of diversion, type of construction, re-convection of existing drains to the sewer etc). The project team need to take ownership of these risks and engage with TWU to see how they can be managed.

To proceed with the design of the sewer diversion to pre-construction stage and arrive at a final contribution cost TWU require payment of £49k. Their advised design period is 20 weeks and 6 weeks to tender and 20 weeks to construct.

Note that the TWU feasibility report does not take into account other services diversion to allow the proposed 1050mm diameter concrete pipe.

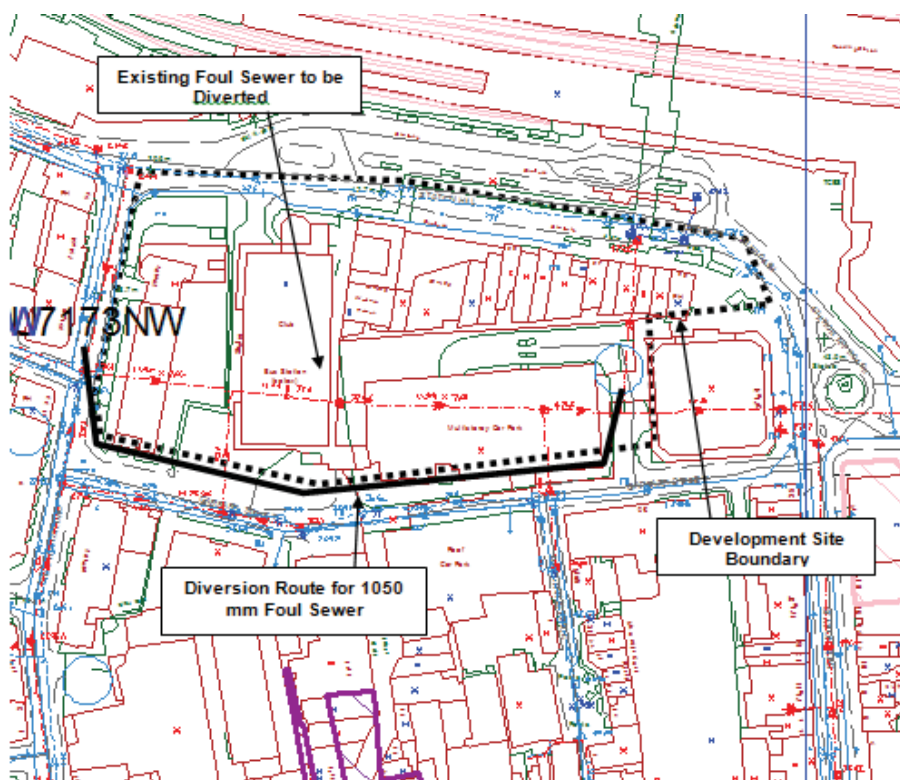


Figure 3: TWU proposed diversion route.

CCTV Survey

To assess the condition of the local sewers, a full CCTV survey has been completed to determine the condition of the existing pipes.

In summary, the main 1150x750mm diameter sewer running west to east is in reasonable condition and is not in need of any major repairs. There is an unidentified tank located below Xafinty House, that needs to be fully traced and decommissioned.

There is a 225mm diameter sewer running east to west along Garrard street before running south to north before proposed building D. This sewer is in poor condition and will need repairing by TWU and relocating to suit the proposed development.

DESIGN NOTE

In addition to the main sewer, the sewers in Friar Street and Merchants Place were also surveyed. The survey highlighted that there are considerable Private sewers along Merchants Place of which most are in poor condition. The TWU sewers were generally in good condition and suitable for amending to accommodate the new supplies.

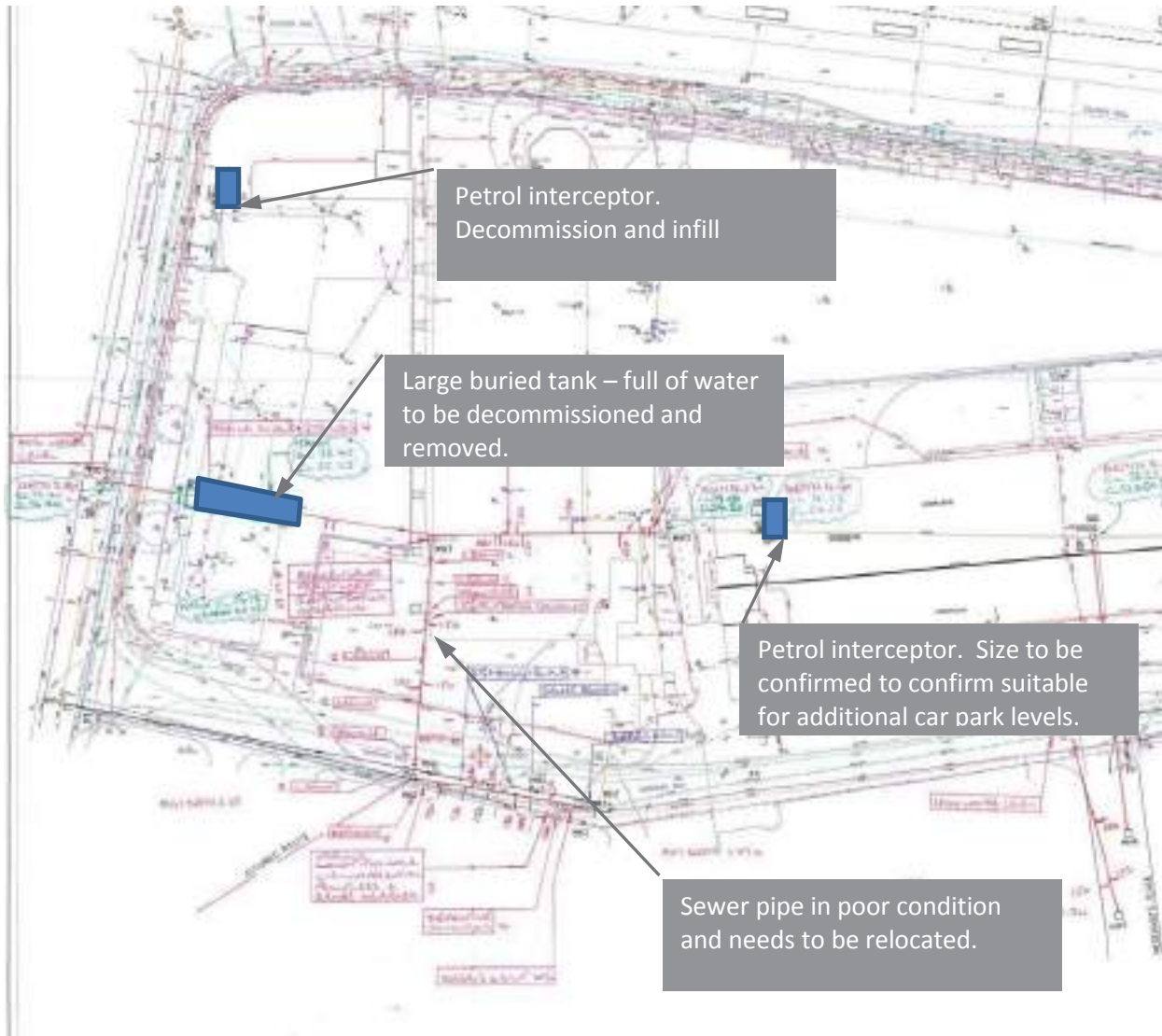
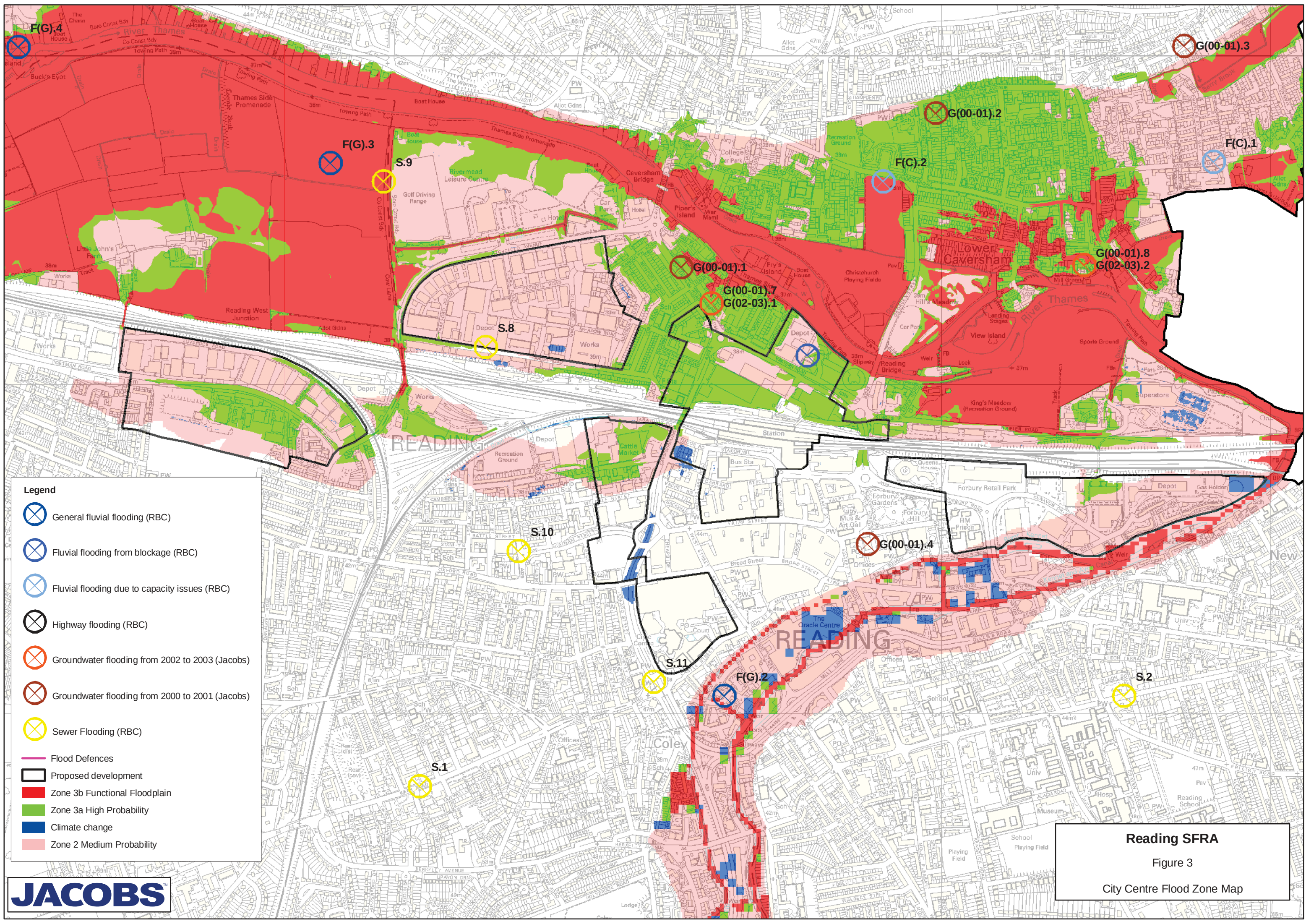


Figure 4: Extract from CCTV survey

F. Reading Council's Strategic Flood Risk Assessment Map



Legend

- General fluvial flooding (RBC)
- Fluvial flooding from blockage (RBC)
- Fluvial flooding due to capacity issues (RBC)
- Highway flooding (RBC)
- Groundwater flooding from 2002 to 2003 (Jacobs)
- Groundwater flooding from 2000 to 2001 (Jacobs)
- Sewer Flooding (RBC)
- Flood Defences
- Proposed development
- Zone 3b Functional Floodplain
- Zone 3a High Probability
- Climate change
- Zone 2 Medium Probability



Reading SFRA
Figure 3
City Centre Flood Zone Map



G. Hoare Lea Stormwater Drainage Strategy



Redevelopment of Station Hill & Garrard Street Reading

Stormwater Drainage Strategy – Revision D 13-07-15

1. Background

- 1.1 A large, phased development of the area south of Reading Station is proposed. Existing buildings will be demolished and reconstructed to a different pattern, with areas of hard landscaping breaking up the development into a series of large blocks annotated Blocks A – F(See Figure 1).
- 1.2 This strategy looks at how the whole development can be drained whilst meeting run-off constraints that are likely to be imposed by the approving authorities. There has been a series of communications over a number of years during the gestation of the scheme between Waterman and the Environment Agency (EA) regarding the proposed run-off. The EA have stated that they would wish to see a PPS25 (now superseded by the National Planning Policy Framework (NPPF) and associated technical guidance) approach to the drainage design with allowances for climate change of 30%, based on assuming a 100 year design life for residential elements of the project.
- 1.3 Discussions have taken place between Hoare Lea and Thames Water to establish their outline requirements subject to a formal developer enquiry and/or Section 106 connection application. It has been agreed that for initial design guidance the same parameters as recently approved for a large Hoare Lea project in Bracknell can be assumed. This would limit the discharge to the lesser of the 1 year, 30minute run-off or the surcharged capacity of the existing discharge drain(s).

2. SUDs Options Considered

- 2.1 SUDs Options for this highly urbanised site are limited and the options considered are tabulated as follows:

Option	Site Constraints/Opportunities
Infiltration/Soakaways	The site has a history of previous uses with a potential risk of contamination. Soakaways could mobilise contaminants through creation of groundwater flows. Much of the site will be occupied by foundations for the new structures and with the size of soakaways required, there may be a risk of affecting groundbearing slabs and footings.
Swales or other shallow storage	Insufficient space to create large areas of soft landscaping together with concerns over public safety and ongoing maintenance issues.
Permeable surfaces	Similar perceived risk of contamination mobilisation as the soakaway option. Programming and services installation difficulties with permeable paving build-ups and concerns over long term performance in heavily used public realm areas with regular use of cleaning plant.
Ponds/Wetlands	Insufficient space and concerns over public safety and ongoing maintenance issues.

Option	Site Constraints/Opportunities
Attenuation Storage	Potential option using sealed units positioned away from foundation zones
Green Roofs	Green/brown roofs may help to reduce peak run-off by lengthening the rainfall hydrograph. As a precautionary measure at this stage no allowance for green/brown roofs has been included in the calculations

- 2.2 The above table demonstrates the limited opportunities for true SUDs provision for the new development, the most viable option being attenuation to control and manage the rate of run-off into the receiving drainage system.

3. Design Methodology

- 3.1 Based on the run-off constraints outlined in Section 2 we have developed a stormwater control strategy that considers the phasing proposals and provides a series of individual attenuation volumes and flow controls to serve each development plot. Included in each catchment is an amount of associated hard landscaping/public realm area. Existing adopted highway land has not been included in the calculation of attenuation volumes as it is assumed to drain as existing albeit via renewed gullies and channels forming part of the new paving scheme. The catchment areas used to determine the run-off in each case are shown in Figure 1 and the areas are tabulated below.
- 3.2 To assess the pre development 1 year 30 minute storm run-off we have used the Flood Estimation Handbook (FEH) to establish the appropriate rainfall depth. For comparison we have also calculated the 100 year 30 min. run-off. The results are tabulated in Section 5.
- 3.3 For each catchment we have calculated the range of storage volumes that may be required including a 30% addition to the rainfall figures to account for climate change. This has been done using Microdrainage 'quick storage calculation', which gives an upper and lower range of potential storage. The actual storage will depend on site topography and detailed hydraulic design of the storage and controls. We have run a check on one of the catchments to gauge whether the range of storage volumes is realistic given the actual site levels and using a hydrobrake flow control on the outlet of a typical storage tank. The storage and flow rates correlated fairly accurately so we consider the use of the larger storage volume in the 'quick storage estimate' is a reasonable, slightly conservative approach at this stage in the design process.
- 3.4 The attenuation storage is designed to accommodate a 100year storm event including 30% climate change on the basis that the scheme is seeking a BREEAM 'Excellent' rating, which requires 100 year storage where attenuation needs to be provided. Should any of the storage be adopted, agreement will need to be sought with Thames Water for adoption in excess of the 30 year volume, which is normally their maximum statutory requirement.
- 3.5 In order to establish the approximate plan area of each attenuation storage volume we have assumed the construction would be 1.2m deep using either cellular crates or a proprietary system such as 'Carlow' pre cast concrete tank. The design used will depend on whether the attenuation is to be adopted by Thames Water, who normally do not adopt cellular tanks due to perceived maintenance problems. The tank sizes are tabulated below and indicated in sketch form on the drainage scheme shown in Figure 2.

4. Calculation of Pre development run-off rates

Project: **Station Hill Reading** Date: **June 2014**
OSGR: **E471457 N173667**

The Rational Formula: $Q_p = C_i A$ (formula 7.18 Wallingford Procedure Vol. 1)

Where Q_p = discharge rate

C = Coefficient where $C = C_v \times C_r$ (C_v =volumetric run-off coefficient & C_r =routing coefficient) (formula 7.19)

i = rainfall intensity mm/hr

$\bar{i}$ = mean rainfall intensity mm/hr

A = Area (ha) = (drained hard paved area, refer to drawing CSK2 for zones).

For Q_p in litres per second the formula becomes $Q_p = C_i A \div 0.36$

Determination of C :

From Wallingford Procedure Vol.1 $C_v = 0.9$ for full urbanised catchment and $C_r = 1.3$.
 $\therefore C = 1.17$

The storm duration will be taken as 30 minutes as initially agreed with Thames Water

Determination of i from FEH CD ROM

1 year 30 min. rainfall depth = 11.4mm $\therefore$ mean rainfall for design = 22.8mm/hr

30 year 30 min. rainfall depth = 34.2mm $\therefore$ mean rainfall for design = 68.4mm/hr

100 year 30 min. rainfall depth = 50.5mm $\therefore$ mean rainfall for design = 101mm/hr

5. Post development run-off

- 5.1 The following table shows the 1 year 30min. duration storm run-off rate, the 100 year 30 minute run-off (for comparison) and the range of attenuation storage volumes that result assuming up to the 100 year (1% annual probability) storms are attenuated to match the 1 year 30min flow rate. The resulting storage volumes are indicated in their preliminary locations on the site plan shown in Figure 2.

Plot	Area m2	% imp. area	Imp. area m2	1 yr 30min. discharge l/s	100yr 30min.** discharge (un-attenuated) l/s	Storage min (inc. 30% climate change) m3	Storage max (inc. 30% climate change) m3	Storage width x length x depth(m)	Post development run-off limited to: l/s
A	2397	100	2397	17.76	78.68	47.00	83.00	23x3x1.2	17.76
B	2672	100	2672	19.80	87.71	55.00	96.00	27x3x1.2	19.80
C	4859	100	4859	36.01	159.50	137.00	212.00	34x4x1.5	36.01
D	2119	100	2119	15.70	69.56	39.00	69.00	19x3x1.2	15.70
E	5731	100	5731	42.47	188.12	112.00	197.00	10x17x1.2	42.47
F	2721	100	2721	20.16	89.32	53.00	94.00	5x16x1.2	20.16
** for illustration purposes only									



Figure 1. Drainage Catchment Areas

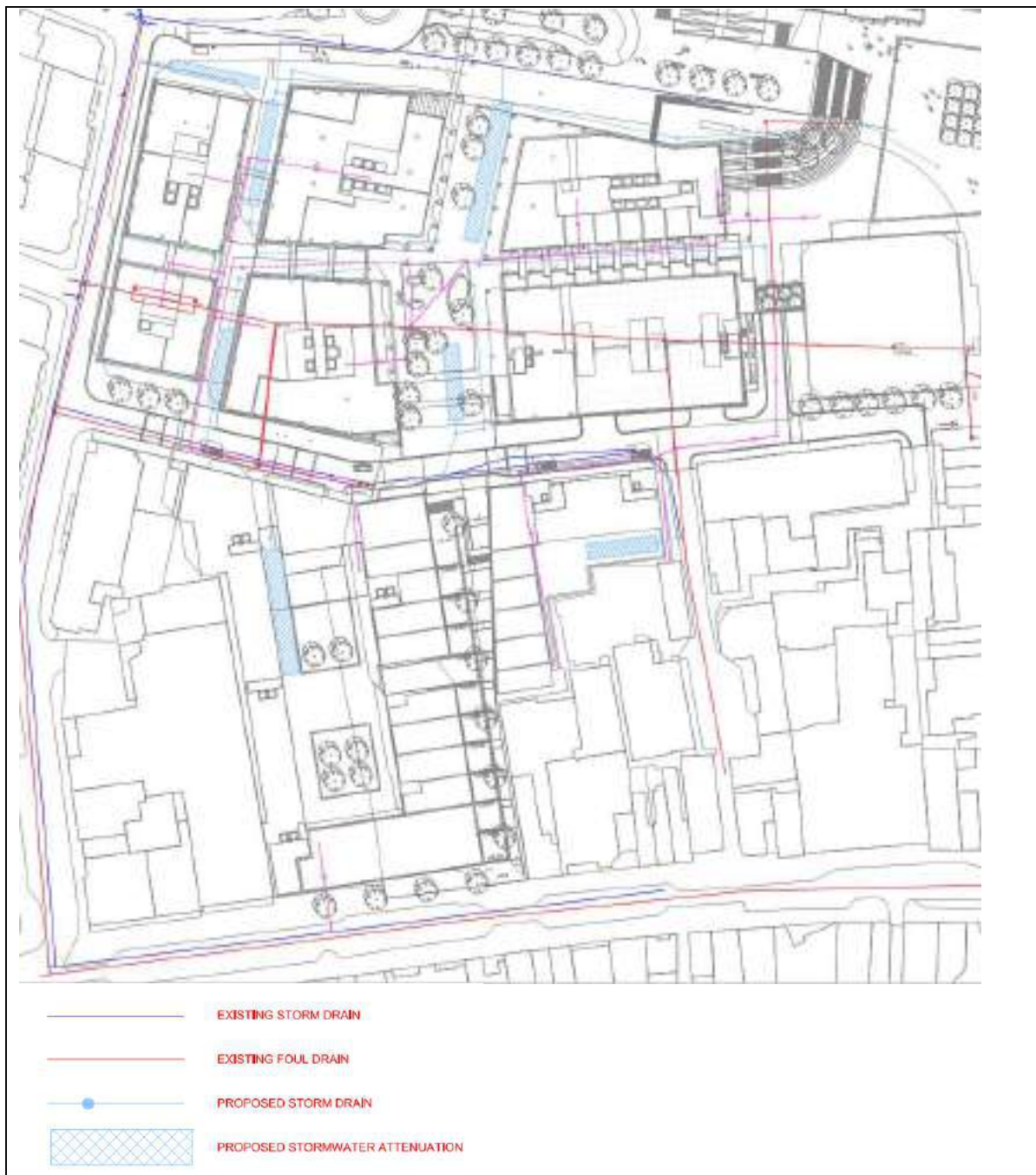


Figure 2. Indicative Storm Drainage Scheme Layout (based on 100yr 30min. max. storage volumes).

UK and Ireland Office Locations



Appendix 13.2

Surface Water Drainage Strategy: Temporary Flexible Events Space (March 2013)

Surface Water Drainage Strategy

Station Hill, Reading - Temporary Flexible Events Space

March 2013

Waterman Energy, Environment & Design Limited

Pickfords Wharf, Clink Street, London, SE1 9DG, United Kingdom

www.watermangroup.com

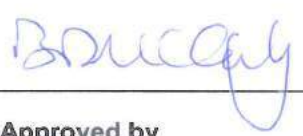
Surface Water Drainage Strategy

Station Hill, Reading - Temporary Flexible Events Space

Client Name: Sackville Developments (Reading) Ltd
Document Reference: CIV13174 130208
Project Number: CIV13174 (EED12350-109)

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
 Waterman Group's IMS (BS EN ISO 9001: 2008 and BS EN ISO 14001: 2004)

Issue	Date	Prepared by	Checked by	Approved by
A02	27.03.13	Beata Libiszewska Senior Engineer	Nicole Quail Principal Consultant	Brendan McCarthy Associate Director
Comments		 Final report		
Issue	Date	Prepared by	Checked by	Approved by
A01	12.03.13	Beata Libiszewska Senior Engineer	Nicole Quail Principal Consultant	Brendan McCarthy Associate Director
Comments		Draft for legal review		

Our Markets



Property & Buildings



Transport & Infrastructure



Energy & Utilities



Environment

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3. Development Proposal.....	2
4. Surface Water Drainage	3
5. Conclusions	3

1. Introduction

- 1.1. Waterman have been commissioned to provide a surface water strategy for the Temporary Flexible Event Space at the Station Hill, in Central Reading. The site location is given in Figure 1, and hereafter referred to as the 'Site'). The National Grid Reference for the site is 471400, 173760.

2. Site Description

- 2.1. The Site is located directly to the south of the Reading Mainline Station in Reading town centre and is centred on National Grid Reference (NGR) 471388 173767. The Site has an area of approximately 0.35 hectares (ha) and is bound by:
- Station Hill and Reading Mainline Station to the north;
 - NCP Car Park and Garrard Street to the south;
 - Former central bus station and former vacant bingo hall above to the west; and
 - The vacant eleven storey Thames Tower office building to the east.
- 2.2. The existing Site comprises of two largely vacant buildings: a low rise building orientated in east-west direction and the Western Tower building, as shown on Figure 1 in Appendix A. The remainder of the Site is covered by tarmac. The Site is currently 100% impermeable
- 2.3. The topographic survey shows that the Site slopes in south-westerly direction;
- from 47.3m AOD to 42.3m AOD along the southern boundary; and
 - from 46.8m AOD to 41.8m AOD from north to south.

3. Development Proposal

- 3.1. The proposals for the Site (hereafter referred to as the 'Development') comprise a temporary flexible event space to be provided prior to the proposed redevelopment of the wider Station Hill site. The proposals comprise demolition of the former Station Hill retail parade (including 26 to 58 Station Hill) to create a landscaped area and multipurpose events platform for temporary uses (Use Classes A1 to A5, D1, D2 and *Sui Generis*). In addition, works of hard and soft landscaping and other incidental works are proposed.
- 3.2. The proposed Development is shown in Figure 2 in Appendix A.
- 3.3. It is proposed that 0.02 ha of the Site would comprise a raised lawn with further 0.027ha planted along the southern edge of the Site. As a result of this, the area of hard landscaping will decrease by 13.4% from the existing situation.

4. Surface Water Drainage

Current Drainage Regime

- 4.1. It is assumed from the contours shown on the masterplan (Appendix A) that surface water currently discharges into the Thames Water via surface water sewers located immediately to the north and east of the Site.
- 4.2. A 300mm diameter surface water sewer which serves the existing Site runs along Station Hill and Station Approach in a westerly direction.

Proposed Drainage Regime

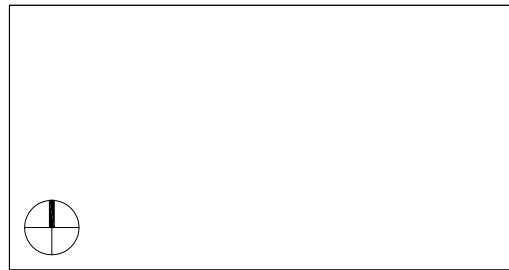
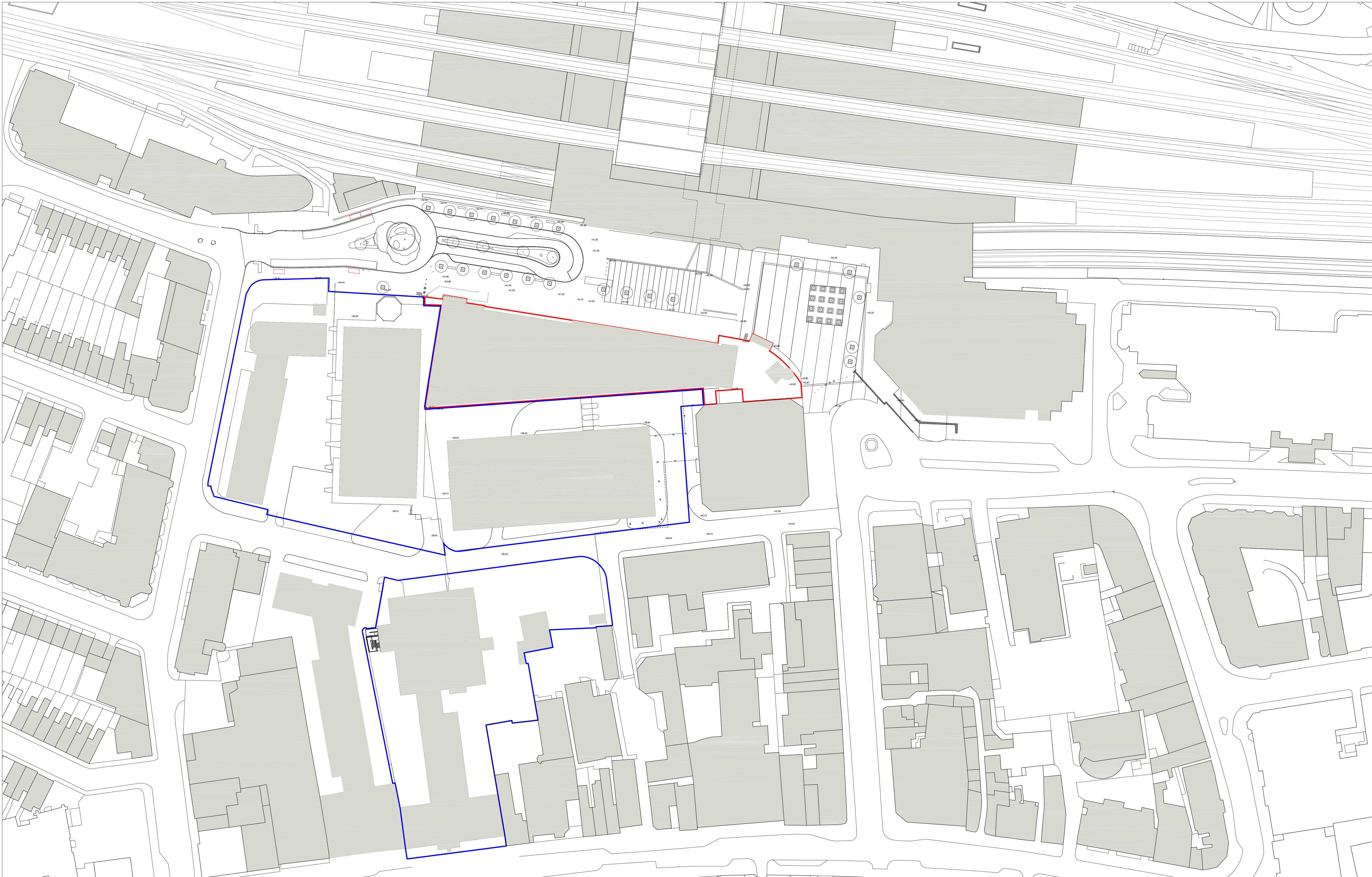
- 4.3. It is proposed to mimic the existing situation post development, and drain surface water from the Development to the public surface water sewers in Station Hill. See Appendix B for Thames Water Assets Plans.
- 4.4. In order to ensure that flood risk to others is not increased, the rate of surface water runoff into the surface water sewer would be restricted to the existing rate.
- 4.5. This approach was confirmed by the Environment Agency which was consulted in January 2012 as part of the planning proposals for permanent development of the wider Station Hill Site. The EA stated in their email appended in Appendix C that they would accept the NPPF/PPS25 approach of limiting the future discharge to existing rate but account for climate change. It is considered that this approach would also be acceptable for the temporary works.
- 4.6. As the site use is temporary, with an expected lifespan of approximately 5 years, no climate change allowance is considered necessary. In any case, the existing Site is wholly hard landscaped and the proportion of hard standing post development would decrease by approximately 13.4%. As such, the volume of surface water run-off entering the sewer would decrease proportionally. This increase in soft landscaping would account for any increase in rainfall intensity for the duration of lifetime of this temporary proposal. The proposed drainage plan prepared by Hoare Lea is shown in Appendix D.
- 4.7. Given the temporary nature of the event space, source control SuDS such as permeable paving were considered to be unsuitable.

5. Conclusions

- 5.1. It is assumed that surface water runoff from the Site drains to the existing public sewers along Station Hill and Station Approach.
- 5.2. Any proposed drainage strategy would mimic this existing situation, ensuring that discharge is restricted to the existing run-off rate. Any increase in rainfall intensity will be counterbalanced by the 13.4% decrease in hard landscaping which will be more than adequate to account for the impacts of climate change for the lifetime of the development assumed to be approximately 5 years. The proposed Development would therefore result in an overall decrease in surface water run-off and decrease the risk of flooding elsewhere.
- 5.3. The EA confirmed in January 2012 that this approach was appropriate for the wider Station Hill Site; it is assumed that this would also apply for the temporary flexible use development.

APPENDICES

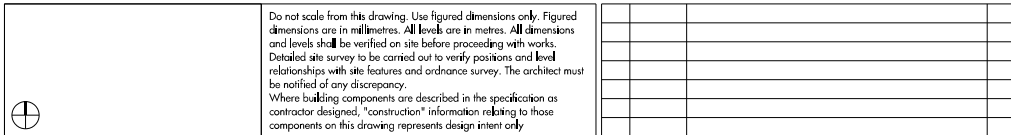
A. Development Proposals



Use figured dimensions only. Figured dimensions are in millimetres. All levels are in metres. All dimensions and levels shall be verified on site before proceeding with works. Detailed site survey to be carried out to verify positions and level relationships with site features and ordnance survey. The architect must be notified of any discrepancy. Where building components are described in the specification as contractor designed, "construction" information relating to those components on this drawing represents design intent only.

REV	DATE	DESCRIPTION	CKD

- APPLICATION BOUNDARY
- ADJACENT LAND OWNED BY THE APPLICANT



Do not scale from this drawing. Use figured dimensions only. Figured dimensions are in millimetres. All levels are in metres. All dimensions and levels shall be verified on site before proceeding with works. Detailed site survey to be carried out to verify positions and level relationships with site features and ordnance survey. The architect must be notified of any discrepancy.

Where building components are described in the specification as contractor designed, "construction" information relating to those components on this drawing represents design intent only.

[illegible]

 APPLICATION BOUNDARY
 +38.78 PROPOSED LEVEL
 PYRUS CHANTECLEER

 PROPOSED RESIN BOUNDED GRAVEL - TYPE 1
 PROPOSED RESIN BOUNDED GRAVEL - TYPE 2
 NEW PAVING TO MATCH EXISTING

 RAISED LAWN
 PLANTING
 ASSUMED DIRECTION GRADIENT

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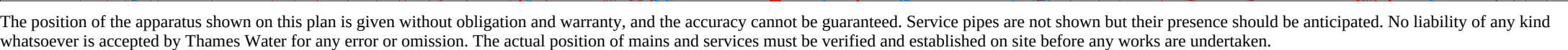
STATION HILL READING - TEMPORARY LANDSCAPE
PROPOSED PLAN
PLANNING APPLICATION
698_TL_07_007

SCALE 1:100 @A1 1:200@A3

DRAFT 13.12.2012

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B. Thames Water Assets Plans



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ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

	Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Joint
	Trunk Surface Water
	Storm Relief
	Vent Pipe
	Proposed Thames Surface Water Sewer
	Gallery
	Surface Water Rising Main
	Sludge Rising Main
	Vacuum
	Trunk Foul
	Trunk Combined
	Bio-solids (Sludge)
	Trade Effluent
	Proposed Thames Water Foul Sewer
	Foul Rising Main
	Combined Rising Main
	Proposed Thames Water Rising Main
	Syphon

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	AV Air Valve		LH Lamp Hole
	BS Blind Shaft		LS Lifting Shaft
	CP Catch Pit		ME Meter
	DC Dam Chase		RE Rodding Eye
	DF Double Flushing Tank / Chamber		VC Vent Column
	SF Single Flushing Tank / Chamber		VT Vent
	HB Hatch Box		WO Washout
	Other (specified on plan)		

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

	BD Backdrop Manhole		HY Hydrobrake
	BV Butterfly Valve		PI Petrol Interceptor
	CL Clough		PS Penstock
	DB Dam Board		RV Reflux Valve
	DP Drop Pipe		ST Step
	DS Drop Shaft		SV Sluice Valve
	FL Flume		TA Tank
	FV Flap Valve		WW Weir
	HW Headwall		Other (specified on plan)

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	STW Effluent Discharge		Undefined End
	SA / SA Soakaway		GU Gully
	Outfall		Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

	Public/Private Pumping Station
	Change of characteristic indicator (C.O.C.I.)
	Sewage Treatment Works
	IL Invert Level
	Summit

Areas

Lines denoting areas of underground surveys, etc.

	Building over Case (BOC No.) or Low Lying Land (LLL No.)
	Sewage Treatment Works or Pumping Station
	Area under Adoption Agreement
	Survey Area
	Drawing Area or chamber
	Licence Area
	Area pending Adoption Agreement
	Other Area (specified on plan)

Other Sewer Types (Not Operated or Maintained by Thames Water)

	Foul Sewer		Surface Water Sewer
	Combined Sewer		Highway Drain
	Culverted Watercourse		Proposed
	Status Unknown		Abandoned Sewer

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) For symbols referred to as 'Other' on this key, please see the plan for further information.
- 5) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

6) -9999.00 or 0 on a manhole level indicates that data is unavailable.

7) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. When cover and invert levels appear on a plan they are clearly prefixed by 'CL' and 'IL'. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0118 925 1504.

Printbox (471124,173453) -> (471632,173961)
Central Mapsheet : SU7173NW
User : RIMISSON
Time : Thu Apr 9 15:35:01 2009

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At (471181,173880)	there is a MANHOLE with SHORT NUMBER=1852	COVER=	38.37	INVERT=	-9999.00
At (471150,173822)	there is a MANHOLE with SHORT NUMBER=1861	COVER=	38.50	INVERT=	36.63
At (471131,173835)	there is a MANHOLE with SHORT NUMBER=1862	COVER=	38.34	INVERT=	34.40
At (471135,173832)	there is a MANHOLE with SHORT NUMBER=1863	COVER=	38.36	INVERT=	34.40
At (471291,173493)	there is a MANHOLE with SHORT NUMBER=2457	COVER=	0.00	INVERT=	0.00
At (471225,173931)	there is a MANHOLE with SHORT NUMBER=2952	COVER=	37.60	INVERT=	-9999.00
At (471235,173956)	there is a MANHOLE with SHORT NUMBER=2953	COVER=	37.83	INVERT=	-9999.00
At (471382,173952)	there is a MANHOLE with SHORT NUMBER=3951	COVER=	37.92	INVERT=	35.83
At (471444,173783)	there is a MANHOLE with SHORT NUMBER=4701	COVER=	0.00	INVERT=	-9999.00
At (471465,173795)	there is a MANHOLE with SHORT NUMBER=4703	COVER=	0.00	INVERT=	-9999.00
At (471461,173781)	there is a MANHOLE with SHORT NUMBER=4704	COVER=	0.00	INVERT=	-9999.00
At (471405,173940)	there is a MANHOLE with SHORT NUMBER=4951	COVER=	37.92	INVERT=	35.82
At (471511,173589)	there is a MANHOLE with SHORT NUMBER=5501	COVER=	45.39	INVERT=	0.00
At (471518,173589)	there is a MANHOLE with SHORT NUMBER=5502	COVER=	45.29	INVERT=	41.75
At (471515,173556)	there is a MANHOLE with SHORT NUMBER=5503	COVER=	45.17	INVERT=	41.91
At (471512,173509)	there is a MANHOLE with SHORT NUMBER=5504	COVER=	45.12	INVERT=	41.59
At (471569,173558)	there is a MANHOLE with SHORT NUMBER=5505	COVER=	45.13	INVERT=	42.55
At (471578,173579)	there is a MANHOLE with SHORT NUMBER=5551	COVER=	44.92	INVERT=	43.39
At (471514,173559)	there is a MANHOLE with SHORT NUMBER=5553	COVER=	45.17	INVERT=	43.99
At (471537,173567)	there is a MANHOLE with SHORT NUMBER=5555	COVER=	0.00	INVERT=	0.00
At (471552,173569)	there is a MANHOLE with SHORT NUMBER=5557	COVER=	0.00	INVERT=	0.00
At (471553,173576)	there is a MANHOLE with SHORT NUMBER=5558	COVER=	0.00	INVERT=	0.00
At (471565,173591)	there is a MANHOLE with SHORT NUMBER=55EM	COVER=	0.00	INVERT=	0.00
At (471526,173517)	there is a MANHOLE with SHORT NUMBER=55JJ	COVER=	0.00	INVERT=	0.00
At (471527,173534)	there is a MANHOLE with SHORT NUMBER=55JK	COVER=	0.00	INVERT=	0.00
At (471534,173615)	there is a MANHOLE with SHORT NUMBER=5603	COVER=	0.00	INVERT=	0.00
At (471535,173613)	there is a MANHOLE with SHORT NUMBER=5604	COVER=	0.00	INVERT=	0.00
At (471566,173603)	there is a MANHOLE with SHORT NUMBER=56EN	COVER=	0.00	INVERT=	0.00
At (471564,173604)	there is a MANHOLE with SHORT NUMBER=56MM	COVER=	0.00	INVERT=	0.00
At (471564,173608)	there is a MANHOLE with SHORT NUMBER=56MN	COVER=	0.00	INVERT=	0.00
At (471592,173748)	there is a MANHOLE with SHORT NUMBER=5702	COVER=	42.51	INVERT=	33.45
At (471599,173791)	there is a MANHOLE with SHORT NUMBER=5703	COVER=	41.51	INVERT=	0.00
At (471597,173748)	there is a MANHOLE with SHORT NUMBER=5755	COVER=	42.31	INVERT=	35.24
At (471596,173787)	there is a MANHOLE with SHORT NUMBER=5756	COVER=	41.55	INVERT=	0.00
At (471577,173905)	there is a MANHOLE with SHORT NUMBER=5962	COVER=	37.75	INVERT=	35.61
At (471576,173940)	there is a MANHOLE with SHORT NUMBER=5963	COVER=	0.00	INVERT=	0.00
At (471614,173576)	there is a MANHOLE with SHORT NUMBER=6501	COVER=	44.72	INVERT=	41.17
At (471624,173593)	there is a MANHOLE with SHORT NUMBER=65MN	COVER=	0.00	INVERT=	0.00
At (471620,173619)	there is a MANHOLE with SHORT NUMBER=66LH	COVER=	0.00	INVERT=	0.00
At (471621,173613)	there is a MANHOLE with SHORT NUMBER=66LJ	COVER=	0.00	INVERT=	0.00
At (471621,173605)	there is a MANHOLE with SHORT NUMBER=66LK	COVER=	0.00	INVERT=	0.00
At (471623,173618)	there is a MANHOLE with SHORT NUMBER=66LN	COVER=	0.00	INVERT=	0.00
At (471624,173614)	there is a MANHOLE with SHORT NUMBER=66MC	COVER=	0.00	INVERT=	0.00
At (471625,173610)	there is a MANHOLE with SHORT NUMBER=66MD	COVER=	0.00	INVERT=	0.00
At (471626,173602)	there is a MANHOLE with SHORT NUMBER=66ME	COVER=	0.00	INVERT=	0.00
At (471608,173723)	there is a MANHOLE with SHORT NUMBER=6701	COVER=	42.59	INVERT=	34.03
At (471612,173735)	there is a MANHOLE with SHORT NUMBER=6702	COVER=	42.43	INVERT=	0.00
At (471624,173789)	there is a MANHOLE with SHORT NUMBER=6704	COVER=	0.00	INVERT=	0.00
At (471619,173788)	there is a MANHOLE with SHORT NUMBER=6754	COVER=	0.00	INVERT=	0.00
At (471608,173743)	there is a MANHOLE with SHORT NUMBER=6755	COVER=	41.95	INVERT=	35.50
At (471189,173842)	there is a MANHOLE with SHORT NUMBER=1804	COVER=	38.41	INVERT=	35.70

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At (471185,173841)	there is a MANHOLE with SHORT NUMBER=1858	COVER=	38.38	INVERT=	-9999.00
At (471382,173457)	there is a MANHOLE with SHORT NUMBER=3401	COVER=	45.28	INVERT=	41.81
At (471376,173463)	there is a MANHOLE with SHORT NUMBER=3450	COVER=	45.35	INVERT=	44.17
At (471490,173464)	there is a MANHOLE with SHORT NUMBER=4401	COVER=	45.00	INVERT=	41.14
At (471427,173470)	there is a MANHOLE with SHORT NUMBER=4402	COVER=	45.10	INVERT=	41.57
At (471445,173460)	there is a MANHOLE with SHORT NUMBER=4451	COVER=	45.02	INVERT=	43.68
At (471446,173471)	there is a MANHOLE with SHORT NUMBER=4452	COVER=	45.03	INVERT=	43.72
At (471428,173475)	there is a MANHOLE with SHORT NUMBER=4453	COVER=	45.02	INVERT=	43.81
At (471441,173459)	there is a MANHOLE with SHORT NUMBER=4454	COVER=	44.93	INVERT=	42.33
At (471444,173458)	there is a MANHOLE with SHORT NUMBER=4457	COVER=	0.00	INVERT=	0.00
At (471492,173471)	there is a MANHOLE with SHORT NUMBER=4460	COVER=	0.00	INVERT=	0.00
At (471431,173584)	there is a MANHOLE with SHORT NUMBER=4501	COVER=	45.54	INVERT=	42.35
At (471420,173551)	there is a MANHOLE with SHORT NUMBER=4502	COVER=	45.53	INVERT=	-9999.00
At (471446,173586)	there is a MANHOLE with SHORT NUMBER=4503	COVER=	0.00	INVERT=	-9999.00
At (471411,173585)	there is a MANHOLE with SHORT NUMBER=4551	COVER=	45.62	INVERT=	43.90
At (471422,173549)	there is a MANHOLE with SHORT NUMBER=4552	COVER=	45.52	INVERT=	-9999.00
At (471427,173501)	there is a MANHOLE with SHORT NUMBER=4553	COVER=	0.00	INVERT=	-9999.00
At (471421,173556)	there is a MANHOLE with SHORT NUMBER=4556	COVER=	-9999.00	INVERT=	-9999.00
At (471417,173562)	there is a MANHOLE with SHORT NUMBER=4557	COVER=	-9999.00	INVERT=	-9999.00
At (471410,173562)	there is a MANHOLE with SHORT NUMBER=4558	COVER=	-9999.00	INVERT=	-9999.00
At (471420,173676)	there is a MANHOLE with SHORT NUMBER=4606	COVER=	41.29	INVERT=	39.93
At (471426,173639)	there is a MANHOLE with SHORT NUMBER=4652	COVER=	44.08	INVERT=	42.78
At (471422,173660)	there is a MANHOLE with SHORT NUMBER=4653	COVER=	42.67	INVERT=	41.26
At (471413,173697)	there is a MANHOLE with SHORT NUMBER=4654	COVER=	39.53	INVERT=	-9999.00
At (471413,173699)	there is a MANHOLE with SHORT NUMBER=4655	COVER=	39.49	INVERT=	38.06
At (471428,173622)	there is a MANHOLE with SHORT NUMBER=4656	COVER=	0.00	INVERT=	-9999.00
At (471430,173621)	there is a MANHOLE with SHORT NUMBER=4657	COVER=	-9999.00	INVERT=	-9999.00
At (471479,173679)	there is a MANHOLE with SHORT NUMBER=4659	COVER=	-9999.00	INVERT=	-9999.00
At (471446,173781)	there is a MANHOLE with SHORT NUMBER=4702	COVER=	0.00	INVERT=	-9999.00
At (471492,173727)	there is a MANHOLE with SHORT NUMBER=4705	COVER=	44.01	INVERT=	34.08
At (471416,173727)	there is a MANHOLE with SHORT NUMBER=4706	COVER=	38.12	INVERT=	-9999.00
At (471492,173720)	there is a MANHOLE with SHORT NUMBER=4707	COVER=	44.01	INVERT=	39.53
At (471494,173763)	there is a MANHOLE with SHORT NUMBER=4751	COVER=	43.65	INVERT=	40.84
At (471470,173782)	there is a MANHOLE with SHORT NUMBER=4752	COVER=	0.00	INVERT=	-9999.00
At (471437,173787)	there is a MANHOLE with SHORT NUMBER=4753	COVER=	0.00	INVERT=	-9999.00
At (471477,173703)	there is a MANHOLE with SHORT NUMBER=4756	COVER=	-9999.00	INVERT=	-9999.00
At (471493,173706)	there is a MANHOLE with SHORT NUMBER=4757	COVER=	-9999.00	INVERT=	-9999.00
At (471492,173725)	there is a MANHOLE with SHORT NUMBER=4758	COVER=	-9999.00	INVERT=	-9999.00
At (471512,173460)	there is a MANHOLE with SHORT NUMBER=5401	COVER=	44.99	INVERT=	41.12
At (471551,173458)	there is a MANHOLE with SHORT NUMBER=5402	COVER=	44.80	INVERT=	40.83
At (471551,173465)	there is a MANHOLE with SHORT NUMBER=5450	COVER=	44.76	INVERT=	43.18
At (471556,173489)	there is a MANHOLE with SHORT NUMBER=5451	COVER=	0.00	INVERT=	0.00
At (471525,173485)	there is a MANHOLE with SHORT NUMBER=54NK	COVER=	0.00	INVERT=	0.00
At (471507,173651)	there is a MANHOLE with SHORT NUMBER=5601	COVER=	44.61	INVERT=	40.83
At (471510,173610)	there is a MANHOLE with SHORT NUMBER=5602	COVER=	45.13	INVERT=	0.00
At (471504,173716)	there is a MANHOLE with SHORT NUMBER=5701	COVER=	44.08	INVERT=	39.83
At (471473,173577)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471495,173631)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471491,173525)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471164,173483)	there is a MANHOLE with SHORT NUMBER=1405	COVER=	0.00	INVERT=	0.00
At (471165,173469)	there is a MANHOLE with SHORT NUMBER=1455	COVER=	44.43	INVERT=	42.80

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At (471164,173477)	there is a MANHOLE with SHORT NUMBER=1456	COVER=	44.43	INVERT=	42.66
At (471168,173577)	there is a MANHOLE with SHORT NUMBER=1501	COVER=	43.40	INVERT=	40.34
At (471162,173554)	there is a MANHOLE with SHORT NUMBER=1503	COVER=	44.38	INVERT=	41.04
At (471159,173580)	there is a MANHOLE with SHORT NUMBER=1551	COVER=	43.35	INVERT=	41.10
At (471180,173554)	there is a MANHOLE with SHORT NUMBER=1552	COVER=	44.50	INVERT=	41.85
At (471141,173670)	there is a MANHOLE with SHORT NUMBER=1602	COVER=	39.48	INVERT=	37.13
At (471138,173620)	there is a MANHOLE with SHORT NUMBER=1606	COVER=	0.00	INVERT=	-9999.00
At (471172,173641)	there is a MANHOLE with SHORT NUMBER=1607	COVER=	43.34	INVERT=	40.40
At (471145,173672)	there is a MANHOLE with SHORT NUMBER=1652	COVER=	39.44	INVERT=	38.24
At (471158,173779)	there is a MANHOLE with SHORT NUMBER=1701	COVER=	0.00	INVERT=	-9999.00
At (471150,173772)	there is a MANHOLE with SHORT NUMBER=1751	COVER=	0.00	INVERT=	-9999.00
At (471181,173838)	there is a MANHOLE with SHORT NUMBER=1805	COVER=	38.45	INVERT=	35.43
At (471176,173845)	there is a MANHOLE with SHORT NUMBER=1854	COVER=	38.31	INVERT=	36.21
At (471296,173496)	there is a MANHOLE with SHORT NUMBER=2455	COVER=	0.00	INVERT=	0.00
At (471291,173489)	there is a MANHOLE with SHORT NUMBER=2456	COVER=	0.00	INVERT=	0.00
At (471277,173484)	there is a MANHOLE with SHORT NUMBER=2458	COVER=	0.00	INVERT=	0.00
At (471240,173547)	there is a MANHOLE with SHORT NUMBER=2502	COVER=	44.93	INVERT=	41.96
At (471237,173563)	there is a MANHOLE with SHORT NUMBER=2552	COVER=	44.85	INVERT=	42.93
At (471261,173566)	there is a MANHOLE with SHORT NUMBER=2553	COVER=	44.94	INVERT=	42.74
At (471251,173529)	there is a MANHOLE with SHORT NUMBER=2556	COVER=	-9999.00	INVERT=	-9999.00
At (471262,173508)	there is a MANHOLE with SHORT NUMBER=2557	COVER=	-9999.00	INVERT=	-9999.00
At (471252,173653)	there is a MANHOLE with SHORT NUMBER=2601	COVER=	41.69	INVERT=	38.63
At (471221,173615)	there is a MANHOLE with SHORT NUMBER=2602	COVER=	44.09	INVERT=	41.59
At (471255,173662)	there is a MANHOLE with SHORT NUMBER=2651	COVER=	41.08	INVERT=	39.26
At (471235,173673)	there is a MANHOLE with SHORT NUMBER=2653	COVER=	40.43	INVERT=	39.04
At (471262,173703)	there is a MANHOLE with SHORT NUMBER=2702	COVER=	38.93	INVERT=	36.87
At (471261,173705)	there is a MANHOLE with SHORT NUMBER=2752	COVER=	38.90	INVERT=	37.14
At (471262,173706)	there is a MANHOLE with SHORT NUMBER=2753	COVER=	38.85	INVERT=	37.12
At (471257,173811)	there is a MANHOLE with SHORT NUMBER=2803	COVER=	38.61	INVERT=	36.58
At (471361,173460)	there is a MANHOLE with SHORT NUMBER=3451	COVER=	45.34	INVERT=	44.52
At (471302,173485)	there is a MANHOLE with SHORT NUMBER=3455	COVER=	0.00	INVERT=	0.00
At (471319,173571)	there is a MANHOLE with SHORT NUMBER=3501	COVER=	45.42	INVERT=	41.65
At (471367,173577)	there is a MANHOLE with SHORT NUMBER=3502	COVER=	45.59	INVERT=	41.92
At (471310,173572)	there is a MANHOLE with SHORT NUMBER=3551	COVER=	45.36	INVERT=	43.37
At (471318,173573)	there is a MANHOLE with SHORT NUMBER=3552	COVER=	45.43	INVERT=	43.40
At (471346,173577)	there is a MANHOLE with SHORT NUMBER=3553	COVER=	45.49	INVERT=	43.51
At (471338,173689)	there is a MANHOLE with SHORT NUMBER=3601	COVER=	39.03	INVERT=	36.67
At (471313,173694)	there is a MANHOLE with SHORT NUMBER=3602	COVER=	38.96	INVERT=	36.25
At (471358,173694)	there is a MANHOLE with SHORT NUMBER=3651	COVER=	39.09	INVERT=	37.42
At (471363,173695)	there is a MANHOLE with SHORT NUMBER=3652	COVER=	39.08	INVERT=	37.54
At (471340,173688)	there is a MANHOLE with SHORT NUMBER=3653	COVER=	39.07	INVERT=	37.54
At (471332,173692)	there is a MANHOLE with SHORT NUMBER=3654	COVER=	39.02	INVERT=	37.52
At (471317,173694)	there is a MANHOLE with SHORT NUMBER=3655	COVER=	38.96	INVERT=	37.43
At (471351,173729)	there is a MANHOLE with SHORT NUMBER=3702	COVER=	38.80	INVERT=	-9999.00
At (471365,173796)	there is a MANHOLE with SHORT NUMBER=3751	COVER=	42.39	INVERT=	36.71
At (471297,173541)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471238,173653)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471297,173536)	there is a MANHOLE with SHORT NUMBER=	COVER=	-9999.00	INVERT=	-9999.00
At (471130,173552)	there is a MANHOLE with SHORT NUMBER=1502	COVER=	44.36	INVERT=	40.65
At (471131,173549)	there is a MANHOLE with SHORT NUMBER=1553	COVER=	44.31	INVERT=	41.19
At (471136,173619)	there is a MANHOLE with SHORT NUMBER=1605	COVER=	42.88	INVERT=	38.69

C. Correspondence with the Environment Agency

Libiszewska, Beata

From: Moeran, Jack <jack.moeran@environment-agency.gov.uk>
Sent: 23 January 2012 16:33
To: Tarran, Sophie G
Subject: RE: CIV13174 120120 STDM re-consultation, station hill

Hi Sophie,

I can confirm that we would accept discharge in line with PPS25 including for the impacts of climate change.

Thanks,

Jack Moeran
Planning Liaison Officer

01491 828367
jack.moeran@environment-agency.gov.uk

From: Tarran, Sophie G [mailto:s.g.tarran@waterman-group.co.uk]
Sent: 23 January 2012 16:30
To: Moeran, Jack
Subject: RE: CIV13174 120120 STDM re-consultation, station hill

Hi Jack,

Many thanks for confirming this in writing. Just to clarify however, in line with the previous application you would accept discharge in line with PPS25, including for the impacts of climate change (as mentioned below)?

Kind Regards,

Sophie

From: Moeran, Jack [mailto:jack.moeran@environment-agency.gov.uk]
Sent: 23 January 2012 16:25
To: Tarran, Sophie G
Subject: RE: CIV13174 120120 STDM re-consultation, station hill

Dear Sophie,

As discussed on the phone earlier today. If the scheme was split into commercial and residential buildings with separate drainage networks we would push for the 30% climate change for both. If this is impossible due to site constraints then we can possibly negotiate. However, we would need more detail to comment further. Please don't hesitate to contact me if you have any further questions.

Thanks,

Jack Moeran
Planning Liaison Officer

01491 828367

Please note that the view expressed in this letter by the Environment Agency is a response to a pre application enquiry only and does not represent our final view in relation to any future planning application made in relation to this site. We reserve the right to change our position in relation to any such application.

You should seek your own expert advice in relation to technical matters relevant to any planning application before submission

From: Tarran, Sophie G [<mailto:s.g.tarran@waterman-group.co.uk>]
Sent: 20 January 2012 16:22
To: Somarakis, Dem
Cc: Enquiries, Unit
Subject: CIV13174 120120 STDM re-consultation, station hill

Click [here](#) to report this email as spam.

Good afternoon Demetri.

You previously liaised with my colleague Steven Brown in 2009 regarding a development site known as Station Hill, located in Reading (please find document attached). For you information I have attached an indicative location plan.

Please could you confirm whether this information is still correct or whether this has been superseded. If there is any further information regarding historic flooding in the area or updated flood levels since this enquiry, please could you send this across.

In regards to surface water runoff, the previous scheme was consented in line with the requirements of PPS25. Surface water proposals are therefore proposed to mimic these parameters, restricting runoff to the existing rate, including for the impacts of climate change throughout the lifetime of the development.

There are both residential and commercial buildings proposed as part of the scheme. If the network is combined a precautionary and worst case 30% climate change would be allowed for, assuming that the whole development's design life is 100 years. If the commercial and residential buildings have separate drainage networks 30% climate change would be applied to the residential aspects and 20% climate change to the commercial areas (assuming a design life of 60 years). Please could you confirm that this is acceptable.

If you have any questions or require any additional information please feel free to get in contact.

Kind Regards,

Sophie

Sophie Tarran
Engineer
[Waterman Transport & Development Ltd](#)

Pickfords Wharf
Clink Street
London
SE1 9DG
d +44 33 0060 2560
t +44 20 7928 7888
f +44 20 7902 0992
www.watermangroup.com

D. Drainage Plan

- NOTES:
1. The drawing does not necessarily show all the information needed to interpret the design intent or the construction details.
 2. The drawing contains information from more than one source and must be read in conjunction with all relevant specifications.
 3. Any apparent drafting errors and differences between other drawings and specifications shall be brought to our attention.

LEGEND

— ASSUMED DIRECTION OF GRADIENT OF HARD STANDING.

CL COVER LEVEL

IL INVERT LEVEL

LL LOW LEVEL

CO CHANNEL OUTLET

Index	Description	Drawn & Chk'd by	Rev'd by	Date
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Revisions

Architect

Client

PRELIMINARY ISSUE

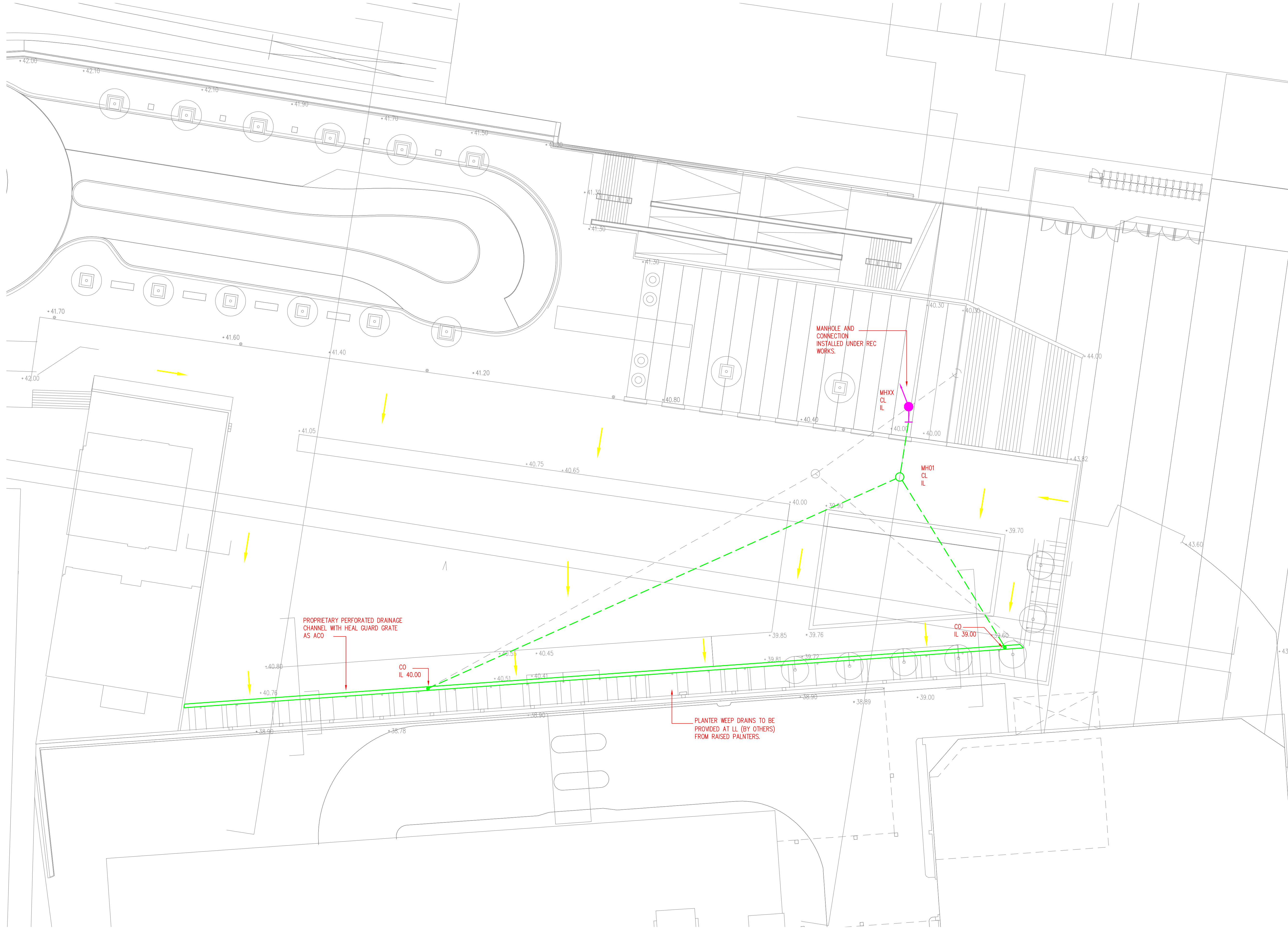


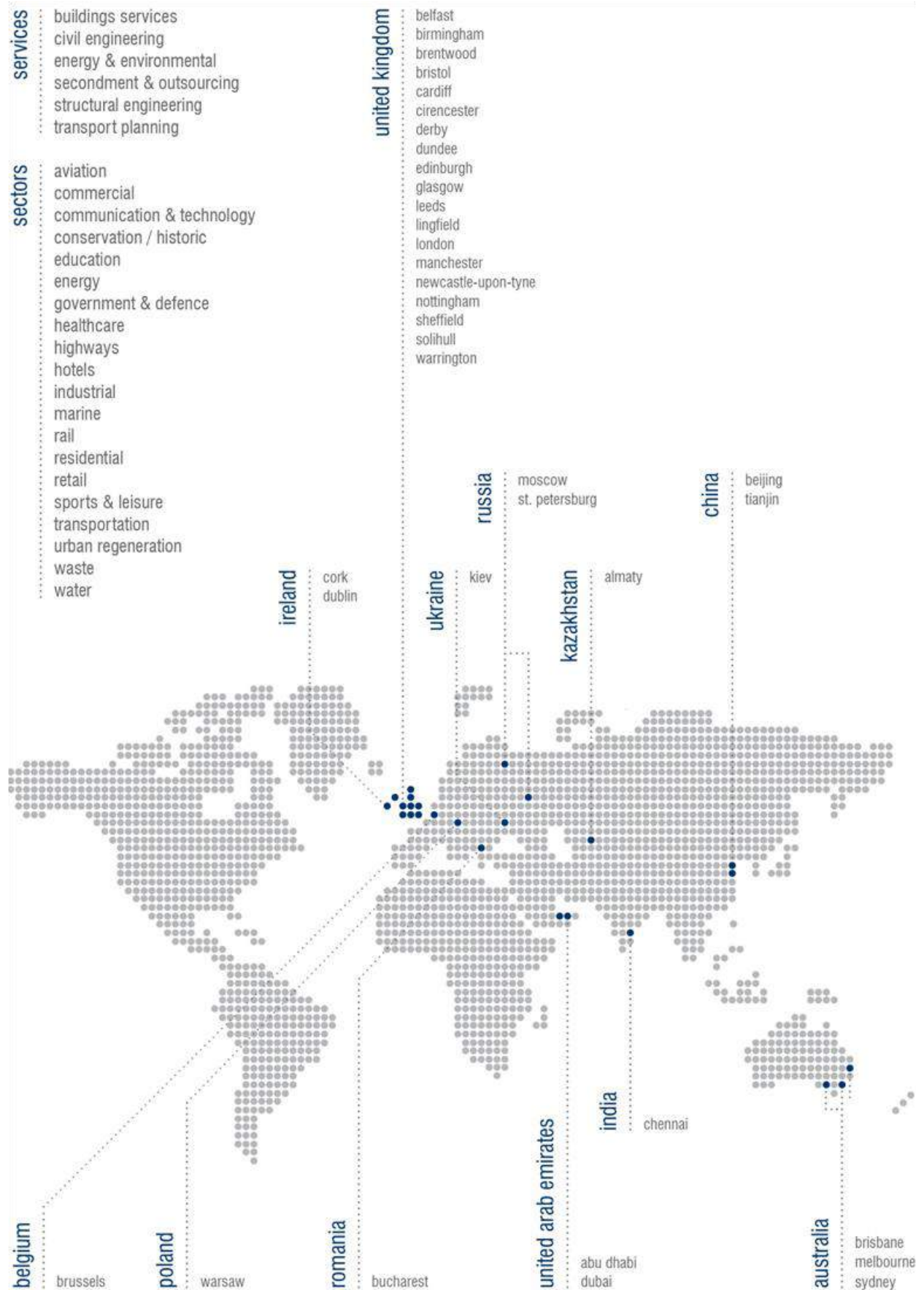
Project Title
STATION HILL
READING

Drawing Title
PUBLIC HEALTH ENGINEERING SYSTEMS
TEMPORARY LANDSCAPE
DRAINAGE LAYOUT

Project No	Drawn & Checked by	Reviewed by
0511464	AB	DM
Date	Scale	Issuing Office
JANUARY 2013	1:100@A1	BRISTOL

DRAWING NUMBER								
Project Code	Orig.	Zone	Level	Type	Role	Class.	Number	Rev.
0511464	HL	PP	XX	DR	P	527	0001	P1





Appendix 14.1

Thames Valley Environmental Records Centre: Biodiversity Report (June 2014)



Biodiversity Report

Site: Garrard Street, Reading

TVERC Ref: B49.14

Prepared for: Waterman Group

Date: 11/06/2014

By Thames Valley Environmental Records Centre



This report should not to be passed on to third parties without prior permission of TVERC.
Please be aware that printing maps from this report requires an appropriate OS licence

TVERC is hosted by Oxfordshire County Council

TABLE OF CONTENTS

The following are included in this report:

GENERAL INFORMATION:

- ☒ Terms & Conditions
- ☒ Species data statements

PROTECTED & NOTABLE SPECIES INFORMATION:

- ☒ Table of legally protected and notable species records (2 km search area)
- ☒ Species status key
- ☒ Data origin key

DESIGNATED WILDLIFE SITE INFORMATION:

- ☒ A map of designated wildlife sites (2 km search area)
- ☒ Descriptions/citations for designated wildlife sites
- ☒ Designated wildlife sites guidance

TERMS AND CONDITIONS

The copyright for this document and the information provided is retained by Thames Valley Environmental Records Centre. The copyright for some of the species data will be held by a recording group or individual recorder. Where this is the case, and the group or individual providing the data is known, the data origin will be given in the species table.

TVERC must be acknowledged if any part of this report or data derived from it is used in a report. The whole document may be used as an appendix within your report.

The data in this report can only be used for the project for which it was requested. It cannot be passed on to third parties without permission of TVERC (this excludes reports presented to clients and Local Authorities).

The data should be considered valid for a maximum 12 months from the date on the cover of this report. If the data is to be used after that time an update should be requested. The data must not be added to any permanent database system.

The absence of any species or habitat data for any site, area or location does not mean that any species or habitat is not present.

MAPS

To reproduce the Ordnance Survey mapping you must hold a relevant licence for the use of Ordnance Survey mapping or it can be copied at a printers or copyshop that holds a licence to carry out search work (see the Ordnance Survey website).

DATA STATEMENTS

STATEMENT ON RECORDS BELONGING TO THE BERKS AND SOUTH BUCKS BAT GROUP (BSBBG)

TVERC has agreed an exchange of data with BSBBG which enables us to provide records belonging to them with the grid reference given to 1 km precision. Such records are indicated by the term "refer to BSBBG for full details" in the location column and BSBBG in the data origin column of the species table. Enquirers are recommended to contact the BSBBG direct to obtain further information. Please note that the BSBBG provides TVERC with an annual update of their records, so they may hold records for your search area that TVERC does not yet have access to. Requests for information may be submitted via the BSBBG website; www.berksbats.org.uk.

STATEMENT ON RECORDS BELONGING TO THE BINFIELD BADGER GROUP

TVERC has a data exchange agreement with the Binfield Badger Group, and receives regular updates. However under the terms of the agreement it cannot provide these records to you. Requests for information should be directed to:

Binfield Badger Group
PO Box 3805
Binfield
Berkshire
RG42 1HH

Email: badgers@binfieldbadgers.org.uk

For data searches within Berkshire, we will check and let enquirers know whether we hold any Binfield Badger Group records for within your chosen data search area.

STATEMENT ON WILDLIFE TRUST WATER VOLE DATA

Since 2008 data has been collected as positive or negative sections of watercourses. Positive sections crossing into search areas are included within the data. These are shown with the central grid reference for the stretch of watercourse. This may fall outside the search area but the stretch will be at least partly within the search area. The location information shows the beginning and end points of the stretch of watercourse.

USE OF NBN GATEWAY DATA

Commercial organisations and members of the public may refer to the National Biodiversity Network (NBN) Gateway for wildlife records and habitat and designated site information for their own private use.

The NBN Gateway's Terms and Conditions state "*You may not republish wholesale the material, data and/or information made available to you, or exploit it for commercial or*

academic research purposes without first obtaining written permission from the relevant data provider". This means that environmental consultants cannot use NBN data in ecology reports for planning applications unless they have obtained written permission from all the data providers. If NBN Gateway data are also provided for this project please make sure that the NBN Gateway's terms and conditions are followed precisely.

The National Planning Policy Framework states that "*planning policies and decisions should be based on up-to date information about the natural environment and other characteristics of the area*". The NBN Gateway does not hold the most up-to-date, comprehensive or highest resolution information on protected and notable species, local sites or habitats in Berkshire and Oxfordshire.

TVERC have advised planning authorities in Berkshire and Oxfordshire that ecology reports using only NBN data should not usually be validated and the NBN has requested that suspected breaches of NBN terms and conditions are reported to the NBN Data Access Officer, who will take appropriate action. Further detail is available on our website:

<http://www.tverc.org/cms/content/ecological-survey-reports-planning-applications>.

STATEMENT ON GRID REFERENCES

The following types of grid references are provided:

- Six figure grid references. Many of these will be an assigned relatively central grid reference for a site though with small sites the assigned grid reference for a site could be close to the edge. The record may have come from anywhere within the site. Where additional location information is provided the reference may be more accurate or central to a subsite within the larger site. Where the location is not site based, the grid reference should be within 100 metres of the location.
- Four figure grid references. Generally these are 1km records often with some location information to give an idea of which part of the 1km square the record was found. Sometime this information can be quite accurate. Where a large site is referred to the location should be in that part of the 1km square that is within the site. In some case these may be tetrad records with grid reference referring to a 2km x 2km square. This includes some confidential records from Oxford Ornithological Society. Other tetrad data is rarely included.
- Eight and ten figure grid references: These are generally accurately worked out to the location where the species was found. However for small and narrow sites eight figure grid references may be used as a central grid reference for a site.
- TVERC intends to start tagging data to qualify these grid references but at present only a limited amount of qualification is provided. 1km square records are tagged as 1km record and 2km square records are tagged as 2km record.

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Frogbit	Hydrocharis morsus-ranae		26/09/1986	1986	SU696746		Little John's Farm Meadows			RUWG				GBRed-post 2001-VU
Bluebell	Hyacinthoides non-scripta		22/05/1986	1986	SU703749		Grass Hill Woodland			RUWG		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta		01/04/1994	1994	SU703749		Grass Hill Woodland			BLWS		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta		21/05/1986	1986	SU706749		Warren Court Woodland			RUWG		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta	Rare (DAFOR)	23/04/2004	2004	SU71227561		Old Cemetery, Victoria Rd			BLWS		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta	Occasional (DAFOR)	26/04/2004	2004	SU713724		Holy Brook South of Berkeley Ave.			BLWS		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta	Rare (DAFOR)	23/04/2004	2004	SU71377275		River Kennet, Berkeley Ave. to IDR			BLWS		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta	Rare (DAFOR)	26/04/2004	2004	SU71427251		River Kennet - Holy Brook confluence to Berkeley Ave.			BLWS		WACA-Sch8		
Bluebell	Hyacinthoides non-scripta		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG		WACA-Sch8		
English Whitebeam	Sorbus anglica		28/04/1997 - 11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				GBRed-post 2001-NT, GlobalRed-post94-VU, Status-NR
Thames Ramshorn	Gyraulus (Gyraulus) acronicus		22/07/1994	1994	SU710721		Briers site 20			LN			NERC S.41	GBRed-pre94-VU
Thames Ramshorn	Gyraulus (Gyraulus) acronicus		1992	1992	SU712718		NRA site 27			EA			NERC S.41	GBRed-pre94-VU
Caspian Tern	Hydroprogne caspia	1	22/07/2010	2010	SU729739		River Thames, upstream of K&A Canal	field record	Common tern present for comparison	MOP	BirdsDir-A1			
Stag Beetle	Lucanus cervus	1 male	07/06/2006	2006	SU698727		Private garden - Bare wall/fence	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	05/06/2007	2007	SU698729		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	16/06/2006	2006	SU700736		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	16/06/2006	2006	SU700736		Town - Outdoor furniture	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/07/1998	1998	SU701731		7 Wood Green Close, Reading, RG30 2AW.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	19/07/1998	1998	SU701731		7 Wood Green Close, Reading, RG30 2AW.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	28/06/2006	2006	SU701732		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus		11/06/2007	2007	SU701732		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus		04/06/2007	2007	SU701732		Private garden - Path/drive/patio	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/06/2002	2002	SU701751		Town	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	12/06/2007	2007	SU701751		Private garden - Bare wall/fence	photographed		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	04/08/2007	2007	SU701751		Private garden - Mown/Short grass	photographed		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	3 females	12/06/2007	2007	SU701751		Private garden - Bare wall/fence	photographed		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult female	03/08/2005	2005	SU704724		Coley Park, Reading		in small woodland copse	LN	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	16/06/1998	1998	SU704753		Woodcote Road (A4074), Caversham, Reading, Berks.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult female	21/07/2005	2005	SU705721		Coley Farm, Reading		squashed on rd by copse	LN	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	18/06/2002	2002	SU705745		Car park/yard/playground	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	05/06/2006	2006	SU705755		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	20/05/2007	2007	SU706735		Private garden - Flowerbed	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	21/06/1998	1998	SU706753		3a Darell Road, Caversham, Reading, RG4 7AY.	Attracted to light		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	16/06/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	19/06/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2 males	21/06/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	01/07/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	10/07/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	30/06/1998	1998	SU70707259		51 Coley Ave, Reading, Berks, RG1 6LL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	01/08/2002	2002	SU7075	1 km record	Town - Highway	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Stag Beetle	Lucanus cervus	several adults	Jun-98	1998	SU707725		Flat 1, Nightingale House, 36 Coley Avenue, Reading, Berks.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	28/06/2002	2002	SU707725		Private garden - Shrub/undergrowth	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	11/06/1998	1998	SU70807240		The Corner House, Shaw Rd, Reading, Berks, RG1 6JX	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	8 larva	Jun-98	1998	SU70807240		The Corner House, Shaw Rd, Reading, Berks, RG1 6JX	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	08/06/2006	2006	SU708724		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	08/06/2006	2006	SU708724		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	21/06/2006	2006	SU708724		Private garden - Tree	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	08/06/2006	2006	SU708724		Private garden - Tree	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	08/06/2006	2006	SU708724		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	10/06/2006	2006	SU708724		Private garden - Bare wall/fence	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	10/06/2006	2006	SU708724		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	12/06/2006	2006	SU708724		Private garden - Hedge/Hedgerow	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	males	June 1998 - July 1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	29/06/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	22/07/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	16/07/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	20/06/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	On its back		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	19/06/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	04/07/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	30/07/1998	1998	SU708727		23 Castle Crescent, Reading, RG1 6AQ.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2 males	26/05/2007	2007	SU708727		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	8 males	08/06/2007	2007	SU708727		Private garden - Bare wall/fence	copulating/mating		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/06/2007	2007	SU708727		Private garden - Bare wall/fence	copulating/mating		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	20/05/2007	2007	SU708727		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	Jun-98	1998	SU708749		8 Dovedale Close, Caversham, Reading, Berks, RG4 7AL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	Jun-98	1998	SU708749		8 Dovedale Close, Caversham, Reading, Berks, RG4 7AL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	Jun-98	1998	SU708749		9 Dovedale Close, Caversham, Reading, Berks, RG4 7AL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	01/07/1998	1998	SU708749		8 Dovedale Close, Caversham, Reading, Berks, RG4 7AL	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	29/06/2002	2002	SU709725		Private garden - Compost heap	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	15/07/1998	1998	SU709726		Mansfield Road, Reading, Berks, RG1 6AL.	On its back		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/07/2002	2002	SU709753		Private garden - Bare wall/fence	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	09/07/2002	2002	SU709753		Private garden - Path/drive/patio	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	16/07/2002	2002	SU709753		Private garden - Path/drive/patio	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 adult	Jun-98	1998	SU710725		43 Berkeley Avenue, Reading, Berks, RG1 6JS.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/07/2002	2002	SU711751		Private garden - Path/drive/patio	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	02/07/2006	2006	SU715748		Town - Bare wall/fence	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2	2010	2010	SU716733		Reading	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/01/2006	2006	SU7173675624		17 Picton Way, Caversham, Reading	field record	dead	MOP	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	11/06/2007	2007	SU720744		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	04/07/1998	1998	SU72107230		15 Allcroft Road, Reading, Berks, RG1 5HJ	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus		02/06/2009	2009	SU721720		Christchurch Gardens, Reading	field record		MOP	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	13/06/2002	2002	SU721723		Private garden - Path/drive/patio	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	09/06/2002	2002	SU721723		Private garden - Mown/Short grass	Dead (reason unknown)		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/07/2002	2002	SU721723		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	06/06/2006	2006	SU721750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	07/06/2006	2006	SU721750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Stag Beetle	Lucanus cervus	1 female	20/05/2007	2007	SU721750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	03/06/2007	2007	SU721750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2 females	07/06/1998	1998	SU722751		Grosvenor Road, Caversham, Reading, Berks, RG4 5ES.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	20/06/1998	1998	SU722751		72 Grosvenor Road, Caversham, Reading, Berks, RG4 5ES.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	06/07/1998	1998	SU722751		72 Grosvenor Road, Caversham, Reading, Berks, RG4 5ES.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	30/05/1998	1998	SU722751		72 Grosvenor Road, Caversham, Reading, Berks, RG4 5ES.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	09/06/1998	1998	SU722751		72 Grosvenor Road, Caversham, Reading, Berks, RG4 5ES.	Flying		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	04/06/2006	2006	SU722751		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/06/2006	2006	SU722751		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	09/06/2006	2006	SU722751		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	13/06/2006	2006	SU722751		Private garden	Flying		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	19/06/2006	2006	SU722751		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/06/1998	1998	SU72307209		nr. School wildlife area, Reading, Berks	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	08/06/1998	1998	SU72307209		nr. School wildlife area, Reading, Berks	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2 males; 2 females	17/05/1998	1998	SU72307540		36 Valentine Crescent, Caversham, Berks, RG4 5JJ	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female; 2	Jun-99	1999	SU723746		The White House, 4 Montague St, Caversham, Reading	field record		BIG	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	5 adults males	24/06/2008	2008	SU723752		7 Long Hash Close, Reading RG4 5ER	field record		MOP	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	05/06/1998	1998	SU72407236		Corner of Redlands Rd and Upper Redlands Rd, Reading, Berks.,	Dead (reason unknown)		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	18/07/2012	2012	SU72427272		Redlands Rd, Reading, pavement opposite Museum of English Rural Life	field record		MOP	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	27/05/1998	1998	SU72457244		Redlands Rd, nr Royal Berks Hospital (radiography unit), Reading, Berks.,	Dead (reason unknown)		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	18/06/2006	2006	SU724752		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/06/2007	2007	SU724752		Private garden - Bare wall/fence	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	15/06/2007	2007	SU725753		Private garden - Inside building	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	14/06/2007	2007	SU725753		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	21/06/2007	2007	SU726729		Private garden - Inside building	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	25/10/2007	2007	SU726735		Private garden - Gutter/drain	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	18/06/2006	2006	SU726750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	2 males	01/06/2006	2006	SU726750		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	24/06/1998	1998	SU72707229		Wells Hall, Upper Redlands Rd, Reading, Berks, RG1 5JF	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	22/06/2002	2002	SU7272	1 km record	Town - Highway	Dead (killed by human)		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	Jul-98	1998	SU728729		26 Alexandra Road, Reading, Berks, RG1 5PD.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	11/07/2007	2007	SU729747		Private garden - Inside building	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	13/06/1998	1998	SU730726		Addington Road, Reading, Berks, RG7 5PZ.	field record		BBOWT	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 female	23/06/2007	2007	SU730726		Town - Highway	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	01/06/2007	2007	SU730726		Private garden	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Stag Beetle	Lucanus cervus	1 male	22/06/2006	2006	SU732735		Private garden - Tree	field record		PTES	HabDir-A2	WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Small Heath	Coenonympha pamphilus	1	04/08/1992	1992	SU7074	1 km record	Caversham S Of Thames Flood Meadow	field record		UTBC			NERC S.41	GBRed-post 2001-NT
Ghost Moth	Hepialus humuli	1 adult	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
a moth	Mecyna flavalis subsp. flaviculalis	1 adult	23/07/1993	1993	SU70497551		25 Matlock Road, Caversham	field record		LN				GBRed-pre94-VU
Lackey	Malacosoma neustria	1 adult	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
Lackey	Malacosoma neustria	1 adult	09/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Emerald	Hemistola chrysoprasaria	1 adult	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	1 adult	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	1 adult	21/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	1 adult	22/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	1 adult	23/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dark-barred Twin-spot Carpet	Xanthorhoe ferrugata	1 adult	29/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Shaded Broad-bar	Scotopteryx chenopodiata	5 adults	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Shaded Broad-bar	Scotopteryx chenopodiata	1 adult	19/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Spinach	Eulithis mellinata	1 adult	02/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Spinach	Eulithis mellinata	1 adult	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Spinach	Eulithis mellinata	1 adult	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Spinach	Eulithis mellinata	1 adult	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
Spinach	Eulithis mellinata	2 adults	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Phoenix	Ecliptopera silaceata	1 adult	11/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
V-moth	Macaria wauaria	1 adult	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
V-moth	Macaria wauaria	1 adult	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
V-moth	Macaria wauaria	1 adult	30/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
V-moth	Macaria wauaria	2 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
V-moth	Macaria wauaria	1 adult	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
V-moth	Macaria wauaria	1 adult	09/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
September Thorn	Ennomos erosaria	2 adults	18/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	01/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	03/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	04/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	05/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	06/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	06/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	11/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	18/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	26/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	3 adults	13/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	3 adults	15/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	3 adults	29/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	5 adults	11/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	5 adults	12/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	5 adults	16/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	29/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	1 adult	31/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	7 adults	09/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	12 adults	08/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	12 adults	10/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	01/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	02/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	07/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	17/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	27/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	2 adults	30/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	4 adults	02/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	4 adults	07/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Brindled Beauty	Lycia hirtaria	6 adults	28/03/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Garden Tiger	Arctia caja	1 adult	22/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Garden Tiger	Arctia caja	1 adult	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
White Ermine	Spilosoma lubricipeda	3 adults	14/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
White Ermine	Spilosoma lubricipeda	1 adult	07/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
White Ermine	Spilosoma lubricipeda	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
White Ermine	Spilosoma lubricipeda	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
White Ermine	Spilosoma lubricipeda	1 adult	24/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	20/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	22/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	23/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	29/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Buff Ermine	Spilosoma luteum	2 adults	17/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	2 adults	21/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	2 adults	25/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	4 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	3 adults	15/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	3 adults	16/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Buff Ermine	Spilosoma luteum	1 adult	13/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Cinnabar	Tyria jacobaeae	1 adult	01/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Cinnabar	Tyria jacobaeae		28/04/1997 - 11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	
Cinnabar	Tyria jacobaeae	1 larva	16/08/1985	1985	SU714727		River Kennet, Berkeley Ave. to IDR			RUWG			NERC S.41	
Cinnabar	Tyria jacobaeae		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	01/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	10/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	14/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	16/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	20/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	22/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	1 adult	24/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	4 adults	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	4 adults	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	02/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	03/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	04/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	05/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	13/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	19/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Small Square-spot	Diarsia rubi	2 adults	28/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	4 adults	29/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	5 adults	22/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	8 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	8 adults	23/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	15 adults	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	50 adults	19/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	53 adults	14/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	55 adults	10/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	56 adults	15/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	59 adults	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	61 adult	21/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	1 adult	02/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	1 adult	21/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	1 adult	23/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	1 adult	28/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	2 adults	22/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	26 adults	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	26 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	31 adult	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	3 adults	01/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	3 adults	30/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	31 adult	09/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	31 adult	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	37 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	41 adult	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	44 adults	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
Dot Moth	Melanchra persicariae	46 adults	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Dot Moth	Melanchra persicariae	49 adults	18/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Powdered Quaker	Orthosia gracilis	1 adult	01/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Powdered Quaker	Orthosia gracilis	1 adult	02/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Powdered Quaker	Orthosia gracilis	1 adult	03/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Wood Quaker	Orthosia gracilis	1 adult	30/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Wood Quaker	Orthosia gracilis	2 adults	06/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Wood Quaker	Orthosia gracilis	2 adults	07/04/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	24/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	27/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	18/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	21/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	3 adults	31/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	6 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	5 adults	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
Common Green	Acronicta psi	5 adults	22/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	2 adults	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	2 adults	14/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	2 adults	19/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	2 adults	25/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	4 adults	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	4 adults	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	4 adults	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	11 adult	19/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	7 adults	09/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	7 adults	15/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	7 adults	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	01/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	03/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	07/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	08/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	10/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta psi	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta rumicis	1 adult	07/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta rumicis	1 adult	20/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta rumicis	1 adult	20/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Acronicta rumicis	1 adult	22/05/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea remissa	1 adult	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea remissa	1 adult	23/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	14/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	26/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	1 adult	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	2 adults	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Apamea anceps	2 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Mesoligia literosa	1 adult	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Mesoligia literosa	1 adult	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Mesoligia literosa	2 adults	15/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	2 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	2 adults	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	6 adults	14/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	1 adult	01/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	1 adult	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	1 adult	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	1 adult	22/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	1 adult	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	2 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	2 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Common Green	Hoplodrina blanda	2 adults	19/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Rustic	Hoplodrina blanda	2 adults	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	2 adults	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	2 adults	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	6 adults	23/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	4 adults	15/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	4 adults	21/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Rustic	Hoplodrina blanda	5 adults	18/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	13/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	14/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	17/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	18/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	22/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	25/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	26/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	7 adults	09/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	7 adults	12/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	15 adults	10/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	02/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	12/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	15/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	20/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	3 adults	18/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	8 adults	06/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	8 adults	07/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	8 adults	17/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	8 adults	21/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	6 adults	01/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	6 adults	14/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	6 adults	19/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	6 adults	22/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	6 adults	30/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	4 adults	27/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	4 adults	29/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	13 adults	11/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	13 adults	13/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	1 adult	11/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	20/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	23/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	2 adults	25/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	5 adults	24/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	9 adults	08/07/1981	1981	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	9 adults	15/07/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Mottled Rustic	Caradrina morpheus	9 adults	23/06/1981	1981	SU70497551		25 Matlock Road, Caversham	trapped at mercury vapour light		LN			NERC S.41	
Olive Crescent	Trisateles emortualis		06/07/1987	1987	SU70497551		25 Matlock Road, Caversham	field record		LN			NERC S.41	GBRed-pre94-R
a True Fly	Coenosia vibrissata	1 female	Oct-91	1991	SU721742		Hill's Meadow			LN				GBRed-pre94-R
a True Fly	Helina vicina	1 female	Oct-91	1991	SU721742		Hill's Meadow			LN				Notable
Red-shanked Carder-bee	Bombus (Thoracobombus) ruderarius		28/04/1997 - 11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	
Smooth Newt	Lissotriton vulgaris	20 adults	11/02/2004	2004	SU709748		Caversham Court	field record	collected while emptying pond	LN		WACA-Sch5_sect9.5a, 9.5b		
Smooth Newt	Lissotriton vulgaris	1 Juvenile	23/04/2008	2008	SU709748		Caversham Court	field record		LN		WACA-Sch5_sect9.5a, 9.5b		
Smooth Newt	Lissotriton vulgaris	adults	1997	1997	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b		
Smooth Newt	Lissotriton vulgaris	adults	1999	1999	SU727751		Caversham, S of A4155	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b		
Smooth Newt	Lissotriton vulgaris	adults	1988	1988	SU728749		Reading, Caversham, Berry Brook	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b		
Common Toad	Bufo bufo	adults	20/10/1994	1994	SU721746		Lower Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	09/08/1997	1997	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	24/08/1997	1997	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	13/09/1997	1997	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Common Toad	Bufo bufo	adults	05/01/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	24/04/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	09/05/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	31/05/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	10/06/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	29/08/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo	adults	26/09/1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Toad	Bufo bufo		13/08/1986	1986	SU728750		Ash Woodland and Berry Brook			RUWG		WACA-Sch5_sect9.5a, 9.5b	NERC S.41	
Common Frog	Rana temporaria	adults	1996	1996	SU714744		Caversham	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria	adults	1997	1997	SU717748		Caversham	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria	adults	1996	1996	SU723744		Lower Caversham	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria	adults	1988	1988	SU727749		Caversham, Reading	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria	adults	1997	1997	SU727751		Caversham	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria	adults	1999	1999	SU727751		Caversham, S of A4155	field record		BRAG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Common Frog	Rana temporaria		13/08/1986	1986	SU728750		Ash Woodland and Berry Brook			RUWG	HabDir-A5	WACA-Sch5_sect9.5a, 9.5b		
Slow-worm	Anguis fragilis	1 Juvenile	30/07/2008	2008	SU702734		Reading, Oxford Rd community garden	field record		LN		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Slow-worm	Anguis fragilis	2 Juveniles	23/04/2008	2008	SU70877485		Caversham Court	field record	Allotment	LN		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Slow-worm	Anguis fragilis	adults	09/11/1999	1999	SU713749		Caversham	field record		BRAG		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Slow-worm	Anguis fragilis	adults	09/02/1982	1982	SU720736		Forbury Gardens, Reading	field record		BRAG		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Slow-worm	Anguis fragilis	adults	08/10/1980	1980	SU7272	1 km record	Redlands, Reading	field record	Killed in mistake for a snake Grid ref added as none with original record.	BRAG		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Grass Snake	Natrix natrix	1 adult	05/03/2008	2008	SU727740		The Coal	field record	scrubby 'brownfield' site	LN		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Grass Snake	Natrix natrix	adults	1999	1999	SU727751		Caversham	field record		BRAG		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Grass Snake	Natrix natrix	adults	2000	2000	SU727751		A4155, S of	field record		BRAG		WACA-Sch5_sect9.1, 9.5a, 9.5b	NERC S.41	
Mallard	Anas platyrhynchos	5	23/04/2004	2004	SU71277271		Holy Brook from Berekeley Ave. to IDR			BLWS				Bird-Amber
Mallard	Anas platyrhynchos	1	26/04/2004	2004	SU713724		Holy Brook South of Berkeley Ave.			BLWS				Bird-Amber
Mallard	Anas platyrhynchos		Jun-94	1994	SU713725		Holy Brook South of Berkeley Ave.			BLWS				Bird-Amber
Mallard	Anas platyrhynchos		Jun-94	1994	SU713727		Holy Brook from Berekeley Ave. to IDR			BLWS				Bird-Amber
Mallard	Anas platyrhynchos		23/04/2004	2004	SU71377275		River Kennet, Berkeley Ave. to IDR		several	BLWS				Bird-Amber
Mallard	Anas platyrhynchos	1	26/04/2004	2004	SU71427251		River Kennet - Holy Brook confluence to Berkeley Ave.			BLWS				Bird-Amber
Mallard	Anas platyrhynchos	7	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mallard	Anas platyrhynchos	4	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mallard	Anas platyrhynchos	5	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mallard	Anas platyrhynchos	7	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mallard	Anas platyrhynchos	2	20/04/2004	2004	SU73057388		Kennet mouth West			BLWS				Bird-Amber
European Honey-buzzard	Pernis apivorus	1	28/09/2000	2000	SU7175	1 km record	Caversham, Berks.	Field Record	1 rufous juv Honey Buzzard passed low south just north of Caversham Reading (in Oxon)	OOS	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Red Kite	Milvus milvus		27/06/2005	2005	SU69897477		Little John's Farm Meadows		Flying over the site.	BLWS	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber,GlobalRed-post2001-NT
Common Kestrel	Falco tinnunculus	1	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Common Kestrel	Falco tinnunculus	1	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Common Kestrel	Falco tinnunculus		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Northern Lapwing	Vanellus vanellus		Apr-94	1994	SU696746		Little John's Farm Meadows			BLWS			NERC S.41	Bird-Red
Common Tern	Sterna hirundo	1	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP	BirdsDir-A1			Bird-Amber

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Common Swift	Apus apus		Apr-94	1994	SU696746		Little John's Farm Meadows			BLWS				Bird-Amber
Common Swift	Apus apus		Apr-94	1994	SU703745		Cow Lane Verges			BLWS				Bird-Amber
Common Swift	Apus apus		Apr-94	1994	SU703749		Grass Hill Woodland			BLWS				Bird-Amber
Common Swift	Apus apus		Jun-94	1994	SU714725		River Kennet - Holy Brook confluence to Berkeley Ave.			BLWS				Bird-Amber
Common Swift	Apus apus		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Common Kingfisher	Alcedo atthis		26/09/1986	1986	SU696746		Little John's Farm Meadows			RUWG	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Common Kingfisher	Alcedo atthis	1	04/08/1998	1998	SU703745		Cow Lane Verges	field record		BLWS	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Common Kingfisher	Alcedo atthis	1	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Common Kingfisher	Alcedo atthis	1	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Common Kingfisher	Alcedo atthis		Jul-85	1985	SU727741		Kennet mouth West			NE	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Common Kingfisher	Alcedo atthis		13/08/1986	1986	SU728750		Ash Woodland and Berry Brook			RUWG	BirdsDir-A1	WACA-Sch1(pt 1)		Bird-Amber
Barn Swallow	Hirundo rustica		Apr-94	1994	SU696746		Little John's Farm Meadows			BLWS				Bird-Amber
Sky Lark	Alauda arvensis		Apr-94	1994	SU703745		Cow Lane Verges			BLWS			NERC S.41	Bird-Red
Barn Swallow	Hirundo rustica		Apr-94	1994	SU703745		Cow Lane Verges			BLWS				Bird-Amber
House Martin	Delichon urbicum		Apr-94	1994	SU703749		Grass Hill Woodland			BLWS				Bird-Amber
Barn Swallow	Hirundo rustica		Apr-94	1994	SU703749		Grass Hill Woodland			BLWS				Bird-Amber
House Martin	Delichon urbicum		Jun-94	1994	SU713727		Holy Brook from Berekeley Ave. to IDR			BLWS				Bird-Amber
House Martin	Delichon urbicum		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Barn Swallow	Hirundo rustica		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Hedge Accentor	Prunella modularis		Apr-94	1994	SU703745		Cow Lane Verges			BLWS				Bird-Amber
Hedge Accentor	Prunella modularis	4	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Hedge Accentor	Prunella modularis	3	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Hedge Accentor	Prunella modularis	2	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Hedge Accentor	Prunella modularis		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Black Redstart	Phoenicurus ochruros		17/04/2005	2005	SU71437362		Merchants Place behind houses at Friar Street end (Reading)		Signing strongly	MOP		WACA-Sch1(pt 1)		Bird-Amber
Black Redstart	Phoenicurus ochruros		17/04/2005	2005	SU71507348		Broad Street corner of Queen Victoria Street (Reading)			MOP		WACA-Sch1(pt 1)		Bird-Amber
Black Redstart	Phoenicurus ochruros		17/04/2005	2005	SU72957370		Newtown Gas Tower (Reading)		Singing	MOP		WACA-Sch1(pt 1)		Bird-Amber
Fieldfare	Turdus pilaris		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG		WACA-Sch1(pt 1)		Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding	May-00	2000	SU6973	1 km record		field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 calling/vocalising	17/12/2000	2000	SU701730		Railway bridge, Tilehurst Rd, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding; 1 nest building/gathering materials; 2 Juveniles	Mar-00	2000	SU701732		No. 7 Wood Green Close, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 singing/mating calls	05/04/2000	2000	SU702722		Outside the Independent Hospital, Coley Park	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 calling/vocalising; 1 feeding; 1 nest building/gathering materials; 2 adults	Dec-99	1999	SU702731		Brunswick Hill, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 feeding; 2 adults	Jun-00	2000	SU702752		Ridge Hall Close, Caversham	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos		26/06/1985	1985	SU703745		Cow Lane Verges			BBOWT				Bird-Red

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Song Thrush	Turdus philomelos	1 feeding; 1 singing/mating calls; 1 nest building/gathering materials; 2 adults	09/05/2000	2000	SU704724		No. 17 Baydon Drive, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult	05/04/2000	2000	SU704726		Portway Close, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 carrying food; 1 feeding; 1 in flight	12/06/2000	2000	SU704731		Tilehurst Rd/Prospect St, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 singing/mating calls; 2 adults	May-00	2000	SU7075	1 km record	Garden, Caversham, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding	30/03/2000	2000	SU7075	1 km record	Garden of no. 33 Richmond Road, Caversham, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 adult sitting on nest	22/03/2000	2000	SU707730		Russell St, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 calling/vocalising; 4 adults	Mar-00	2000	SU712757		Hemdean Rd, Caversham	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	4	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Song Thrush	Turdus philomelos	1	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Song Thrush	Turdus philomelos	2	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Song Thrush	Turdus philomelos	2	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 Dead	12/05/2000	2000	SU715740		Vastern Road, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Red
Song Thrush	Turdus philomelos	1 calling/vocalising; 1 feeding; 2 adults	Dec-99	1999	SU7173	1 km record	Jesse Terrace, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding	23/03/2000	2000	SU719754		Derby Road, Caversham	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding	06/04/2000	2000	SU723752		Grovenor Rd, Caversham	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult	10/05/2000	2000	SU7274	1 km record	No. 57 St John's Road, Caversham, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 feeding; 1 in flight; 1 nest building/gathering materials; 1 singing/mating calls; 2 adults	Dec-99	1999	SU7275	1 km record	53 All Hallows Road, Caversham, Reading	field record		BBOWT				Bird-Red
Song Thrush	Turdus philomelos	1 adult; 1 feeding	May-00	2000	SU7275	1 km record	No. 11 and 12 Queen Annes Gate, Caversham	field record		BBOWT				Bird-Red
Mistle Thrush	Turdus viscivorus		Apr-94	1994	SU696746		Little John's Farm Meadows			BLWS				Bird-Amber
Mistle Thrush	Turdus viscivorus	3	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mistle Thrush	Turdus viscivorus	4	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Mistle Thrush	Turdus viscivorus		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Amber
Common Whitethroat	Sylvia communis		26/06/1985	1985	SU703745		Cow Lane Verges			BBOWT				Bird-Amber
Common Whitethroat	Sylvia communis		Apr-94	1994	SU703745		Cow Lane Verges			BLWS				Bird-Amber
Common Whitethroat	Sylvia communis		20/06/1985	1985	SU704738		Cow Lane Depot, Cow Lane			RUWG				Bird-Amber
Common Whitethroat	Sylvia communis	7	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber

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Common Whitethroat	Sylvia communis	2	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Common Whitethroat	Sylvia communis	3	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Willow Warbler	Phylloscopus trochilus		26/06/1985	1985	SU703745		Cow Lane Verges			BBOWT				Bird-Amber
Willow Warbler	Phylloscopus trochilus		Apr-94	1994	SU703745		Cow Lane Verges			BLWS				Bird-Amber
Willow Warbler	Phylloscopus trochilus	3	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Willow Warbler	Phylloscopus trochilus	1	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Amber
Willow Warbler	Phylloscopus trochilus		Jul-85	1985	SU727741		Kennet mouth West			NE				Bird-Amber
Spotted Flycatcher	Muscicapa striata	1	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	Bird-Red
Spotted Flycatcher	Muscicapa striata		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG			NERC S.41	Bird-Red
Common Starling	Sturnus vulgaris	2	23/04/2004	2004	SU71277271		Holy Brook from Berekley Ave. to IDR			BLWS				Bird-Red
Common Starling	Sturnus vulgaris	18	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Starling	Sturnus vulgaris	15	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Starling	Sturnus vulgaris	5	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Starling	Sturnus vulgaris	48	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Starling	Sturnus vulgaris	2 adults	03/11/2008	2008	SU715738		Reading Station, Platform 4	field record	2 adults eating something on the platform.	MOP				Bird-Red
Common Starling	Sturnus vulgaris		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG				Bird-Red
House Sparrow	Passer domesticus	4	26/04/2004	2004	SU713724		Holy Brook South of Berkeley Ave.			BLWS			NERC S.41	Bird-Red
House Sparrow	Passer domesticus	15	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	Bird-Red
House Sparrow	Passer domesticus	12	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	Bird-Red
House Sparrow	Passer domesticus	4	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	Bird-Red
House Sparrow	Passer domesticus	10	11/11/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP			NERC S.41	Bird-Red
House Sparrow	Passer domesticus		Jun-94	1994	SU714725		River Kennet - Holy Brook confluence to Berkeley Ave.			BLWS			NERC S.41	Bird-Red
House Sparrow	Passer domesticus		10/06/1986	1986	SU715757		Old Cemetery, Victoria Rd			RUWG			NERC S.41	Bird-Red
Common Linnet	Carduelis cannabina	1	28/04/1997 - 16/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Linnet	Carduelis cannabina	3	22/05/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Common Linnet	Carduelis cannabina	4	04/09/1997	1997	SU714719		Waterloo Meadows	field record	Site across river from LWS	RWP				Bird-Red
Reed Bunting	Emberiza schoeniclus	2	27/06/2005	2005	SU70047462		Little John's Farm Meadows			BLWS			NERC S.41	Bird-Amber
Reed Bunting	Emberiza schoeniclus		20/06/1985	1985	SU704738		Cow Lane Depot, Cow Lane			RUWG			NERC S.41	Bird-Amber
European Water Vole	Arvicola amphibius		Aug-98	1998	SU707719		River Kennet			BBOWT		WACA-Sch5_sect9.1, 9.2, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
European Water Vole	Arvicola amphibius		1999	1999	SU714718		River Kennet, Reading			BBOWT		WACA-Sch5_sect9.1, 9.2, 9.4a, 9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
West European Hedgehog	Erinaceus europaeus	1 Dead	16/11/2006	2006	SU704723		Coley Park, Reading			LN			NERC S.41	
West European Hedgehog	Erinaceus europaeus	1	10/10/2006	2006	SU706754		Caversham Heights, Reading	field record		PTES			NERC S.41	
West European Hedgehog	Erinaceus europaeus	1 adult	29/10/2010	2010	SU712723		A33 by Holy Brook bridge, Reading	field record	RTA	LN			NERC S.41	
West European Hedgehog	Erinaceus europaeus	2	16/08/2006	2006	SU714752		Caversham, Reading	field record		PTES			NERC S.41	
West European Hedgehog	Erinaceus europaeus	1	17/10/2006	2006	SU719735		wrwer, Reading	field record		PTES			NERC S.41	

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West European Hedgehog	Erinaceus europaeus	1	10/11/2006	2006	SU720723		Reading	field record		PTES			NERC S.41	
West European Hedgehog	Erinaceus europaeus	2	24/08/2006	2006	SU725751		Caversham, Reading	field record		PTES			NERC S.41	
Unidentified Myotis Bat	Myotis		09/07/1991	1991	SU705750		Kelmscott Close, Caversham Heights	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Unidentified Myotis Bat	Myotis		14/01/1993	1993	SU717735		Market Place, Reading	building		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Unidentified Myotis Bat	Myotis		24/07/1991	1991	SU726753		Mayfield Drive, Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Unidentified Myotis Bat	Myotis	13	18/07/1983	1983	SU7274	1 km record	Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Unidentified Myotis Bat	Myotis	20	21/07/1986	1986	SU7274	1 km record	Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Unidentified Myotis Bat	Myotis		11/06/1991	1991	SU7274	1 km record	Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	24/08/1998	1998	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	30/08/1998	1998	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	13/08/1999	1999	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	26/08/1999	1999	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	12/08/2000	2000	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	21/08/2000	2000	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	04/08/2001	2001	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	19/08/2001	2001	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	17/08/2002	2002	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	10/08/2002	2002	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	07/08/2003	2003	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	18/08/2003	2003	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	04/08/2004	2004	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	16/08/2004	2004	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		

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Daubenton's Bat	Myotis daubentonii	adults	01/08/2005	2005	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	16/08/2005	2005	SU7074		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	1	25/07/1991	1991	SU7173	1 km record	River Kennet	other		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii		17/06/2001	2001	SU7173		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii		05/07/2004	2004	SU7273		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	01/08/2008	2008	SU7273		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Daubenton's Bat	Myotis daubentonii	adults	22/05/2011	2011	SU7273		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Noctule Bat	Nyctalus noctula	2 to 3	1999	1999	SU713745		River Thames, Caversham, Reading, River, woodland, meadow	field record		LN	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Noctule Bat	Nyctalus noctula	2	01/01/1999 - 31/12/1999	1999	SU7174		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Noctule Bat	Nyctalus noctula		21/05/2001	2001	SU7275		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Noctule Bat	Nyctalus noctula	1 adult	10/04/2007	2007	SU7373		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Pipistrelle Bat species	Pipistrellus	17	04/06/1993	1993	SU701729		Off Southcote Road	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	180	06/07/1987	1987	SU702752		Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		23/07/1993	1993	SU705725		Berkeley Avenue, Reading	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		1994 - 2000	2000	SU705726		Unknown	Roost		LN	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		12/07/1993	1993	SU705728		Bath Road, Reading	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		2002	2002	SU7072		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		2002	2002	SU7072		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	1	22/08/2011	2011	SU7073		Refer to BSBBG for more details	Injured Bat Record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	39	17/06/1994	1994	SU7075	1 km record	Caversham Heights	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		1994 - 2000	2000	SU709724		Unknown	field record		LN	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		

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Pipistrelle Bat species	Pipistrellus	100	29/06/1987	1987	SU712753		Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		02/06/1993	1993	SU7173	1 km record	Bath Road (A4, Castle Rd?)	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		07/06/1993	1993	SU7173	1 km record	Bath Road (A4, Castle Rd?)	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	2	13/12/1994	1994	SU717735		Market Place, Reading	building		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	122	19/06/1997	1997	SU721753		Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	1	20/04/2011	2011	SU7273	1 km record	Refer to BSBBG for more details	Injured Bat Record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	1 Dead	22/06/2011	2011	SU7273	1 km record	Refer to BSBBG for more details	Injured Bat Record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	1 Dead	22/06/2011	2011	SU7273	1 km record	Refer to BSBBG for more details	Injured Bat Record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	25	03/08/1993	1993	SU7274	1 km record	Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	7	30/04/1994	1994	SU7274	1 km record	Caversham	house		NE	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		2002	2002	SU7274	1 km record	Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus	1	01/08/2011	2011	SU7274		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Pipistrelle Bat species	Pipistrellus		21/05/2001	2001	SU7275		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Nathusius's Pipistrelle	Pipistrellus nathusii	1 Juvenile	1997	1997	SU715755		Caversham, Reading, Probable breeding/house	field record		LN	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Nathusius's Pipistrelle	Pipistrellus nathusii	1 Juvenile	01/01/1997 - 31/12/1997	1997	SU7175		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Common Pipistrelle	Pipistrellus pipistrellus	adults	22/05/2011	2011	SU7273		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Common Pipistrelle	Pipistrellus pipistrellus	1 male	20/04/2011	2011	SU7273	1 km record	Refer to BSBBG for more details	Injured Bat Record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Common Pipistrelle	Pipistrellus pipistrellus	2 adults	27/03/2007	2007	SU7373		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Soprano Pipistrelle	Pipistrellus pygmaeus	2	24/07/2012	2012	SU7175		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Soprano Pipistrelle	Pipistrellus pygmaeus	adults	22/05/2011	2011	SU7273		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Soprano Pipistrelle	Pipistrellus pygmaeus	7 adults	27/03/2007	2007	SU7373		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	

Common Name	Scientific name	Abundance and/or Sex/Stage	Date	Year	Grid Ref	Grid Ref. Qualifier	Location	Type of Record	Comment	Data Origin	European Directives	UK Legislation	Priority NERC S.41	Other Designations
Soprano Pipistrelle	Pipistrellus pygmaeus	1	10/04/2007	2007	SU7373		Refer to BSBBG for more details	aural bat detector		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Long-eared Bat species	Plecotus		24/09/2005	2005	SU7275		Refer to BSBBG for more details	dung/droppings/frass/pellet, etc.		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b		
Brown Long-eared Bat	Plecotus auritus	1	1998	1998	SU71237505		Hemdean Rise, Caversham, Reading., Found injured	field record		LN	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
Brown Long-eared Bat	Plecotus auritus	1	01/01/1998 - 31/12/1998	1998	SU7175		Refer to BSBBG for more details	field record		BSBBG	HabDir-A4	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4c, 9.5a, 9.5b	NERC S.41	
European Otter	Lutra lutra	1 adult	19/07/2010	2010	SU71847410		Reading Bridge east side	field record		OS	HabDir-A2	HabReg-Sch2, WACA-Sch5_sect9.4b, 9.4b, 9.5a, 9.5b	NERC S.41	GlobalRed-post2001-NT

Status Key. Produced January 2014 by Thames Valley Environmental Records Centre

EUROPEAN DIRECTIVES

- BirdsDir-A1 - Species listed on Annex 1 of EC Directive 79/409/EEC on the Conservation of Wild Birds.
- HabDir-A2, HabDir-A4 & HabDir-A5 - Annex 2 and Annexes 4/5 respectively of the EC Habitats Directive. This is the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora.

UK LEGISLATION: CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010

This legislation translates the European Habitats Directive (see above) into UK law where species are listed in Schedule 2 and Schedule 4. Species are tagged as HabReg-Sch2 or HabReg-Sch4.

UK LEGISLATION: WILDLIFE AND COUNTRYSIDE ACT 1981

Schedule 1 Wild Birds

prohibits the intentional killing, injuring or taking of any wild bird and the taking, damaging or destroying of the nest (whilst being built or in use) or eggs. It prohibits possession of wild birds (dead or alive) or their eggs. In addition:

- WACA-Sch1(pt 1) – There are additional penalties for offences relating to birds on this schedule and it is also an offence to disturb such birds at the nest or with dependent young.
- WACA-Sch1(pt 2) – Covers the protection of birds which may be killed during the open season.

(Please note that some schedule 1 bird records will refer to species that do not breed in the county, e.g. over-wintering birds such as Redwing or Fieldfare. Although we include them in the annotated records, only they and their nests, eggs and dependent young enjoy extra protection under the W&C 1981 act. If you are in any doubt about the breeding status of a bird please contact us at TVERC)

Schedule 5 Wild Animals

- WACA-Sch5_sect9.1 – covers intentional killing injuring or taking (species are covered by all or some of these)
- WACA-Sch5_sect9.2 – Covers possession or control (live or dead animal, part or derivative)
- WACA-Sch5_sect9.4a – Covers damage to or destruction of any structure or place used by a scheduled animal for shelter or protection.
- WACA-Sch5_sect9.4b – Covers disturbance of animal occupying such a structure or place.
- WACA-Sch5_sect9.4c – Covers obstruction of access to any structure or place which any such animal uses for shelter or protection
- WACA-Sch5_sect9.5a – Covers selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative).
- WACA-Sch5_sect9.5b – Covers advertising for buying or selling such things.

Schedule 8 Wild Plants

- WACA-Sch8 - Covers any picking, uprooting or destruction of plants listed on the Schedule. It also prohibits the sale, etc, or possession for the purpose of sale of any plants on the Schedule.

PRIORITY NERC S.41 2006

Species listed in Section 41 of the Natural Environment and Rural Communities Act 2006 as a species of principle importance. These are very similar to the list of UKBAP and have superseded them. Species are tagged NERC S.41.

OTHER DESIGNATIONS: RED LISTS

Global Red List Species (tagged GlobalRed) - Species listed by the International Union for Conservation of Nature (IUCN) in the IUCN Red List of Threatened Species. Species included are from post 1994 and post 2001 lists.

GB Red List Species (tagged GBRed) - Species included in national red lists. Species included are from pre 1994 and post 2001 lists. Please note not all taxon groups are currently covered, for example fungi.

Abbreviations:

EX – Extinct A taxon is Extinct when there is no reasonable doubt that the last individual has died.

EW – Extinct in the Wild. Species known to survive only in cultivation, in captivity or as a naturalised population(s) well outside the past range.

CR – Critically Endangered (CR) Species facing an extremely high risk of extinction in the wild in the immediate future.

EN – Endangered: Species that are not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.

VU – Vulnerable: A species is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future

NT – Near Threatened – A taxon considered to likely to become endangered in the near future.

LR(cd) – Lower risk (conservation dependent)

DD – Data deficient – A taxon with insufficient data to make an assessment of its risk of extinction.

RE – Regionally Extinct – Taxa that are considered extinct within the region but populations exist elsewhere in the world.

Inde – indeterminate – based on a pre 1994 category: Taxa which are known to be Endangered, Vulnerable or Rare but with insufficient data to place them in one of the categories.

Insu – Insufficiently known - based on a pre 1994 category which equates to data deficient.

Species included here are from information compiled by JNCC (The Joint Nature Conservation Committee).

OTHER DESIGNATIONS: NATIONALLY NOTABLE SPECIES

This covers invertebrate species not falling within IUCN categories but never the less uncommon in Britain.

Nationally Notable A (Tagged Notable-A): Taxa which occur in <30 10 km (hectad) squares or for less well recorded groups within <7 vice counties.

Nationally Notable B (Tagged Notable-B): Taxa which don't fall within IUCN categories but are uncommon in Britain and occur in 31-100 10 km sq/ or for less or for less well recorded groups between 8 and 20 vice counties

Notable (Tagged Notable): Taxa known to be scarce (occurring in between 16 and 100 10km squares) but for which there is insufficient information to assign them to the above categories.

This designation comes from the National Biodiversity Network (NBN) species dictionary but is supported by JNCC.

OTHER DESIGNATIONS: NATIONALLY RARE OR SCARCE SPECIES

This designation covers species that are recognised to occur in only a few locations in Britain.

Rare (tagged as Status-NR) = occurring in 15 or fewer hectads (10 km squares) in the UK

Scarce (tagged as Status-NS) = occurring in 16 – 100 hectads in the UK.

OTHER DESIGNATIONS: BIRDS OF CONSERVATION CONCERN LISTS

These lists were drawn up by leading governmental and non-governmental conservation organizations including the RSPB and British Trust for Ornithology. The most recent version was published in May 2009.

Red List (tagged Bird-Red) - species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered.

Amber List (tagged Bird-Amber) - Amber list species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare breeders (fewer than 300 pairs), those with internationally important populations in the UK, those with localised populations, and those with an unfavourable conservation status in Europe.

OTHER DESIGNATIONS: LOCAL BAP SPECIES

For any Local Authority that has drawn up a list of BAP species. Designations will only apply to species recorded from the Local Authority area.

Currently, only Bracknell Forest Council have such a BAP list and relevant records are tagged Bracknell LBAP.

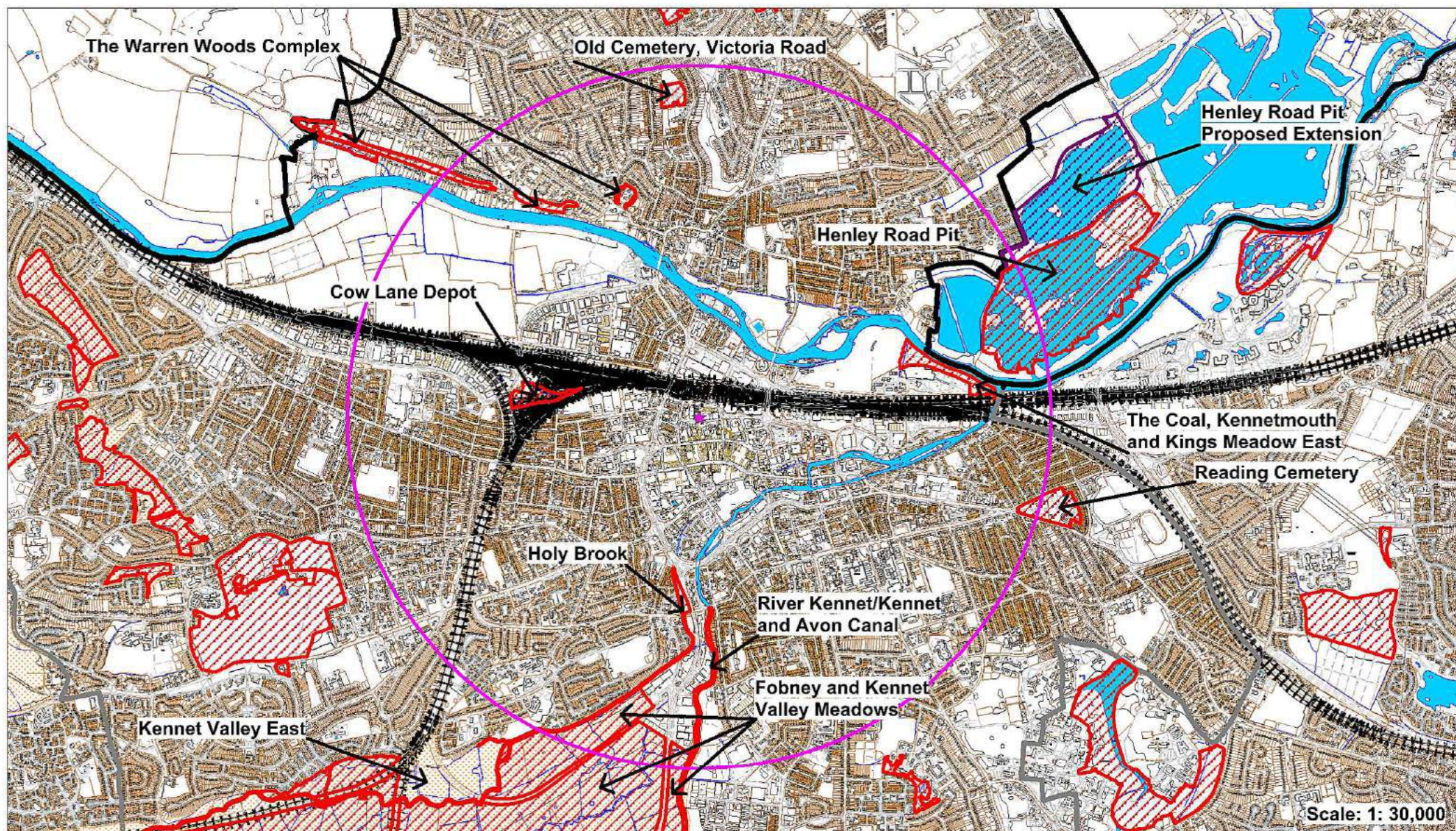
DATA ORIGIN KEY

Data Origin Abbreviation	Origin Details
AN	Abingdon Natural History Society
ANHSO	Ashmolean Natural History Society (& Rare Plant Group)
BBG	Binfield Badger Group
BBOWT	Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust
BENHS	British Entomological Natural History Society
BFC	Bracknell Forest Council
BIG	Berkshire Invertebrate Group
BLWS	Berkshire Local Wildlife Sites Project
BMG	Berkshire Mammal Group
BOC	Berkshire Bird Clubs
BOS	Banbury Ornithological Society
BRAG	Berkshire Reptile & Amphibian Group
BRC	Biological Record Centre (Monk's Wood)
BSBBG	Berks & South Berks Bat Group
BSBI	Botanical Society of the British Isles
BTC	Banbury Town Council
BTO	British Trust for Ornithology
BUWG	Bracknell Urban Wildlife Group
CBT	Childe Beale Trust
CDC	Cherwell District Council
CRPG	Cotswold Rare Plant Group
EA	Environment Agency (formally the National Rivers Authority)
EC	Professional Ecological Consultant
ET	The Earth Trust (formally the Northmoor Trust)
FLC	Friends of Longcot Churchyard
FWAG	Farmland Wildlife Advisory Group
HA	Highways Agency
LN	Local/National Expert (known to TVERC)
LWVP	Lower Windrush Valley Project
MGLG	Moor Green Lakes Group
MOP	Member of the Public
NE	Natural England/EN/NCC
NFC	Newbury Field Club
NHM	Natural History Museum
NPD	National Ponds Database
NRG	Newbury Ringing Group
NT	National Trust
OBG	Oxfordshire Bat Group
OBRC	Oxfordshire Biological Record Centre (TVERC precursor)
OCC	Oxfordshire County Council
OLWS	Oxfordshire Local Wildlife Sites Project
OOS	Oxfordshire Ornithological Society
ORAG	Oxfordshire Reptile & Amphibian Group
OS	Otter Spotter Project
OUNHM	Oxford University Natural History Museum
OUWG	Oxford Urban Wildlife Group
OX	Oxford City Council

DATA ORIGIN KEY (Contd)

Data Origin Abbreviation	Origin Details
PC	Pond Conservation
PL	Plantlife
PTES	People's Trust for Endangered Species
RBWM	Royal Borough of Windsor & Maidenhead
RDNHS	Reading and District natural History Society
RM	Reading Museum
RSPB	Royal Society for the Protection of Birds
RUWG	Reading Urban Wildlife Group
RWP	Reading Woodlands Plan
SODC	South Oxfordshire District Council
SW	Shotover Wildlife
TVERC	Thames Valley Environmental Record Centre
TVFG	Thames valley Fungus Group
TW	Thames Water
U	Unknown
UTBC	Upper Thames Butterfly Conservation
VCH	Victoria County History (historical records)
VWH	Vale of White Horse District Council
WB	West Berkshire District Council
WBC	Wokingham Borough Council
WILDCRU	Wildlife Conservation Research Unit
WMUWG	Windsor & Maidenhead Urban Wildlife Group
WODC	West Oxfordshire District Council
WS	Wytham Survey
WWT	Wildfowl & Wetlands Trust
YE	Yattendon Estate

Garrard Street, Reading - Designated Wildlife Sites Map



Scale: 1: 30,000

- ★ Garrard Street, Reading
- 2 km search area
- Local Wildlife Site (LWS)
- Proposed Local Wildlife Site (p-LWS)
- Biodiversity Opportunity Area (BOA)

Map produced by Thames Valley Environmental Records Centre in 2014
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Berkshire Local Wildlife Site citation

COW LANE DEPOT

Site Code: 77B03

Grid Reference: SU70449 73848

Area (ha): 1.544

Local Authority: Reading Borough

Last Survey Date(s): May 2004

Designation Date:

Site Description

A small isolated, triangular site bounded by a railway track, situated towards the centre of Reading. The site forms a mosaic of habitats ranging from willow scrub with mature trees, to open standing water with swamp to ruderal and tall herb grassland. The site has a varied topography with a steep north facing slope colonized by buddleia, hazel and goat willow. Cow Lane Depot provides a wildlife corridor in an urban landscape.

Standing water has collected at the centre of the site where stands of greater pond sedge and common reedmace swamp (with affinities to an S6/12 NVC community) form a mosaic with open water and areas of encroaching willow scrub. In 1985 the site consisted of a phragmites reedbed, which was not recorded in the 2004 survey.

Areas of willow scrub are dominated by crack willow with some mature trees and a shaded ground flora of predominantly nettle and areas of dense bramble. A stagnant, shaded ditch lies to the north with little vegetation and some litter has collected. Adjacent to the railway track lies a recently disturbed area that consists of a ruderal type grassland. Species include red fescue, creeping bent, black knapweed, meadow vetchling, teasel and great willowherb.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: None

PROTECTED SPECIES: None recorded

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: Reed bunting (1986)

RED DATA BOOK (RDB) SPECIES RECORDED: None recorded

NATIONALLY SCARCE (NSC) SPECIES RECORDED: None recorded

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species: Reed bunting (1985)

Amber List Species: Kestrel (2004)

TYPICAL SPECIES OF THE HABITAT TYPE(S)

Typical wetland species: hemp agrimony (1986), common reed (1986), greater and lesser pond sedge (2004), soft and hard rush (2004), bulrush (2004), fool's water-cress (1986), great willowherb (2004), marsh horsetail (1986), meadowsweet (1986), branched bur-reed (1986), purple-loosestrife (1986),

Typical grassland species: common sedge (1986), sneezewort (1986)

Oxfordshire Local Wildlife Site description

HENLEY ROAD GRAVEL PIT

Site Code: 77H01

Grid Reference: SU705772

Area (ha): 53.7

Local Authority: South Oxfordshire

Last Survey Date(s): 2009

Designation Date:

Site Description

This site is large pit next to the Thames where gravel was extracted in the past. The site supports a range of wildfowl that winter in the UK including species such as gadwall which is classed a bird of conservation concern. The value of the site is dependent on the amount of disturbance. This pit is quite large and there are quieter areas and part of the site is divided by off by a thin causeway where scrub has established. The pit is one of the best sites for wildfowl in South Oxfordshire. Some nationally scarce insects have also been recorded here.

However part of the site is a marina and another part is a rowing lake and it is planned to reassess the area with other pits to the north and west, that are currently outside the site boundary, in the future.

Berkshire Local Wildlife Site citation

THE WARREN WOODLANDS COMPLEX

Site Code: 67X02

Grid Reference: SU697752

Area (ha): 7.64

Local Authority: Reading Borough Council

Last Survey Date(s): 08/04/2004

Designation Date:

Site Description

The Warren Woodland Complex consists of six sites. These are Warren Woods Chalkpit, Chalkpit Wood (SU692753), Chazney Wood (SU707764), Grass Hill and Warren Court Wood (SU706749), Woodrow Court Woods (SU709750) and Long Drain (SU693752). The sites are situated on the chalk scarp of The Warren in Caversham, Reading.

Warren Woods Chalkpit is at the western end of the site. It is a small chalk pit with a vertical face and scree below. It is in a sheltered, sunny, south-facing position. Soils are a mixture of calcareous and neutral on spoil. The floor of the pit is covered with a dense swathe of assemblage of scattered scrub, young trees, ruderal and woodland herbs. There is much dead wood and fallen trees across the site which inhibit access.

Chalkpit Wood is also at the western end of the site and surrounds the chalkpit. It is a small, largely semi-natural woodland of beech, ash and oak with some wild cherry, containing a few mature conifers on steep to moderate sloping land. It has a very diverse tree and shrub flora, typical of chalk woodlands and there are some old coppice stools. The ground flora includes wood melick, sanicle and white helleborine.

Chazney Wood is a long section of semi-natural woodland that stretches from the chalk pit in the west to Grass Hill, an unmade road, in the east along the steep, south-facing scarp. The southern boundary coincides with the road along the foot of the scarp but the existing northern boundary adjoins both woodlands and gardens. The woodland is a mixture of beech, ash and sycamore with scattered Scots pine in the east where yew becomes more abundant. The dog's mercury and ivy dominated ground flora includes ransoms and wood melick. The whole area is riddled with badger setts.

Grass Hill and Warren Court Wood consists of two adjoining sites at the eastern end of the scarp. The habitat is mixed broadleaved with beech, ash and sycamore and mature yew *Taxus baccata* woodland, most of the yew being present on the steep, unstable and eroding chalky slopes around Warren Court. The woodland is south-facing and is sheltered. There are badger setts and tracks throughout.

Woodrow Court Wood lies further to the east. It is an area of woodland at the edge of an old quarry in which flats have been built. It was not surveyed in 2004.

The Long Drain is a linear site that lies at the base of the scarp in the east and includes a steep chalk bank and a flat area on the alluvium of the Thames Valley. It consists of a steep wooded bank with beech and ash dominated woodland, wet woodland including a line of crack willow pollards, patches of sedge swamp and the drain itself which flows into the Thames a short distance to the east. There is also a grassy clearing at the western end. The wet woodland supports a population of the nationally scarce Loddon lily.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Lowland mixed deciduous woodland, Lowland beech and yew woodland, Wet woodland, Fen

PROTECTED SPECIES Badger, Bluebell

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: White helleborine

RED DATA BOOK (RDB) SPECIES RECORDED: White helleborine

NATIONALLY SCARCE (NSC) SPECIES RECORDED: Loddon lily

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species:

Amber List Species:

TYPICAL SPECIES OF THE HABITAT TYPE(S):

Berkshire Local Wildlife Site citation

KENNET & AVON CANAL AND RIVER KENNET

Site Code: SU77A02

Grid Reference: SU685709 – SU713719

Area (ha):

Local Authority: Reading

Last Survey Date(s): May 2004

Designation Date: Retained 2004

Site Description

A section of the River Kennet and the Kennet and Avon Canal from near Burghfield Bridge, south-east of Reading, to Waterloo Meadows adjacent to Edgar Road near the centre of Reading. The River Kennet is one of the best examples of a chalk river nationally, and is an UK BAP Priority Habitat. The Kennet & Avon Canal section is also fed by water from the River Kennet and is also calcareous in nature.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Chalk river.

PROTECTED SPECIES: Water vole (2000), Freshwater crayfish (1979), Bluebell (2004)

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: Water vole (2000), Freshwater crayfish (1979)

RED DATA BOOK (RDB) SPECIES RECORDED: Freshwater crayfish (1979),

NATIONALLY SCARCE (NSC) SPECIES RECORDED: Whorled water-milfoil (1985), River water-dropwort (1985), Chives (1985), Beautiful demoiselle (local - 2004).

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species:

Amber List Species: Green woodpecker, mute swan, cuckoo.

TYPICAL SPECIES OF WETLAND HABITAT: Common alder, fool's water-cress, winter-cress, cuckooflower, lesser pond-sedge, marsh thistle, hemp agrimony, meadowsweet, floating sweet-grass, reed sweet-grass, yellow flag iris, soft rush, hard rush, purple loosestrife, water mint, water forget-me-not, water chickweed, amphibious bistort, butterbur, canary reed-grass, common reed, lesser spearwort, celery-leaved buttercup, clustered dock, water dock, goat willow, grey willow, crack willow, common osier, water figwort, branched bur-reed, marsh woundwort, greater reedmace, common valerian, brooklime, hemlock water-dropwort (36).

Berkshire Local Wildlife Site description

FOBNEY & KENNET VALLEY MEADOWS

Site Code: SU77A03

Grid Reference: SU701714

Area (ha): 140.4

Local Authority: Reading

Last Survey Date(s): 2004

Designation Date: Retained 2004

Site Description

A large area of permanent pasture with some wet grassland and patches of swamp vegetation. The site has a good series of ditches with tall wetland and aquatic species and a small area of woodland. Species found along the ditches include common reed, common marsh bedstraw, yellow flag iris, purple loosestrife, water mint, hemlock water-dropwort, fennel pondweed, marsh woundwort and lesser water parsnip. Dragonflies and damselflies seen here include the common darter, banded demoiselle and common hawk. The meadows flood regularly in winter providing an attractive area for overwintering wildfowl.

There are also areas of unmanaged grassland with areas of swamp, scrub and tall herb vegetation, including the recently added areas along Rose Kiln Lane. There is a backwater of the River Kennet near Southcote Lock which has been recorded as being rich in aquatic species including the rare river water-dropwort, fennel pondweed, flowering rush, and spiked water milfoil.

Berkshire Local Wildlife Site citation

HOLY BROOK

Site Code: SU77B01

Grid Reference: SU703718

Length (km): 4.5

Local Authority: Reading Borough Council

Last Survey Date(s): 26/4/2004

Designation Date: Retained 2004

Site Description

This site was originally designated as a number of separate sites which have now been combined. These were the stretch south of Berkley Avenue and the stretch between Berkley Avenue and the Reading Inner Distribution Road. The Holy Brook is a stream that carries water from and emptying back into the River Kennet, a chalk river. The western end of the site lies just west of the Burghfield Road although the brook originates further west near Theale. The central section it flows through the Fobney and River Kennet Meadows. To the east its course is adjacent to housing and through commercial and industrial areas. The site ends at the Reading Inner Distribution Road. Here the Brook is canalised within concrete revetments which are absent in the rest of its length. Alder and willows line the banks and a variety of wetland species are found along the banks with stands of reed sweet-grass, hemlock water-dropwort and occasional water dock. Water-crowfoots (*Ranunculus aquatilis/fluitans*) were recorded in the Brook in 1987 and 1994. A number of notable invertebrates have been recorded in Holy Brook and water vole has been recorded in the central and western sections.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE: Chalk river.

PROTECTED SPECIES:

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE:

RED DATA BOOK (RDB) SPECIES RECORDED:

NATIONALLY SCARCE (NSC) SPECIES RECORDED:

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species: House sparrow

Amber List Species: Mute swan

TYPICAL SPECIES OF WETLAND HABITATS (2004): Common alder, reed sweet-grass, water dock, goat willow, crack willow, common osier, hemlock water-dropwort (7).

Berkshire Local Wildlife Site Citation

OLD CEMETERY, VICTORIA ROAD

SITE CODE: SU77C04

GRID REF: SU712755

AREA (Ha): 1.5

LOCAL AUTHORITY: Reading Borough Council

LAST SURVEY DATE: 23/4/2004

DESIGNATION DATE: 2005

SITE DESCRIPTION

This small Victorian cemetery is laid out on a formal grid with tarmac paths surrounded by hedges. It is a sheltered man-made habitat in the midst of an urban environment in Caversham, Reading. Many large trees, generally not native and evergreens, form a backdrop to a carpet of native and garden bluebells, native primroses and celandine in a shaded moist environment.

The ground slopes gently to the east and the soil appears to be quite heavy clay. It is fairly isolated from other Wildlife Heritage sites.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE:

PROTECTED SPECIES

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE:

RED DATA BOOK (RDB) SPECIES RECORDED:

NATIONALLY SCARCE (NSC) SPECIES RECORDED:

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species:

Amber List Species:

TYPICAL SPECIES OF THE HABITAT TYPE(S)

Six ancient woodland indicator species were noted and one unimproved grassland indicator.

Berkshire Local Wildlife Site citation

THE COAL, KENNETMOUTH AND KINGS MEADOW EAST

Site Code: SU77G02

Grid Reference: SU730739

Area (ha): 0.83

Local Authority: Reading Borough Council

Last Survey Date(s): 2004

Designation Date: retained 2004

Site Description

This is a small site located on the southern bank of the Thames near the mouth of the River Kennet. It is contiguous with the Kennetmouth WHS, which is noted for its good colony of loddon lily (an RDB species). The site sits on the elevated alluvial bank of the Thames but is probably subject to flooding at times. The Coal is also an old colliery spoil site and there is still evidence of this industrial past, with coal found on the surface throughout. The site is bordered to the south by the Thames towpath and a general footpath also bisects the WHS.

The site comprises a central and riverside woodland area and an open wayleave at the foot of a steep railway embankment. The former is dominated by canopy trees including two large poplars and a small stand of semi-mature hornbeams. Large horse chestnuts also dominate in places. The understorey of elder, buddleia and hawthorn forms a dense thicket in places effectively shading out the ground flora throughout. There are signs of a formerly richer past with two woodland indicators found at time of survey.

The open wayleave and willow scrub embankment are more interesting, but extensive management work to keep the area open has left it disturbed and impoverished. There is however substantial scope to enhance this section, especially with a more sympathetic use of wood mulch which is currently spread throughout.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE:

PROTECTED SPECIES

Bluebell Schedule 8 WACA 1981

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE:

RED DATA BOOK (RDB) SPECIES RECORDED:

NATIONALLY SCARCE (NSC) SPECIES RECORDED:

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED:

Red List Species:

Amber List Species: Cormorant

TYPICAL SPECIES OF THE HABITAT TYPE(S):

Berkshire Local Wildlife Site citation

READING CEMETERY

Site Code: SU77G04

Grid Reference: SU733732

Area (ha): 4.7

Local Authority: Reading Borough Council

Last Survey Date(s): 12/7/2007

Designation Date: retained 2008

Site Description

A large, old cemetery, bound by a high stone wall with sections of semi-improved grassland with more diverse, flower-rich areas, split into sections by many concrete footpaths. Several mature and immature trees and shrubs are scattered around the site with a range of both native and ornamental species. The grassland sward varies from areas which are grass-dominated, to areas with a more flower-rich composition particularly towards the north west. In the most diverse areas red fescue is predominant with occasional common and creeping bent, smooth meadow-grass, Yorkshire fog and false oat-grass. Forbs include lady's bedstraw, lesser stitchwort, oxeye daisy, prickly sedge and common bird's-foot-trefoil. The grassland has affinities (in areas) to a species poor MG5 *Cynosurus cristatus-Centaurea nigra* grassland, National Vegetation Classification (NVC) community. But in other sections the grassland is grading/ has affinities to an MG1 *Arrhenatherum elatius* grassland, NVC Community. The site has elements of a Lowland Meadow (Section 41 Habitat) as meadow vetchling, oxeye daisy, common bird's foot-trefoil and lady's bedstraw are species typical of Lowland Meadow. However the grassland does lack some of the more typical unimproved grassland indicator species. Sycamore and common lime line the wall with sections of landscaped snowberry. On a section of the northern wall lie two small patches of wall rue. The cemetery is enclosed by roads and is located towards the north of Reading where it forms a wildlife stepping stone across an urban environment.

SECTION 41 HABITAT(S) OF PRINCIPAL IMPORTANCE:

PROTECTED SPECIES: Bluebell (1998)

SECTION 41 SPECIES OF PRINCIPAL IMPORTANCE: Song Thrush (1994),
Cinnabar Moth (1986)

RED DATA BOOK (RDB) SPECIES RECORDED:

NATIONALLY SCARCE (NSC) SPECIES RECORDED:

BIRDS OF CONSERVATION CONCERN (BoCC) RECORDED: Song Thrush
(1994, Red List)

TYPICAL SPECIES OF THE HABITAT TYPE(S)

Lady's bedstraw (2007), meadow vetchling (2007), oxeye daisy (2007) and common bird's-foot-trefoil (2007).

Kennet Valley East

The Kennet Valley from Newbury to Reading extending to include large areas of gravel pits in the east. The area includes all the area in the valley covered by the West Berkshire Living landscape Project. Also includes the lower section of the Enborne Valley extending to include the valley of a tributary stream at Ashford Hill.

Geology: this area lies on the alluvium and River Terrace sand and gravel.

Topography: flat riverside land

Biodiversity:

- Chalk River: The River Kennet is an important chalk river and is notified as an SSSI as far as Woolhampton.
- Reedbeds: This area supports the most extensive areas of reedbed habitat in Berkshire including the SSSI and LNR at Thatcham and the SSSI at Woolhampton.
- Fen: There are some areas of tall fen habitat especially near Thatcham as well as areas within gravel pits in the east and in some of the meadows. There are also areas in the valley at Ashford Hill.
- Wet woodland: There are patches of willow dominated woodland.
- Lowland meadow: the most important area is at Ashford Hill where the valley supports a diversity of lowland meadow and fen habitat.
- Wet grassland: there are remnant areas of wet grassland throughout the valley.
- Standing water: The extensive gravel pits in the east provide important habitat for birds. Hosehill Lake is a Local Nature Reserve. Aldermaston Gravel Pit is an SSSI and Nature Reserve. The associated fen, scrub and woodland habitat adds greatly to the diversity of the area. The Kennet and Avon Canal runs the whole length of the area.

-

Geodiversity: Brimpton Gravel Pit has important geological exposures.

Access: The canal provides the main focus of access, while the are accessible Local Nature Reserves at Thatcham and Hosehill Lake near Theale.

Targets and Opportunities: River management, restoration and protection. Management and re-creation of reedbed and fen. Management of gravel pits and associated habitats. Potential for some nature conservation after use in future mineral extraction. Management, restoration and re-creation of lowland meadow and wet grassland habitat. The west of the area is within the West Berkshire Living Landscape boundary.

GUIDANCE ON THE VARIOUS STATUTORY AND NON-STATUTORY WILDLIFE SITE DESIGNATIONS.

SITE DESIGNATIONS THAT PROTECT THE UK'S NATURAL HERITAGE THROUGH STATUTE

LOCAL NATURE RESERVES (LNRs) (IN ENGLAND, SCOTLAND AND WALES)

Under the National Parks and Access to the Countryside Act 1949 LNRs may be declared by local authorities after consultation with the relevant statutory nature conservation agency. LNRs are declared and managed for nature conservation, and provide opportunities for research and education, or simply enjoying and having contact with nature.

NATIONAL NATURE RESERVES (NNRS)

NNRs contain examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them.

NNRs are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981. In Northern Ireland, Nature Reserves are designated under the Amenity Lands Act (Northern Ireland) 1965.

RAMSAR SITES

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. The Convention adopts a broad definition of wetland, namely "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". Wetlands "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands".

There is only one Ramsar site in Berkshire or Oxfordshire, South West London Waterbodies.

SITES OF SPECIAL SCIENTIFIC INTEREST (SSSI) (ENGLAND, SCOTLAND AND WALES)

The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations. Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations.

Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

SPECIAL AREAS OF CONSERVATION (SAC) AND SITES OF COMMUNITY IMPORTANCE (SCI)

SACs are designated under the EC Habitats Directive. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). New and/or amended Habitats sites which have been submitted to the European Commission by Government, but not yet formally adopted by the Commission, are referred to as candidate Special Areas of Conservation (cSACs). Sites which have been adopted by the EC, but not yet formally designated by governments of Member States are known as Sites of Community Importance (SCIs). In the UK, designation of SACs is devolved to the relevant administration within each country.

SACs, together with SPAs, form the Natura 2000 network. SPAs, together with SACs, form the Natura 2000 network.

SPECIAL PROTECTION AREAS (SPA)

SPAs are classified by the UK Government under the EC Birds Directive. SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles are classified under the Wildlife and Countryside Act 1981.

SPAs, together with SACs, form the Natura 2000 network.

NON-STATUTORY NATURAL HERITAGE CONSERVATION DESIGNATIONS

LOCAL WILDLIFE SITES

Local authorities for any given area may designate certain areas as being of local conservation interest. The criteria for inclusion, and the level of protection provided, if any, may vary between areas. Most individual counties have a similar scheme, although they do vary.

Most Local Wildlife Sites systems involve a panel of ecologists and others in the development of local criteria and the selection of the sites. Panels usually include a local government ecologist, an Natural England representative, the Local Wildlife Trust, the Local Environmental Record Centre and sometimes include a representative of local landowners and local naturalists.

These sites, which may be given various titles such as 'County Wildlife Sites' (CWS), 'Local Wildlife Sites' (LWS), 'Local Nature Conservation Sites' (LNCS), 'Sites of Importance for Nature Conservation' (SINCs), or Sites of Nature Conservation Importance' (SNCIs), together with statutory designations, are defined in local plans under the Town and Country Planning system and the National Planning Policy Framework and are a material consideration when planning applications are being determined.

As part of a national standardisation process these sites have recently been renamed as Local Wildlife Sites in Oxfordshire and Berkshire. Previously they were known as County Wildlife Sites in Oxfordshire and Wildlife Heritage Sites in Berkshire. Although the use of these names, especially in citations and descriptions, is being edited and replaced with Local Wildlife Sites or LWS it is likely that some references will remain to these former names until this is complete.

PROPOSED LOCAL WILDLIFE SITES AND EXTENSIONS

These are also included on designated sites maps. They are areas thought to include important areas of UKBAP habitat or priority or protected species populations. Extensions are likely to have similar habitats to the adjacent Local Wildlife Sites. Local Authorities are made aware of these sites. They will not have been fully surveyed and taken to the selection panel as yet.

NGO PROPERTIES / NATURE RESERVES

A variety of non-governmental organisations such as the John Muir Trust, Plantlife, the Royal Society for the Protection of Birds, Wildlife Trusts and Woodland Trust own or manage nature reserves or other areas of land that are important for biodiversity. These sites may be intended primarily for nature conservation, or for other purposes such as protection of landscape features or the provision public access to the countryside. These areas of themselves have no statutory basis, but a large number are also designated SSSIs / NNRs / SPAs / SACs / Ramsar sites, etc.

In Berkshire and Oxfordshire, BBOWT (Berks, Bucks & Oxon Wildlife Trust), Woodland Trust and RSPB sites fall into this category.

LOCAL GEOLOGICAL SITES (LGS)

Local Geological Sites formerly known as Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside statutorily protected land such as Sites of Special Scientific Interest (SSSI). As part of a national standardisation process these sites have recently been renamed as Local Geological Sites in Oxfordshire and Berkshire. Sites are selected under locally-developed criteria, according to their value for education, scientific study, historical significance or aesthetic qualities. Whilst not benefiting from statutory protection, LGS are equivalent to Local Wildlife Sites, and *"...consideration of their importance becomes integral to the planning process"*.

OTHER SITES

Occasionally other sites might be shown on maps. These are likely to be sites with some wildlife interest, usually managed by local groups, local authorities or town councils but which do not have a specific statutory or non-statutory designation.

Some local authorities within Oxfordshire and Berkshire have identified other sites which are protected through policies in their local plans, including sites of local importance to nature conservation (SLINCs) in Oxford city and district wildlife sites in Cherwell. For SLINCs we only show sites on maps that are not local wildlife sites or proposed local wildlife sites.

CONSERVATION TARGET AREAS/ BIODIVERSITY OPPORTUNITY AREAS

These landscape scale areas have been identified as supporting high concentrations of UKBAP habitats and species populations and the potential to restore habitats at a landscape scale. These areas act as a focus for targeting resources into habitat management and restoration.



Appendix 14.2

Black Redstart Survey Report (September 2012)

Station Hill, Reading

Black Redstart Survey

September 2012

Waterman Energy, Environment & Design Limited

Merchants House Wapping Road, Bristol, BS1 4RW
www.watermangroup.com

Station Hill, Reading

Black Redstart Survey

Client Name: Sacville Developments (Reading) Ltd
Document Reference: E12350-101_R_2_1_3_NJ
Project Number: EED12350

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2008 and BS EN ISO 14001: 2004)

Issue	Date	Prepared by	Checked by	Approved by
First	17/09/2012	Bill Haines West London Birding	Craig Stenson Senior Ecologist	

Comments

Our Markets



Property & Buildings



Transport & Infrastructure



Energy & Utilities



Environment



Disclaimer

This report has been prepared by Waterman Energy, Environment & Design Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

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Appendices

- A. Bird Species List**
- B. Photographs**

1. Introduction

- 1.1. Waterman Energy, Environment & Design Ltd (Waterman) were commissioned by Sacville Developments (Reading) Ltd to undertake a Black Redstart *Phoenicurus ochruros* survey on the land at Station Hill, Reading (hereafter referred to as the 'Site'). The Site is located at National Grid Reference (NGR) SU 7137, 7371 on Station Hill, located directly to the south of the Reading Mainline Station in Reading town centre. The Site occupies an area of approximately 2.56 hectares.
- 1.2. A Black Redstart survey undertaken in 2005 revealed a pair of Black Redstarts together with dependent young on the roof of a building adjacent to the east of the Site. Therefore it was considered highly likely that Black Redstarts would be breeding on or in proximity to the Site.
- 1.3. The re-development proposals for the Site comprise a mixed-use city centre development including commercial (office), retail, residential and leisure land uses. Car parking and servicing facilities are to be located within the lower ground level. The Black Redstart survey was undertaken to determine what potential impacts may occur as a result of the proposed development at the Site and to inform the design of appropriate mitigation.
- 1.4. The Site comprises a mixture of predominately old (pre 1980) buildings and include a multi-storey Car Park owned by NCP and a covered bus station as well as other commercial buildings. Station Hill is in the process of major works presumably in connection with modernisation of the station area, and as a result some of it was not accessible during the survey. A vantage point from the top of the multi-storey Car Park was utilised as this gives good views over many of the rooftops across the study area. The tallest building on Site is Western Tower, which is abandoned.

2. Legislation

Breeding Birds

- 2.1. All species of wild bird in the UK (apart from certain pest species) are protected under Part 1 Section 1(1) of the Wildlife and Countryside Act, 1981 (WCA) (as amended). However, all species are protected during the breeding season against intentional killing, injuring or taking as well as taking, damaging or destroying nests in use or being built, and taking or destroying eggs.
- 2.2. Black redstarts are afforded National protection under Schedule 1 of the WCA 1981 (as amended). It is an offence to intentionally take, injure or kill a black redstart or to take damage or destroy its nest, eggs or young. It is also an offence to intentionally or recklessly disturb the birds close to their nest during the breeding season.
- 2.3. In addition to statutory protection, the bird species of Britain are also subject to various conservation designations intended to indicate their rarity, population status and conservation priority. These do not have statutory force but may be instrumental in determining local, regional and national planning and development policy. The main categories of designation comprise the British Trust for Ornithology (BTO) 'Species Alert' lists, the Royal Society for the Protection of Birds (RSPB) 'Birds of Conservation Concern' lists and species listed in the UK and local Biodiversity Action Plans (BAPs).
- 2.4. The BTO Conservation Alert System lists of 'Birds of Conservation Concern' including a 'Red List' for birds of high conservation concern. Red List species are those that are globally threatened according to the International Union for Conservation of Nature (IUCN) criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery, including:
 - Globally threatened according to the IUCN;
 - Historical population decline in UK during 1800-1995;
 - Rapid (>50%) decline in UK breeding population over the last 25 years; and
 - Rapid (>50%) contraction of UK breeding range over the last 25 years.
- 2.5. The BTO Conservation Alert System lists 'Birds of Conservation Concern' including an 'Amber List' for birds of medium conservation concern. 'Amber List' species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations, including:
 - Historical population decline during 1800-1995, but recovering: population size has more than doubled over last 25 years;
 - Moderate (25-49%) decline in UK breeding population over the last 25 years;
 - Moderate (25-49%) contraction of UK breeding range over the last 25 years;
 - >50% of UK breeding population in 10 or fewer sites;
 - >20% of European breeding population in UK;
 - Species with unfavourable conservation status in Europe; and
 - It is important to note that certain 'Red list' species also qualify for 'Amber List' criteria.
- 2.6. An updated list of 'Red' and 'Amber List' species was published in May 2009 (Eaton et al., 2009)¹

¹ Eaton et al (2009) 'Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and Isle of Man'

3. Methodology

- 3.1. Five survey visits were carried out between 21 May and 12 July 2012 to ascertain the status of Black Redstart on the site. The methodology used followed the industry standard for this species as outlined in Gilbert *et al*, (1998). During each visit the whole site was covered at a minimum of once before dawn, once at dawn and once in full daylight. Use was also made of the NCP Car Park in Garrard Street as a vantage point providing a good view of many of the rooftops within the survey area. Permission for this was granted by the NCP Car Park staff and Area Manager. All avian species were recorded on each visit and it was noted whether they were present on Site, adjacent to the site or over-flying the site. A full list of species recorded has been provided in **Appendix A**.
- 3.2. In addition, an extra visit was made on 29 June 2012 to check Western Tower for evidence of breeding Peregrine *Falco peregrinus* and the check the 1st Black Redstart nest. No other field survey work was carried out during this visit.

Visit 1 – 21/05/2012

- Time Start: 04:20
- Time Finish: 07:20
- Weather: Overcast (8 oktars, cloud); mild (10+°C); dry; Wind: N or NE2 (Beaufort Scale).

Visit 2 – 28/05/2012

- Time Start: 04:20
- Time Finish: 07:20
- Weather: Clear (0 oktars at start of survey gradually clouding over to 6 oktars by the end of survey); dry, bright warm, calm or very light wind (E <1 Beaufort Scale).

Visit 3 – 14/06/2012

- Time Start: 04:25
- Time Finish: 07:23
- Weather: Cloud 2 oktars at start of survey increasing to 6 oktars before clearing again to 1 oktar; dry, bright, cool, light to moderate SE wind (2-3 Beaufort Scale).

Visit 4 – 25/06/2012

- Time Start: 04:47
- Time Finish: 07:47
- Weather: Cloud 6 oktars clearing to 2 oktars by end of survey; mild, dry & becoming sunny; light SW wind (1-2 Beaufort Scale).

Visit 5 – 12/07/2012

- Time Start: 04:34
- Time Finish: 07:31
- Weather: 1 oktar cloud; cool, dry & sunny; light W wind (1-2 Beaufort Scale).

4. Results

- 4.1. Data searches for the Site and the surrounding area were undertaken in 2009 and 2011. On both occasions, the Thames Valley Environmental Records Centre were contacted, which is the main repository for biological data in Berkshire, along with Berkshire Ornithological Society (formerly Reading Ornithological Club). Records for Black Redstarts in the immediate vicinity of the Site from 2009, 2010 and 2011 were provided, with breeding records held for 2009 and 2010.
- 4.2. The following summary of the Black Redstart survey visits should be read in conjunction with the bird species list (**Appendix A and B**) and **Figures 1-5 (E12350-101_GR_EC_2A - E12350-101_GR_EC_6A)**.

Visit 1 – 21/05/2012

Target Species

- 4.3. A pair of Black Redstart was located on Level 13 of the NCP Car Park and probable nest was located behind an old fire bell adjacent to the entrance to the stair-well at the western end of this floor (NGR: SU 7137 7374).
- 4.4. Both male and female birds were seen near to this strongly suggesting that this is a nest, or if not there is another site with a nest very close by. The male was seen at range of between 5 and 10m from the observer and was carrying food and incessantly calling and the female was seen c15m away from the presumed nest on Level 12 (1/2 a floor below).
- 4.5. Protective measures were recommended to prevent disturbance to the probable Black Redstart nest on Level 13 of the NCP Car Park.
- 4.6. Another bird thought to be of this species was heard calling just off-site on or near the Novotel building (in Friar Street) and was seen very briefly on a TV aerial just southeast of the junction of Friars Road and Queen Victoria Street.

Other Notable Species

- 4.7. No other Schedule I Species were recorded on Site, though two Red Kite *Milvus milvus* (assumed to be from the ever-increasing (both range-wise and in population) from the RSPB Oxfordshire re-introduction scheme) were seen flying south, to the west of the Site.

Visit 2 – 28/05/2012

Target Species

- 4.8. The pair of Black Redstart found during Visit 1 was still frequenting the 13th floor of the NCP Garrard Street Car Park. NCP adhered to the recommendations made following the discovery of a probable nest during the first visit and sealed off the door to the western end of the 13th Floor and erected barriers to afford some, but adequate, protection to the birds and the nest (see **Photograph 1 and 2 in Appendix B**). Both male and female birds were seen and were alarm calling in-between collecting insects, presumably to feed young.
- 4.9. No other birds of this species were seen or heard during this visit.

Other Notable Species

- 4.10. A pair of Peregrine (Wildlife & Countryside Act Schedule 1 species) were observed near the top of the south western corner of Western Tower (see **Photograph 3 in Appendix B**). These birds were

not noted during Visit 1, but the female was calling occasionally, which is often behaviour associated with an active nest site. The pair were present for much of the survey period (when the observer was able to see the south western aspect of the building), though the female appeared to leave towards the end of the survey, but was not seen to do so.

Visit 3 – 14/06/2012

Target Species

- 4.11. The pair of Black Redstart that was present during visits 1 & 2 was not able to be located during Visit 3. However, according to the Area Manager for the NCP car park, with who a conversation was held whilst on site during this visit, chicks were heard calling from the nest the previous week (beginning 4th June). This confirms that the structure identified was, as suspected, an active nest. Without examination of the nest (which would have meant dislodging it), it is not known for certain if the chicks fledged.

Other Notable Species

The pair of Peregrine previously observed near the top of the south western corner of Western Tower (see **Photograph 4** in **Appendix B**) was again present with the birds calling to each other in the early morning.

Visit 4 – 25/06/2012

Target Species

- 4.12. After no birds being seen during Visit 3, the male Black Redstart was again present. The bird was initially seen at towards the eastern end of the Garrard Street NCP Car Park before flying to a building on the south side of Garrard Street (which is outside the survey area). It was again seen later during the survey on buildings between Garrard Street and Friar Street.
- 4.13. The female Black Redstart was found sitting on a new nest (2nd brood) at the eastern end of the Car Park on the 14th Floor (NGR : SU 7143 7373).

Other Notable Species

- 4.14. The pair of Peregrine were again present on the western side of Western Tower.

Visit to Check Peregrine & Black Redstart Nests – 29/06/2016

- 4.15. An additional visit was made on 29 June to inspect the sub-roof space of Western Tower for evidence of Peregrine activity such as nesting and perching. No signs of nesting was found. However, it is known that Peregrines have nested on Western Tower in the past. The birds were not noted on Site on the date of the inspection.
- 4.16. Also, the 1st Black Redstart nest at the western end of the Car Park was examined and found to contain 3 eggs (cold) (see **Photograph 5** in **Appendix B**). Further examination of the nest for dead chicks was not possible without disturbing the structure.
- 4.17. The second Black Redstart nest at the eastern end of the building was not examined for fear of disturbing the bird and thus the possibility of desertion.
- 4.18. Both checks of the (possible) nests were carried out under a Schedule I licence issued to the surveyor (Bill Haines) by Natural England.

Visit 5 – 12/07/2012

Target Species

- 4.19. Both the male and female Black Redstart (see **Photograph 6 and 7** in **Appendix B**) were located near the nest at the eastern end of the Garrard Street Car Park and on an adjacent building just outside the Site boundary to the south. The pair were observed carrying food, calling continuously and were seen to go into the nest to feed the chicks. An examination of the nest under licence, revealed four, healthy-looking, well-grown, feathered chicks (see **Photograph 8** in **Appendix B**). One chick was temporarily removed from the nest for examination (see **Photograph 9** in **Appendix B**) and from the size and length of the primary wing feathers, it is judged that the brood was likely to fledge within 4-5 days time. When the chicks weren't being fed they were generally silent. Due to the proximity of fledging, the location of the nest (it could only be reached by the use of a ladder) and the fact that it was on a floor of the car park that is not well used, it was decided that no precautionary measures were needed to protect the nest. However, the Car Park staff and Area Manager were made aware of the location of the nest and were asked to keep an eye on it and inform the surveyor should anything happen to it, or when the chicks fledged.
- 4.20. No other Black Redstart were located at other parts of the Site.

Other Notable Species

- 4.21. The female Peregrine was again present on the western side of Western Tower during the early part of the survey. She was not seen later in the survey.
- 4.22. A pair of Grey Wagtail *Motacilla cinerea* were seen foraging on one of the roofs within the survey area, but no young were seen.

Summary of Results

- 4.23. The Site was found to contain a pair of Black Redstart which attempted to breed twice on-Site, both times in the NCP Car Park on Garrard Street. Two nests were found; the first is thought to have been partially successful, as chicks were heard calling from it. On inspection under licence on 29 June 2012, it was found to contain three cold eggs, but any surviving chicks will have left the nest by then. The second nest contained four well, grown feathered young at the time of the last planned survey on 12 July 2012.
- 4.24. The Site contained a pair of Peregrine which were often seen on Western Tower. A search was made for a nesting scrape on the tower though no sign of any breeding activity was found. It is therefore thought that the pair attempted to breed elsewhere in the town or nearby countryside, but were unsuccessful.
- 4.25. Other species considered likely to have bred on site were Robin *Erithacus rubecula*, Blackbird *Turdus merula*, Pied Wagtail *Motacilla alba*, Grey Wagtail, Feral Pigeon *Columba livia* and Blue Tit *Cyanistes caeruleus*. Of these Grey Wagtail is an amber-listed species; one pair is likely to have attempted to have bred on or very near to the site through no young were recorded on any of the visits.
- 4.26. Three red-listed species, Herring Gull *Larus argentatus*, House Sparrow *Passer domesticus* and Starling *Sturnus vulgaris* are not thought to have breed on-Site, but to breed within the vicinity of the Site.

5. Discussion and Recommendations

Black Redstarts

- 5.1. It is recommended that any development within the Site boundary includes the provision of Green Roofs and open nest-boxes suitable for Black Redstart in appropriate places within the plans. Further Information regarding the types and siting of nest-boxes is available on request or on various bona-fide internet sites (e.g. see the “Further Information” section below).
- 5.2. The demolition of any buildings on-Site should be done outside the breeding season (i.e. between September and February when there is no chance of disturbing any Schedule 1 species or other birds that might be nesting in the area (*N.B. Some species of pigeons and doves nest all year round so any species that are covered under the Wildlife and Countryside Act (1981) Act and any subsequent amendments should be considered*).
- 5.3. It is recommended that further surveys should be made in future breeding seasons to continue to monitor the Black Redstart on Site.
- 5.4. The Garrard Street Car Park is to be retained on Site and should not have any modifications made to it prior to further surveys for Black Redstart being completed in future years.

Peregrine Falcons

- 5.5. The Western Tower (which is due for demolition) should, until such a time that it is demolished, have all the open areas just below the roof (where the Peregrines have been seen) covered in Pigeon Netting. This will dissuade the birds from attempting to nest there. Some pigeon netting is in place but it appears in poor repair and does not cover the whole of the area. This should be carried out outside of the Peregrine nesting season (September to January inclusive) in case the Peregrines take up residence on the building and attempt to nest there again (the building has been used as a nest site by Peregrines in the past).
- 5.6. It is recommended that re-development is also undertaken outside of the Peregrine nesting season (September to January inclusive) or a check for any signs of the presence of a territorial pair of breeding peregrines on or immediately adjacent to the Site is undertaken prior to the re-development of the Site to prevent the disturbance of nesting birds and the contravention of planning policy and legislation. If the presence of a territorial pair of breeding peregrines is recorded during this check then a suitable buffer zone should be maintained around the nest to prevent disturbance until the end of the breeding season (January – August inclusive) or when the birds have fledged.
- 5.7. It is also recommended that;
 - Replacement perching opportunities (high elevation protruding platforms located on west and east facing vertical sides of the building) for Peregrines are provided within the re-development proposals; and
 - Open fronted peregrine falcon nest boxes are erected at a high elevation on the vertical sides of a tall building in undisturbed areas within the proposed development or in adjacent off-Site areas to encourage the birds to nest. Alternatively a specially designed high elevation ledge or recess could be included within the design of the proposed development to provide a safe platform for a nest. The artificial nest site should be sited facing north-east or east to prevent possible overheating of the eggs and newly hatched young (Ratcliffe 1995).

6. References

Berkshire Ornithological Society. berksoc.org.uk/

BTO Bird Facts - Black Redstart - <http://blx1.bto.org/birdfacts/results/bob11210.htm>

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Gilbert G, Gibbons DW & Evans J. Bird Monitoring Methods. A manual of techniques for key UK species. RSPB. 1998 (reprinted in 2011).

HMSO (1981) 'Wildlife and Countryside Act 1981 (as amended)'

Ratcliffe, D A 1995 The Peregrine Falcon. Second Edition. T and A D Poyser, London.

Thames Valley Environmental Records Centre. www.tverc.org/

Further Information

<http://www.blackredstarts.org.uk/index.html>



Figures

Figure 1-6



-  Site boundary
-  Black Redstart Observation (Recorded in 2005)
-  Amenity Grassland
-  Hardstanding
-  Buildings
-  Ornamental Shrubs and Scattered Trees

Project Details	E12350-100: Station Hill, Reading
Figure Title	Figure 1: Habitat Features Plan
Figure Ref	E12350-100_GR_EC_1A
Date	January 2012
File Location	\\nt-lnss\\weed\\projects\\12350\\graphics\\ec\\issued figures

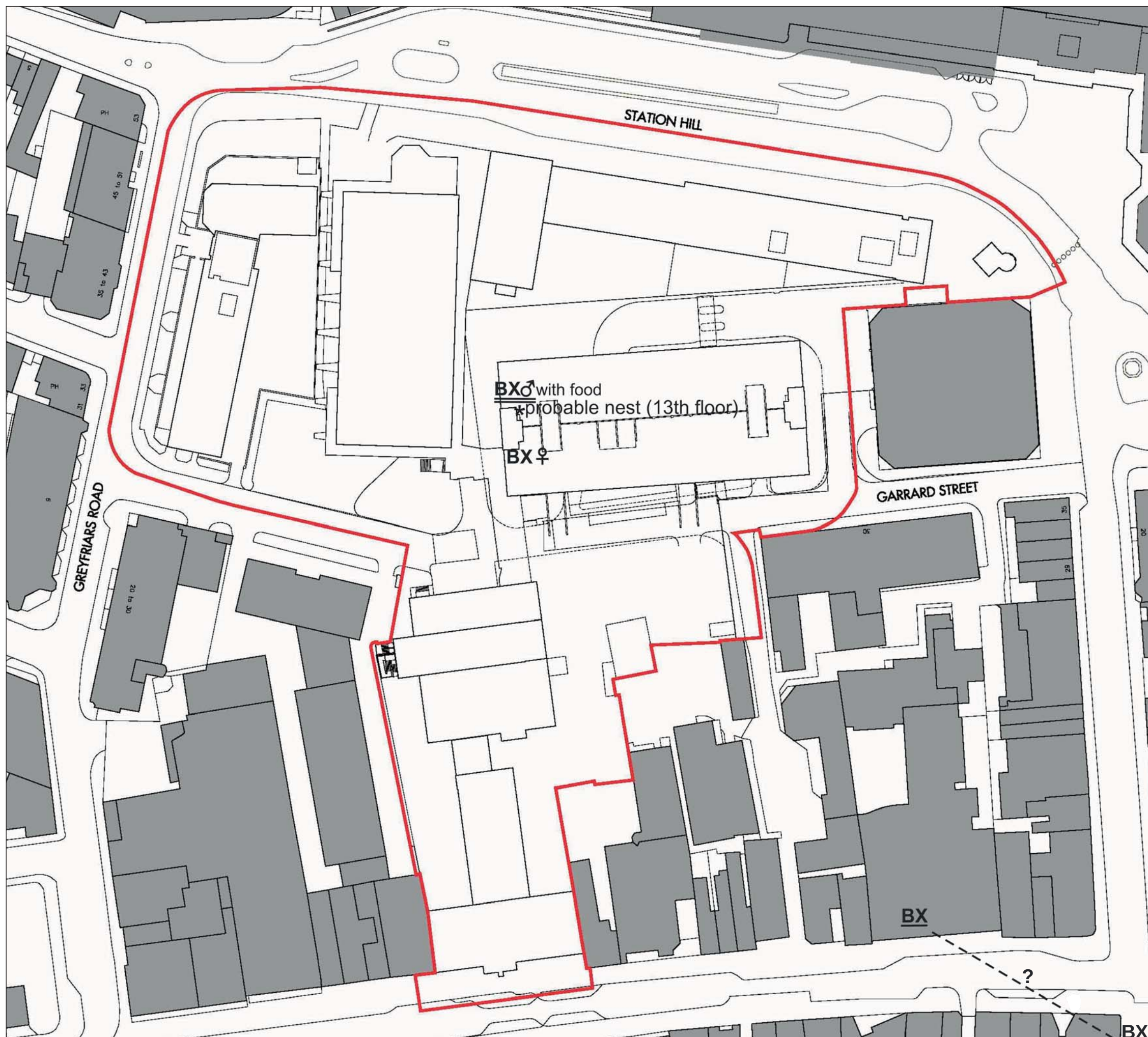


Site Boundary

Bird Survey



Black Redstart



Project Details

E12350-101: Station Hill, Reading

Figure Title

Figure 1: Bird Survey - Visit 1 - 21/05/12

Figure Ref

E12350-101_GR_EC_2A

Date

August 2012

File Location

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www.watermangroup.com

- Site Boundary

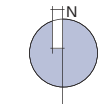
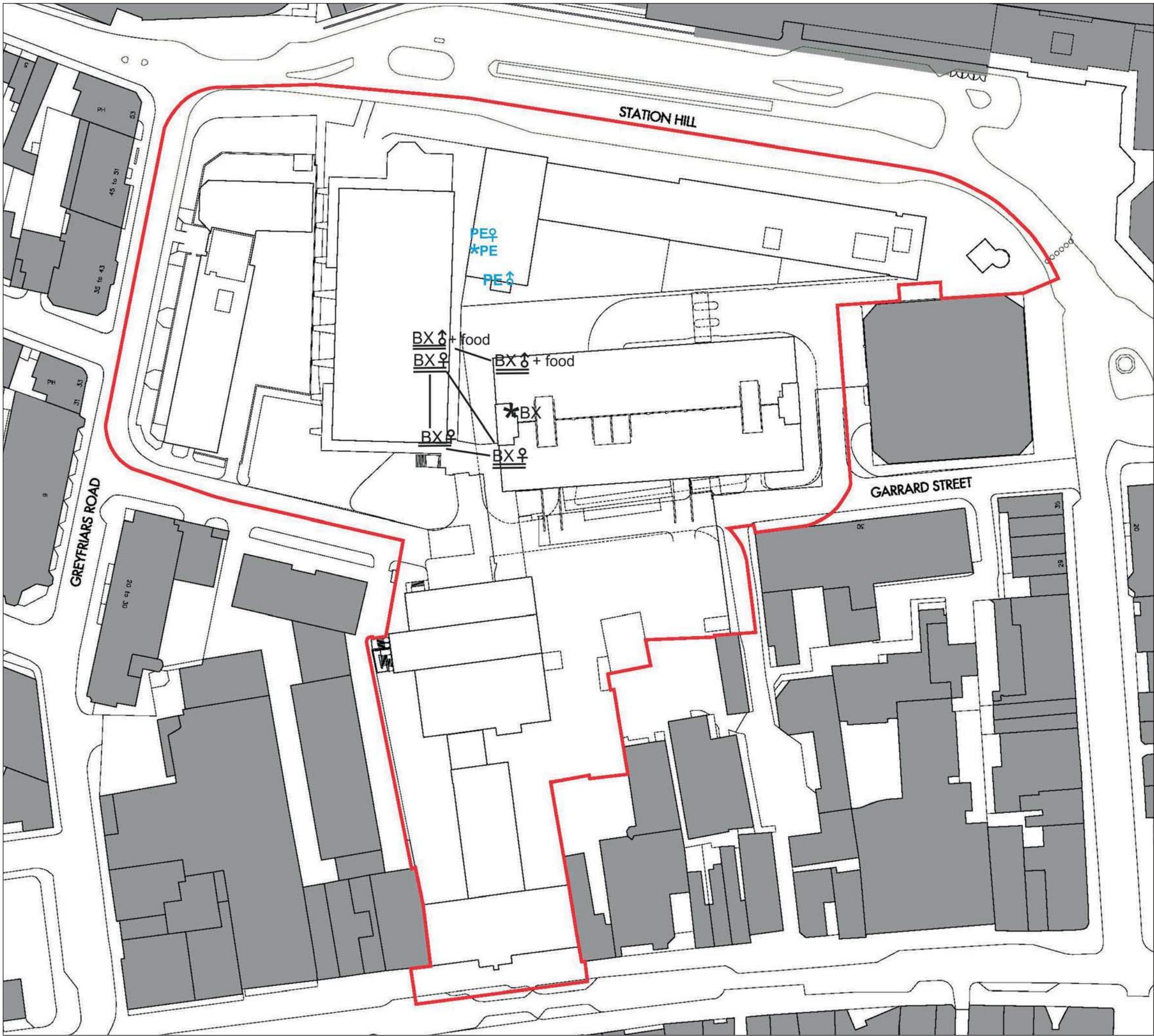
Bird Survey

BX

Black Redstart

PE

Peregrine Falcon



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Date	August 2012
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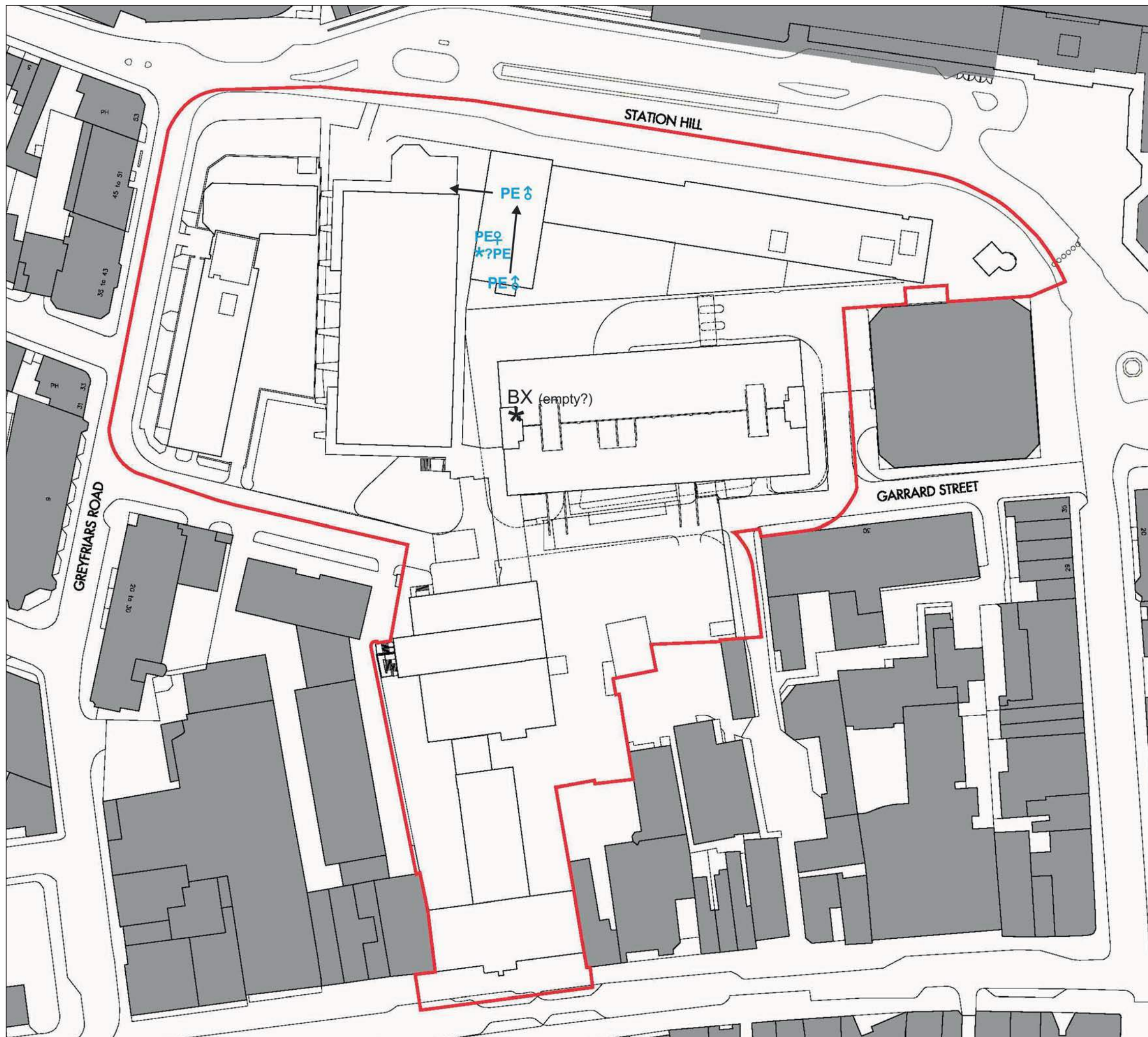
Bird Survey



Black Redstart



Peregrine Falcon



Project Details

E12350-101: Station Hill, Reading

Figure Title

Figure 3: Bird Survey - Visit 3 - 14/06/12

Figure Ref

E12350-101_GR_EC_4A

Date

August 2012

File Location

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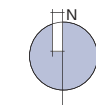
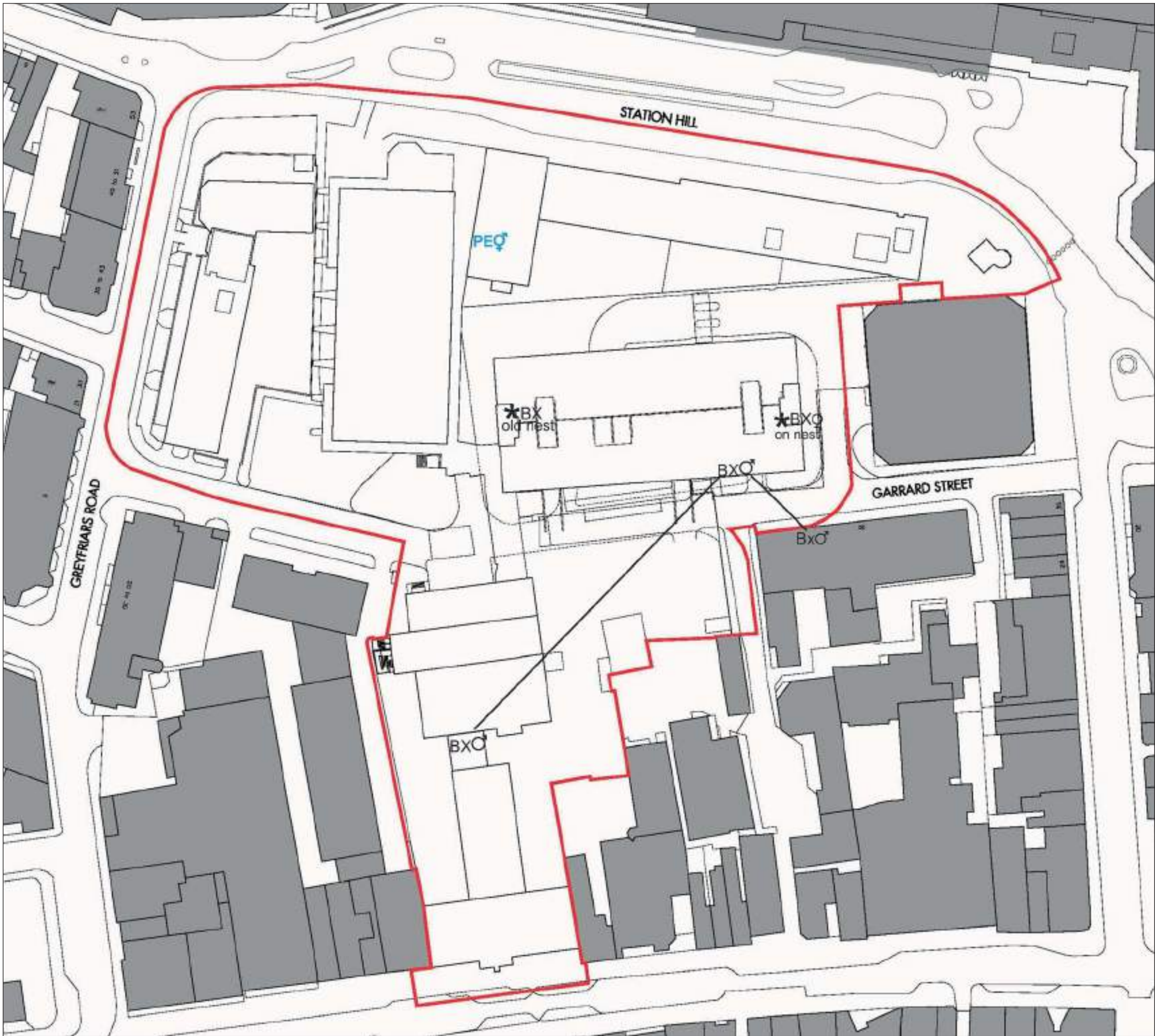
Site Boundary
- Bird Survey**



Black Redstart



Peregrine Falcon



Project Details	E12350-101: Station Hill, Reading
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Figure Ref	E12350-101_GR_EC_5A
Date	August 2012
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Site Boundary

Bird Survey



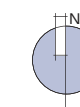
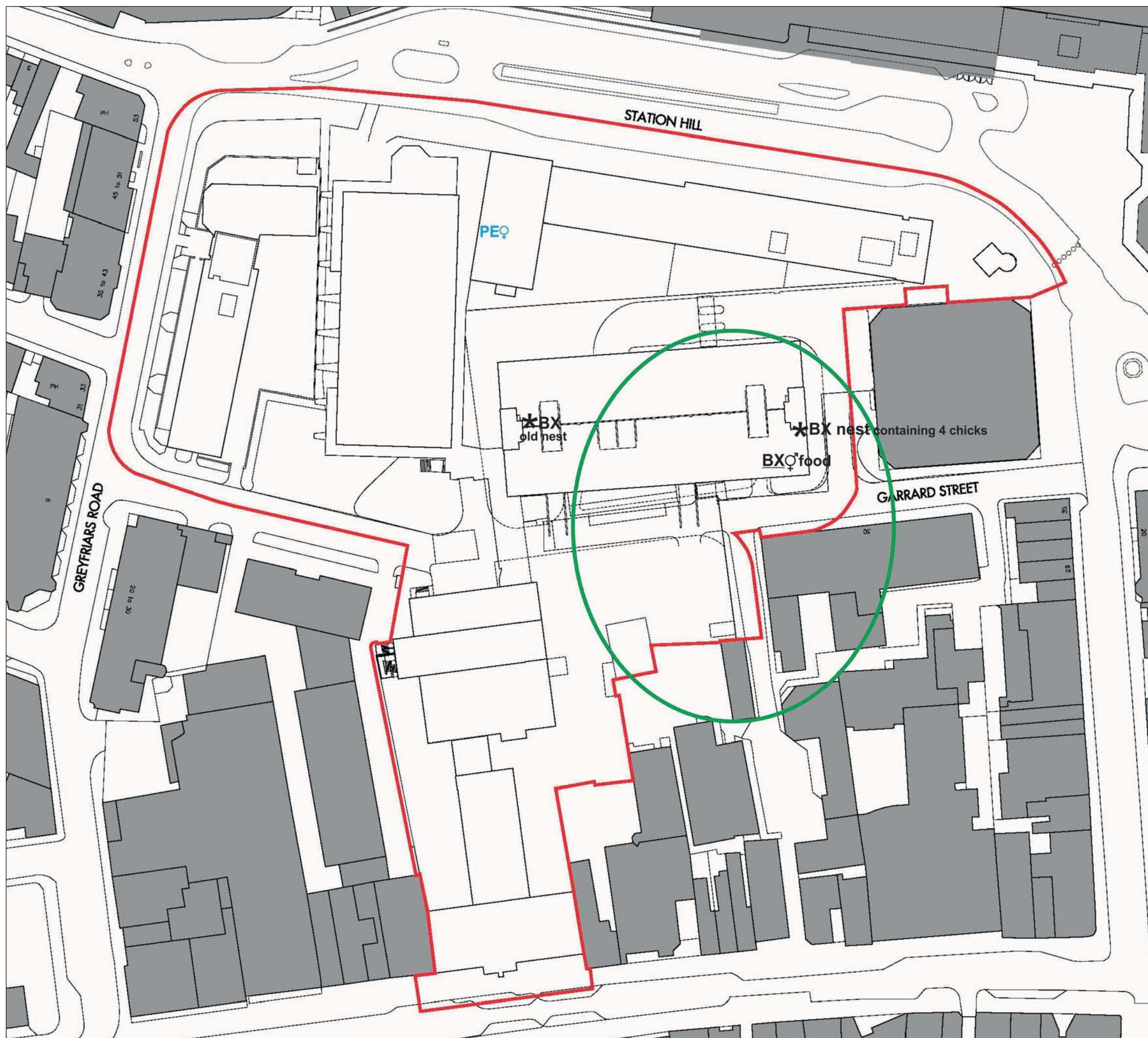
Black Redstart



Peregrine Falcon



Approximate Foraging Area



Project Details

E12350-101: Station Hill, Reading

Figure Title

Figure 5: Bird Survey - Visit 5 - 12/07/12

Figure Ref

E12350-101_GR_EC_6A

Date

August 2012

File Location

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A. Bird Species List

The table below gives an alphabetical Presence/Absence list of all bird species recorded on, overflying or around the perimeter of the site.

Species	Species	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Combined
	Code	21/05/12	28/05/12	14/06/12	25/06/12	12/07/12	(all Visits)
Blackbird	B.	X	X	X	O		X
Black-headed Gull	BH		F				F
Black Redstart	BX	X	X		X	X	X
Blue Tit	BT	X	X	O			X
Carrion Crow	C.	X	X	X		O	X
Chaffinch	CH		O				O
Collared Dove	CD	X	X	O	X	O	X
Feral Pigeon	FP	X	X	X	X	X	X
Grey Wagtail	GL		X		X	X	X
Goldfinch	GO	O & F	O & F	O & F	O		O & F
Greenfinch	GR				O		O
Herring Gull	HG	F	F	X	X	O & F	X
House Sparrow	HS	O	O	O	O	O	O
Jackdaw	JD	F		O			F
Lesser Black-backed Gull	LB	X	F	X		F	X
Magpie	MG	X		X	O	X	X
Mallard	MA	F					F
Mute Swan	MS				F		F
Peregrine	PE		X	X	X	X	X
Pied Wagtail	PW	X	X	X	X	X	X
Red Kite	KT	O					O

Robin	R.	X	O		X	H	X
Starling	SG	F	F	O & F		O	F
Swift	SI	F	F	F	F	O	F
Woodpigeon	WP		X	X		O	X
Wren	WR				O		O
No. Species		18	19	16	15	15	25

Key:

X - present on site

H - Heard only

F - overflying site

O - Seen/heard outside the site

Red List Species

Amber List Species

Under Birds of Conservation Concern 3; 2009)

Schedule 1 Species emboldened

B. Photographs



Photograph 1 Protective measures put in place to protect the 1st nest (close up)



Photograph 2 - Protective measures put in place to protect the 1st nest – the barricade fencing & tape can be seen



Photograph 3 -Peregrine on Western Tower – part of the open area below the roof where the birds have nested in the past can be seen on the right hand side of the picture



Photograph 4 -Male Peregrine on the very top of Western Tower



Photograph 5 -Close-up of Black Redstart egg taken from 1st nest for inspection



Photograph 6 -Male Black Redstart with food



Photograph 7-Female Black Redstart



Photograph 8- Black Redstart Nest – 2nd brood (the head of a chick can is visible)



Photograph 9 - Black Redstart Chick (temporarily extracted from the nest for inspection)



Appendix 15.1

Pedestrian Level Microclimate Assessment (July 2015)

Station Hill, Reading – Revised Plot E

Reading, UK

Final Report

Pedestrian Level Wind Microclimate Assessment

RWDI # 1402222-PLW
July 10, 2015

SUBMITTED TO

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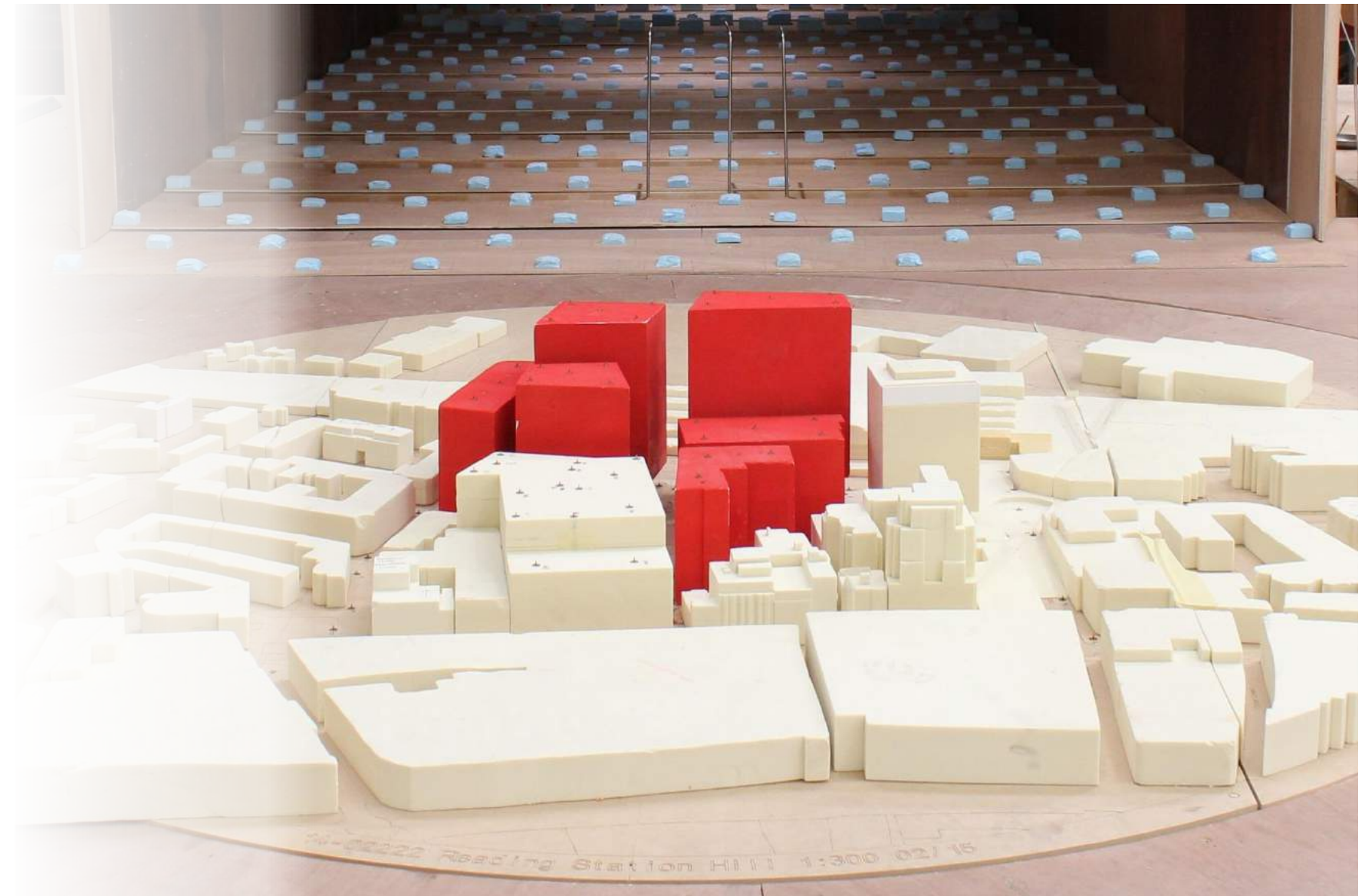
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Version History

Index	Date	Pages	Author
A	July 7, 2015	All	M. Terrelonge
B	July 10, 2015	All	D. Hackett

Checked by:

D. Hackett

Executive Summary

The objective of this study was to determine the ground and terrace level wind environment within and around the Proposed Station Hill Development in Reading, UK. This assessment follows an earlier assessment conducted in 2013 (referred to as the 'SH3' scheme), and but includes an updated Plot E layout (incorporating the Telecom House Site) and updates to the surrounding buildings since the time of the previous assessment.

This report presents a description of the methodology used and the results of 4 configurations tested in the wind tunnel, namely

- Configuration 1: Future Baseline;
- Configuration 2: Temporary Scenario (with Temporary Event Space);
- Configuration 3: Completed Development (maximum parameter massing) with existing surrounds; and
- Configuration 4: Completed Development (Plot B in detail, other plots with maximum parameter massing) with cumulative surrounds.

Note, the maximum parameter plan was modified for the purposes of the wind microclimate assessment to include the set-back at ground level of Plots B, C, D and G. This configuration was chosen as it would have the potential to channel wind at ground level and generate the worst case wind conditions within and around the site.

A further configuration is referenced in this report, namely the Plot B Reserved Matters scenario which included illustrative parameters for the wider site. This has been used to inform the recommendations for mitigation on the rooftop areas, because it represents a more realistic rooftop wind climate compared to the maximum parameter scheme (which does not include balustrades or other roof detail).

Results are presented in terms of the Lawson Comfort Criteria with the main focus on the windiest (generally winter) and summer seasons.

The wind microclimate for the future baseline presented in Configuration 1 ranges from Leisure walking to sitting conditions. During the summer season when conditions are generally calmer, the majority of the site is acceptable for standing or sitting use, with the exception of receptors 37, 39 and 55 which are classified as acceptable for leisure walking.

For Configuration 2, an interim construction phase was tested, comprising a demolished northern site (except Xfinity House and the NCP car park) with the future baseline schemes and the Temporary Event Space in place. The wind microclimate in this case is predominantly suitable for standing/entrance use and sitting, with occurrences of leisure walking conditions along Station Road and between Thames Tower and the adjacent carpark. Overall the ground level wind conditions are acceptable for thoroughfare use. Within ground level amenity areas, a mix of standing and sitting conditions occur within the Temporary Event Space which is considered to be acceptable for the intended pedestrian use. Station Square is predominantly acceptable for standing use during the summer season. If it is the intention to include seating in this area, then it is advised that soft landscaping or screening be included within this area to provide localised shelter.

In Configuration 3, the Completed Proposed Development (comprising the SH3 Scheme as amended and extended by the Telecom House / Plot E Scheme, in the context of future baseline surrounding schemes) was added to the wind tunnel model before testing. Conditions around the Completed Proposed Development ranged from those acceptable for business walking through to sitting during the windiest season. Conditions along thoroughfares during the windiest season were predominantly leisure walking at worst, with one ground level receptor classified as acceptable for business walking use (receptor 69 located at the northwest corner of Plot A). Conditions at receptor 69 are windier than desired for a thoroughfare based on the worst case maximum parameters. However, it should be noted that it is anticipated that conditions within this area would improve as a result of the detailed design of Plot A and additional mitigation measures are not expected to be

required within this area. Within Station Square, conditions during the summer season would be largely one-category windier than desired. If it is the intention to include seating within this area, localized shelter in the form of additional planting would be required to ensure users of this space could sit comfortably during the summer. Conditions within the Central Square would be acceptable for a mixture of standing and sitting conditions, this mix of conditions is considered to be acceptable as seating areas could be relocated to zones classified as acceptable for sitting use. If it is the intention to include seating within standing zones, additional mitigation measures could be included in the form of screening to provide localised shelter.

For Configuration 4 the cumulative surrounding buildings were added. The ground level wind microclimate was marginally calmer than in Configuration 3, and ranged from business walking to sitting; acceptable for thoroughfare use at all locations with the exception of receptor 69. Central Square observed a mix of sitting and standing conditions and is deemed acceptable for a mixed-use amenity space. Within the Station Square amenity area, conditions during the summer season would remain as reported within Configuration 3 and so if it is the intention to include seating within this area, localised shelter in the form of additional planting or screening would be required to achieve conditions suitable for sitting during the summer.

Conditions on the rooftop terrace areas were found to be significantly windier than desired in both Configurations 3 and 4, due mainly to the fact that the maximum parameter scheme (which does not include balustrades or other roof detailing) demonstrates a conservative worst-case assessment. These rooftop areas will be sensitive to the detailed design of the buildings. To illustrate the types of measures that could be used to create a suitable wind environment at roof level, this report references the assessment conducted for the Reserved Matters of Plot B, which included an illustrative wider Site. The illustrative scheme featured balustrades and screening around the rooftop areas which, combined with the larger scale effect of the change in massing of the building from the maximum parameters, demonstrates that an improvement in wind conditions of up to two categories is possible at these rooftop areas. As such, it is recommended that these rooftop areas are reassessed through further wind tunnel testing at the detailed design stage, and appropriate further mitigation measures developed at that time if they are required.

1. Introduction

Wind tunnel tests were conducted on a 1:300 scale model of the Station Hill Development (referred to as the Development hereafter in this report) in Reading. The investigation quantifies the wind conditions within and around the site, by comparing the measured wind speed and frequency of occurrence with the well-established Lawson Comfort Criteria. Meteorological data for London has been combined, analysed and adjusted to the site conditions by modelling the effect of terrain roughness on the wind speeds approaching the site.

Measurements were taken at up to 152 locations for 36 directions with a 10 degree interval. These covered ground level locations along the building facades and at corners, within open amenity spaces, terrace locations and on pedestrian routes within and around the site.

Analysis was conducted on a seasonal basis but the report focuses on the windiest season results (i.e. winter) and those for the summer season, when pedestrian activity generally requires calmer conditions.

Four configurations of the wind tunnel model were tested, as follows:

- Configuration 1: Future Baseline;
- Configuration 2: Temporary Scenario (with Temporary Event Space);
- Configuration 3: Completed Development (maximum parameter massing) with existing surrounds; and
- Configuration 4: Completed Development (Plot B in detail, other plots with maximum parameter massing) with cumulative surrounds.

Results are presented in a series of 'dot-plots' which indicate the measured comfort criteria for the windiest and summer seasons for each configuration.

A further configuration is referenced in this report, namely the Plot B Reserved Matters scenario which included illustrative parameters for the wider site. This has been used to inform the recommendations for mitigation on the rooftop areas, because it represents a more realistic rooftop wind climate compared to the maximum parameter scheme (which does not include balustrades or other roof detail).

2. Site Description

The development site is located in Reading. The OS Landranger grid reference is SU714737.

The Site is bounded by Reading Mainline Station to the north; Friar Street and Garrard Street (which intersects the Site) to the south; Greyfriars Road and existing buildings to the west; and the Thames Tower office building and existing buildings to the east.

The surrounding area comprises of low to medium rise residential/commercial development.

Figure 1 shows an aerial view of the site and surroundings, with the approximate site location highlighted in yellow.

2.1 Proposed Development

The Development is intended for mixed use, providing residential, retail and office units. The Development will comprise several medium-rise buildings. Plot C is the tallest block at approximately 88m above local ground level (maximum parameters) and is located on the east side of the Site. Plots, E, F and G are the shorter blocks and are located south of Buildings B and C. Amenity areas will be provided in two public spaces (Central Square and Station Square) and at the roof-top terrace levels within the Development.

Access to the Development is from Friars Street, Station Road, Greyfriars Road, Garrard Street and Station Hill.

Appendix A shows a selection of photographs of wind tunnel models of the Proposed Development used in this assessment.

3. Methodology

3.1 Wind Tunnel Testing: Procedure and Methodology

The basic methodology for quantifying the pedestrian level wind environment is outlined below:

- Measure the wind speeds at pedestrian level in the wind tunnel relative to a reference wind speed;
- Adjust standard meteorological data to account for conditions at the site;
- Combine these to obtain the expected frequency and magnitude of wind speeds at pedestrian level; and
- Compare the results with the Lawson Comfort Criteria to 'grade' conditions around the site.

This methodology is consistent with the standard industry approach, and has been used by RWDI for assessing the wind microclimate for sites in London and throughout the UK.

3.2 Simulation of Atmospheric Winds

The wind is turbulent, or gusty, and this turbulence varies depending upon the site and elevation. It is necessary to reflect these differences in the wind tunnel test. In addition, the atmospheric boundary layer is a shear flow which means that the mean wind speed increases with height. Modelling these effects is achieved by a combination of grid, barrier and floor roughness elements to create a naturally-grown boundary layer that is representative of urban or open country conditions, as appropriate. The detailed contoured proximity model around the site is used to fine-tune the flow and create conditions similar to those expected at full scale.

3.3 Measurement Technique

Wind speed measurements were made using Irwin probes. For pedestrian comfort studies, both the mean wind speed and the peak wind speed are measured at each location at a scaled height of 1.5m above ground level. The typical equivalent full scale time period for measuring the mean wind speed is around 15 minutes, whereas the peak wind speed is taken as the wind speed exceeded for 1% of the time.

Wind speeds at each location were measured for 36 wind directions with 0° representing a wind blowing from the North and 90° a wind blowing from the East.

3.4 Scaling

The length scale of the model was 1:300 and the velocity scale was approximately 1:2 for strong winds. Consequently the time scale for the tests was 1:150, or in other words 1 second in the wind tunnel is equivalent to 150 seconds at full scale.

3.5 Meteorological Data

Combined meteorological data derived from Heathrow airport meteorological station have been corrected to standard conditions of 10m above open flat level country terrain. The meteorological station data are then adjusted to the site conditions using the methodology implemented in the BREVe3 software package.

Approximately 30 years of meteorological data for Heathrow was used in this report and is presented in Appendix B as wind roses by season (refer to Figure 19 Appendix B) with the wind speed divided into Beaufort Force ranges (see Table 4, Appendix C). The radial axis indicates the cumulative number of hours per season that the wind speed exceeds the particular Beaufort Force. The seasons are defined as spring (March, April and May), summer (June, July and August), autumn (September, October and November) and winter (December, January and February).

The meteorological data indicate that the prevailing wind direction throughout the year is from the South-West. This is typical for many areas of Southern England. There is a secondary peak from North-Easterly winds, especially during the spring, and these tend to be cold winds.

The combination of meteorological data and velocity ratios permits the percentage of time that wind speeds are exceeded on the site to be evaluated. The locations can then be assessed using 'comfort criteria', as described below.

3.6 Pedestrian Comfort

The assessment of the wind conditions requires a standard against which the measurements can be compared. This report uses the Lawson Comfort Criteria, which have been established for over thirty years and have been widely used on building developments across the United Kingdom. The comfort criteria, which seek to define the reaction of an average pedestrian to the wind, are described in Table 1 and illustrated in Figure 20, in Appendix C. If the measured wind conditions exceed the threshold then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose.

The criteria set out six pedestrian activities and reflect the fact that less active pursuits require more benign wind conditions. The six categories are sitting, standing, entering/leaving a building, leisure walking, business walking and roadway/car-park, in ascending order of activity level. In other words, the wind conditions in an area for sitting need to be calmer than a location that people merely walk past. The distinction between leisure walking and business walking is that in the business scenario, where pedestrians are on site because their livelihood depends upon it, they will be more tolerant of stronger winds.

The criteria are derived for open air conditions and assume that pedestrians will be suitably dressed for the season. Thermal comfort is not part of the assessment.

The coloured key in Table 1 corresponds to the presentation of wind tunnel test results described in Section 4 of this report.

Table 1: Lawson Comfort Criteria

Key	Comfort Category	Threshold	Description
	Sitting	1% > B3	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods
	Standing/Entrance Use	6% > B3	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops
	Leisure Walking	4% > B4	Moderate breezes that would be appropriate for window shopping and strolling along a city/town centre street, plaza or park
	Business Walking	2% > B5	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
	Roadway/Car-park	6% > B5	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended

3.7 Strong Winds

Lawson also specified a lower limit strong wind threshold when winds exceed Beaufort Force 6. Exceedance of this threshold may indicate a need for remedial measures or a careful assessment of the expected use of that location; e.g. is it reasonable to expect elderly or very young pedestrians to be present at the location on the windiest day of the year?

In the UK, stronger winds are associated with areas which would be classified as suitable for business walking or roadway use. In a mixed-use, urban development scheme, business walking and roadway conditions would not usually form part of the 'target' wind environment and would usually require mitigation due to pedestrian comfort considerations. This mitigation would also reduce the frequency of, or even eliminate, any strong winds.

For locations on a pedestrian thoroughfare, where the wind speed occasionally exceeds the lower Beaufort Force 6 wind speed threshold, the wind is unlikely to generate nuisance to pedestrians. However, pedestrians are likely to experience difficulty in walking when the wind speed exceeds Beaufort Force 7 or 8.

If the wind speed exceeds B6 wind speed threshold in a proposed external seating area or outside an entrance, these conditions would be unacceptable and would require mitigation. However, in such cases the area is likely to be classified as suitable for leisure walking, business walking or roadway use and so would require mitigation to satisfy the Lawson Comfort Criteria in any case.

It is RWDI's practice to report incidence when the B6, B7 and B8 thresholds are exceeded for more than 1 hour per annum. The results for this study are presented in Table 3, which also shows the wind direction that contributes most to the strong winds.

4. Results

4.1 Details of the Analysis

To account for the difference in measurement height and terrain roughness between meteorological conditions at the airports and the site, it is necessary to apply adjustment factors to the wind tunnel velocity ratios. Adjustment factors (mean factors) were computed for a full range of wind directions from 0° through to 360°. The reference height in the wind tunnel was at the equivalent full-scale height of 120 metres. Table 2 presents the mean factors for the site.

Table 2: BREVe3 mean factors at 120m above ground level

Wind Direction	0°	30°	60°	90°	120°	160°	180°	210°	240°	270°	300°	330°
Mean Factor at 120m	1.41	1.42	1.44	1.43	1.40	1.45	1.46	1.51	1.46	1.41	1.41	1.40

4.2 Desired Pedestrian Activity around the Development

Generally, for a mixed-use development, the target conditions are:

- Leisure walking during the windiest season on pedestrian thoroughfares;
- Standing/entrance conditions at main entrances, drop off areas or taxi ranks, and bus stops throughout the year; and
- Sitting conditions at outdoor seating and amenity areas during the summer season when these areas are more likely to be frequently used by pedestrians.

The business walking and roadway classifications are usually avoided because of their association with occasional strong winds unless they are on a minor pedestrian route or a route where pedestrian access could be controlled in the event of strong winds.

Achieving a sitting classification in the summer usually means that same receptor would be suitable for standing in the windiest season because winds are stronger at this time. This is considered an acceptable occurrence for the majority of external amenity spaces because other factors such as air temperature and precipitation influence people's perceptions about the 'need' to use seating in the middle of winter.

For the Plot C Temporary Event Space, conditions acceptable for a mixture of leisure walking and standing are considered appropriate during the windiest season. During the summer season, sitting conditions are targeted within the Temporary Event Space area.

4.3 Performance against the Lawson Comfort Criteria

The wind microclimate within and around the site has been assessed and classified using the Lawson Comfort Criteria defined in Table 1. The results of the assessment for each configuration are described below and presented graphically in Figures 3 to 10.

Fewer probes are included in the assessments of the Future Baseline and Temporary Scenario, because the placement of probes within the model is tailored towards the layout of the proposed scheme. As such, a number of probes are either covered by existing buildings or else are located on proposed roof terraces that do not exist in Configurations 1 and 2.

4.3.1 Future Baseline

Figure 3 shows the ground level results for the windiest season.

For the purpose of comparison with the other tested configurations, the wind microclimate at 104 locations for the windiest season are summarised as follows:

- 38 locations are suitable for sitting use;
- 48 locations are suitable for standing/entrance use; and
- 18 locations are suitable for leisure walking use.

Figure 4 shows the ground level results for the summer season and is summarised as follows:

- 68 locations are suitable for sitting use;
- 33 locations are suitable for standing/entrances use; and
- 3 locations are suitable for leisure walking use.

4.3.2 Temporary Scenario (with Temporary Event Space) with future baseline surrounds

Figure 5 shows the ground level results for the windiest season.

For the purpose of comparison with the other tested configurations, the wind microclimate at 124 locations for the windiest season are summarised as follows:

- 64 locations are suitable for sitting use;
- 48 locations are suitable for standing/entrance use; and
- 12 locations are suitable for leisure walking use.

Figure 6 shows the ground and terrace results for the summer season and is summarised as follows:

- 97 locations are suitable for sitting use;
- 25 locations are suitable for standing/entrance use; and
- 2 locations are suitable for leisure walking.

4.3.3 Completed Development (maximum parameter massing) with future baseline surrounds

Figure 7 shows the ground and terrace level results for the windiest season.

For the purpose of comparison with the other tested configurations, the wind microclimate at 152 locations for the windiest season are summarised as follows:

- 31 locations are suitable for sitting use;

- 57 locations are suitable for standing/entrance use;
- 52 locations are suitable for leisure walking use;
- 3 locations are suitable for business walking use; and
- 9 locations are suitable for carpark/roadway use.

Figure 8 shows the ground and terrace results for the summer season and is summarised as follows:

- 65 locations are suitable for sitting use;
- 67 locations are suitable for standing/entrance use; and
- 20 locations are suitable for leisure walking use.

4.3.4 Completed Development (Plot B in detail, other plots with maximum parameter massing) with cumulative surrounds

Figure 9 shows the ground and terrace level results for the windiest season.

The cumulative schemes in the nearby surrounding area comprised a 2 storey extension on Garrard House, Garrard Street, a 22 storey building at 29-35 Station Road, the Reserved Matters Plot B application and the former sorting offices, Caversham Road.

For the purpose of comparison with the other tested configurations, the wind microclimate at 152 locations for the windiest season are summarised as follows:

- 39 locations are suitable for sitting use;
- 64 locations are suitable for standing/entrance use;
- 43 locations are suitable for leisure walking use;
- 3 locations are suitable for business walking; and
- 3 locations are suitable for carpark roadway use.

Figure 10 shows the ground and terrace results for the summer season and is summarised as follows:

- 73 locations are suitable for sitting use;
- 65 locations are suitable for standing/entrance use; and
- 14 locations are suitable for leisure walking.

4.4 Occurrence of Strong Winds

Areas with occasional strong winds exceeding Beaufort Force 6 are listed in Table 3 together with the primary wind direction and the number of hours per annum for which the threshold wind speed is exceeded.

Table 3: Annual Exceedance of Strong Winds

Location	Beaufort Force Exceedance	Main Wind Direction	Hours per annum
Future Baseline			
29	B6	210	1.3
33	B6	40	1.3
37	B6	80	1.9
39	B6	350	4.3
43	B6	220	3.8
55	B6	0	3.4
Temporary Scenario (with Temporary Event Space)			
37	B6	50	3.6
39	B6	70	3.7
43	B6	230	2.3
Completed Development (maximum parameter massing) with existing surrounds			
13	B6	230	3.7
20	B6	200	1.0
39	B6	0	3.9
43	B6	200	1.0
44	B6	210	1.2
45	B6	0	2.7
46	B6	20	1.9
51	B6	20	2.0
61	B6	20	1.2
62	B6	0	2.8
84	B6	220	1.2
111	B6	0	2.2
113	B6	230	1.8
120	B6	240	1.9
121	B6	220	1.3
131	B6	290	6.3
132	B6	180	2.8
137	B6	10	2.9
160	B6	220	1.1
163	B6	230	1.4
41	B7	0	1.5
55	B7	0	1.2
69	B7	230	2.0
115	B7	240	2.1
116	B7	230	2.8
117	B7	220	5.5

Location	Beaufort Force Exceedance	Main Wind Direction	Hours per annum
118	B7	300	4.3
122	B7	280	1.3
123	B7	230	2.0
124	B7	280	3.9
127	B7	210	7.1
129	B7	210	6.1
130	B7	230	6.9
161	B7	220	1.4
119	B8	220	1.5
125	B8	230	1.3
126	B8	220	1.4
128	B8	210	2.2
Completed Development (Plot B in detail, other plots with maximum parameter massing) with cumulative			
13	B6	270	1.6
20	B6	200	1.0
39	B6	350	1.3
41	B6	10	2.9
43	B6	190	1.1
51	B6	10	1.5
55	B6	10	3.1
69	B6	270	5.0
84	B6	220	1.1
111	B6	80	1.6
120	B6	300	2.0
121	B6	280	1.0
125	B6	210	1.8
131	B6	300	5.4
132	B6	190	1.7
137	B6	20	1.1
142	B6	30	1.0
160	B6	220	1.1
115	B7	290	2.0
116	B7	230	1.8
117	B7	220	4.1
118	B7	210	6.0
119	B7	220	6.6
122	B7	290	1.1
123	B7	210	1.5
124	B7	280	2.0
130	B7	220	3.0
161	B7	220	1.2

5. Discussion

Wind conditions at receptors which are not discussed are expected to be acceptable for comfortable pedestrian use. Mitigation would be required for areas where conditions are windier than desired. Suggestions for mitigation measures are described where relevant in this section.

As this is an outline application the locations of entrances are unknown, and so it is advised that entrances are situated within areas suitable for standing/entrance use or sitting. Where it is the intention to locate entrances within windier zones, it is advised that mitigation measures be included for these entrances at the detailed design stage to ensure the target conditions are met during the windiest season.

5.1 Configuration 1

(Future Baseline)

The discussion of the wind microclimate in Configuration 1 is based on the results shown in Figure 3 for the windiest season and Figure 4 during the summer season. The baseline conditions were taken to be those of the Site prior to demolition with surrounding land uses including the upgraded Reading Mainline Station and in-construction buildings comprising Chatham Place, 21 Caversham Road, Energis House, Thames Tower and Aldwych House. Wind tunnel testing of this configuration therefore established the wind microclimate that would likely exist immediately surrounding the Site.

5.1.1 Pedestrian Comfort – Ground Level

The existing Site observed wind conditions acceptable for leisure walking to sitting use.

5.1.1.1 Thoroughfares

The wind microclimate throughout the site is acceptable for thoroughfare use with conditions acceptable for leisure walking or calmer during the windiest season.

During the summer season when conditions are generally calmer, the majority of the existing Site would be acceptable for sitting.

5.1.2 Strong Winds

There were six occurrences of strong winds in excess of Beaufort 6: receptors 29, 33, 37, 39, 43 and 55 observed winds exceeding Beaufort 6 for up to 4.3 hours per year.

5.2 Configuration 2

(Temporary scenario with Temporary Event Space and future baseline surrounds)

The discussion of the wind microclimate in Configuration 2 is based on the results shown in Figure 5 for the windiest season and Figure 6 for the summer season. This Configuration tested the Temporary Event Space with the buildings in the northern part of the site, to the north of Garrard Street, demolished (with the exception of Xafinity House and the NCP car park) and the future baseline schemes in place..

5.2.1 Pedestrian Comfort – Ground Level

During the windiest season, the wind microclimate conditions at ground level locations range from conditions acceptable for leisure walking through to sitting.

5.2.1.1 Thoroughfares

During the windiest season, all locations are acceptable for thoroughfare use; with wind conditions ranging from leisure walking to sitting. For this configuration, leisure walking conditions largely occur around Thames Tower at the northeastern corner of the Site.

5.2.1.2 Amenity spaces

During the summer season the Plot C Temporary Event Space would be acceptable for sitting use. As a result this area would be acceptable for the intended use.

Station Square is predominantly acceptable for standing use during the summer season; if it is the intention to include seating in this area, then it is advised that soft landscaping be included within this area to provide localised shelter.

5.2.2 Strong Winds

There were three occurrences of strong winds in excess of Beaufort Force 6 for up to 3.7 hours per annum.

The strong winds measured at receptors 37, 39 and 43 occur along thoroughfares where such infrequent strong winds are unlikely to cause nuisance. The locations of these strong winds is consistent with the future baseline configuration.

5.3 Configuration 3

(Completed Development – maximum parameter massing with existing surrounds)

The discussion of the wind microclimate in Configuration 3 is based on the results shown in Figure 7 for the windiest season and Figure 8 for the summer season. This Configuration consists of the updated Plot E with the remaining Station Hill Development (maximum parameter plan, modified to include the set-back at ground level of Plots B, C, D and G) and future baseline surrounding buildings.

5.3.1 Pedestrian Comfort – Ground Level

All ground level wind microclimate conditions ranged from business walking through to sitting. It should be noted that business walking conditions occur at one location on the northwest corner of plot A; this is the windiest location on site with all other receptors being classified as acceptable for leisure walking use or calmer.

5.3.1.1 Thoroughfares

The majority of thoroughfare locations observed the desired leisure walking (or calmer) wind conditions during the windiest season. Location 69 is situated at the northwestern corner of Plot A, where business walking conditions were measured. The conditions at this location are expected to be sensitive to the detailed design of Plot A, and potentially also Plot E due to wind being channeled at ground level along the west side of the Site. Wind speeds are expected to be reduced by the detailed design of Plot A in particular, as the maximum parameter scheme generates a worst-case wind environment around the perimeter of the Site. Further mitigation is not expected to be required; however, this should be confirmed through wind tunnel testing at detailed design, and localised mitigation measures developed at that stage if they are required.

5.3.1.2 Entrances

As this is an outline application, entrance locations are unknown. Therefore it is advised that entrances are situated within areas where standing/entrance conditions or calmer are identified. If it is the intention to locate entrances in windier leisure walking zones, mitigation measures would be required to ensure the targeted conditions suitable for entrance use are met.

5.3.1.3 Amenity spaces

Amenity space is proposed at ground level within the Central Square and Station Square. Within these areas conditions are acceptable for a mix of standing and sitting wind conditions during the summer. This is deemed acceptable for a mixed-use amenity space provided that seating areas are located in the calmer areas; if long term seating is intended in areas suitable for standing during the summer then localised soft landscaping in the form of small trees and shrubs in planters will help to reduce wind speeds and render them suitable for the intended use.

5.3.2 Pedestrian Comfort – Terraces

Roof terrace areas throughout the proposed Development are generally windier than desired, which is mainly due to the absence of balustrades or other beneficial shelter in the maximum parameter scheme. As shown in Figure 8, the conditions during the summer are suitable for leisure walking on the roofs of Plots B and C (i.e. two categories windier than the target conditions), a mixture of leisure walking and standing/entrance use on the roofs of Plots A, D and E (two and one categories windier respectively), and standing/entrance use on the roofs of Plots F and G.

Conditions during the windiest season are shown in Figure 7, which shows a wind environment suitable for business walking and carpark/roadway use on the roof areas of Plots A, B and C. While this does not directly relate to the assessment with regard to intended use (which assesses amenity spaces during the summer when they are most frequently in use), it does illustrate that these terraces have the potential to be uncomfortably windy throughout the year in this worst-case assessment.

An illustrative scheme was tested as part of the Plot B Reserved Matters assessment. This configuration represents a more realistic scenario for the roof terraces, including the beneficial effects of screening and balustrades around the terrace areas. Photographs of this configuration are included in Appendix D of this report.

Wind conditions improved by up to two categories during the summer in the rooftop areas of Plots A, B, C and D that were sheltered by perforated or solid screening around the building crowns (visible in the photographs in Appendix D). Other parts of the terraces improved by one category where 1.1m high balustrades and the indicative massing of the building combined provided a small amount of shelter from windy conditions.

The results of the wind microclimate assessment on the illustrative scheme are shown in the figures in Appendix D for the windiest and summer seasons. Overall, in the indicative scheme, conditions on the rooftop terraces were found to be predominantly suitable for standing or sitting use during the summer, with only one area (at the northwest corner of Plot C) remaining suitable for leisure walking use. These results identify the types of mitigation that can be effective, and should be developed further at the detailed design stage of each plot to ensure that conditions are comfortable for their intended use.

5.3.3 Strong Winds

There were 38 occurrences of strong winds in excess of Beaufort Force 6, 7 or 8 in Configuration 3, as shown in Table 3 above.

Receptors 13, 20, 39, 43-46, 51, 61, 62 and 84 are ground level locations situated on thoroughfares or at building corners which observed strong winds in excess of B6; however infrequent winds of this magnitude are unlikely to cause a nuisance to pedestrians.

The remaining occurrences of strong winds (which exceed B6, B7 and B8) occur on roof top terraces. However, these areas have already been identified as areas that would require mitigation to address pedestrian comfort. The conditions on these terraces will change as a result of the detailed design of the respective plots (particularly the design of the balustrades), and so the requirement for mitigation should be reassessed at detailed design stage.

In the tests conducted on the illustrative scheme for the Plot B Reserved Matters assessment, as shown in the photographs in Appendix D, the inclusion of balustrades and screening (in addition to the improvement caused by the change in massing from the maximum parameters to the illustrative design) significantly reduced the occurrence of strong winds at terrace level. Strong winds in this configuration exceeded B6 at the largely exposed northwest corner of Plot C and were eliminated at all other rooftop locations.

5.4 Configuration 4

(Completed Development – Plot B in detail, other plots with maximum parameter massing, with cumulative surrounding buildings)

The discussion of the wind microclimate in Configuration 4 is based on the results shown in Figure 9 for the windiest season and Figure 10 for the summer season. This Configuration consists of the Station Hill Maximum Parameter Plan (modified to include the set-back at ground level of Plots C, D and G) plus Plot B in detail and cumulative surrounding buildings. Generally the wind microclimate is consistent with configuration 3.

5.4.1 Pedestrian Comfort – Ground Level

Within cumulative buildings in situ, conditions at ground level ranged from those acceptable for business walking through to sitting. These conditions are consistent with Configuration 3. Where business walking conditions occur, mitigation measure would be required to ensure the targeted leisure walking conditions are met.

5.4.1.1 Thoroughfares

All thoroughfare locations experienced the required leisure walking (or calmer) conditions, with the exception of receptor 69 which is classified as acceptable for business walking (as per Configuration 3 described above). Conditions at this receptor are likely due to the maximum parameter plans being tested, and so it is expected that conditions at this location would calm once the detailed design of Plot A is tested. Therefore mitigation measures are not anticipated to be required within this area.

5.4.1.2 Entrances

As this is an outline application, entrance locations are unknown, and so it is advised that entrances are situated within areas where standing/entrance conditions or calmer are identified. If it is the intention to locate entrances in windier leisure walking zones, mitigation measures would be required to ensure the targeted conditions suitable for entrance use are met.

5.4.1.3 Amenity spaces

Within Central Square and Station Square conditions are acceptable for a mix of standing and sitting wind conditions during the summer. This is deemed acceptable for a mixed-use amenity space provided that seating areas are located in the calmer regions of the square; however if long term seating is intended in areas suitable

for standing during the summer then localised soft landscaping in the form of small trees and shrubs in planters will help to reduce wind speeds.

5.4.2 Pedestrian Comfort – Terraces

With cumulative developments in situ, conditions at roof terrace level remained similar to the conditions described for Configuration 3, except on the roof of Plot B where the detailed design provides significant shelter to the rooftop terrace areas. Conditions at receptors 125-129 (Plot B) improved by up to two categories in the summer season, as shown by a comparison of Figures 8 and 10.

On the rooftop areas of the other plots, minor differences of up to one category were observed, where the influence of cumulative schemes and the detailed Plot B has caused previously marginal results to change category. Overall however, the wind microclimate on these plots was largely consistently with the results of Configuration 3; i.e. predominantly one and two categories windier than desired for amenity use during the summer.

The detailed design of the buildings will be influential in creating suitable conditions on the rooftop amenity spaces, as noted previously in Configuration 3, and the requirement for mitigation should be reassessed at the detailed design stage.

5.4.3 Strong Winds

With cumulative buildings in situ there were 28 occurrences of strong winds in excess of Beaufort Force 6 or 7. Receptors 13, 20, 39, 41, 51, 55 and 69 are located along thoroughfares or at building corners where the infrequent exceedance of B6 is unlikely to cause nuisance.

Receptor 43 is located within Station Square, this location has been identified as requiring mitigation in terms of pedestrian comfort. Mitigation in the form of planting or screening is expected to reduce the frequency of strong winds within this area.

All remaining receptors are situated within the rooftop amenity spaces which observe wind exceeding B6 or B7. These receptors have been identified as being windier than desired in terms of pedestrian comfort, and so the mitigation measures advised for Configuration 3 to achieve the desired wind conditions would also be expected to reduce the frequency of strong winds.

6. Concluding Remarks

In conclusion:

1. The meteorological data for the site indicate prevailing winds from the south-west quadrant throughout the year with secondary winds from the north-easterly direction, particularly during spring.
2. In Configuration 1, the wind microclimate around the Development ranges from sitting to leisure walking wind conditions during the windiest season. During the summer season conditions are largely acceptable for sitting use, with standing/entrance and leisure walking conditions reported in more exposed areas.
3. Configuration 2 comprised a demolished northern part of the site (with the exception of Xafinity House and the NCP Car Park) with Plot C as a temporary events space, and the future baseline schemes. The wind microclimate ranges from leisure walking to sitting during the windiest season. Overall the ground level is acceptable for thoroughfare use. The Temporary Event Space is considered to be acceptable for the intended pedestrian use throughout the year. During the summer season the Station Square amenity area, observed standing conditions. If seating is desired within this area, localised mitigation would be required to lower wind speeds; however, since this area is expected to be sensitive to the detailed design of the buildings, the need for mitigation should be reassessed at the detailed design stage.
4. For Configuration 3, the completed development including the updated Plot E (maximum parameter plan) was added to the wind tunnel model before testing. The ground level wind microclimate ranged from business walking to sitting. Along thoroughfares conditions measured are predominantly suitable for leisure walking use (at worst) or calmer, these conditions are considered to be acceptable for the intended use. Where business walking conditions were identified at receptor 69, mitigation measures are not expected to be required as this conditions is likely to be a result of the maximum parameter being tested, and so at the detailed design stage it is expected that conditions at receptor 69 would calm to those acceptable for the intended pedestrian use. The Central Square amenity space observed a mix of sitting and standing conditions and is deemed acceptable for a mixed-use amenity space; however if long term seating is intended, localised soft landscaping or screening should be incorporated within the amenity space to achieve sitting conditions. The Station Square amenity space is largely classified as acceptable for standing entrance use, and so if it is the intention to include seating with this area soft landscaping should be incorporated to provide shelter to the users of this space.
5. In Configuration 4, the maximum parameter plan with cumulative surrounding buildings was tested. The ground level microclimate ranged from business walking to sitting conditions and is largely acceptable for their intended thoroughfare use, with the exception of receptor 69 (similar to configuration 3). Conditions within the Central Square and Station Square amenity spaces observed a mix of sitting and standing conditions during the summer season and are acceptable for a mixed-use amenity space (if long term seating is desired, additional soft landscaping would be required to lower wind conditions to a sitting classification).
6. Conditions on the rooftop terrace areas were found to be significantly windier than desired in both Configurations 3 and 4, due mainly to the fact that the maximum parameter scheme (which does not include balustrades or other roof detailing) demonstrates a conservative worst-case assessment. These rooftop areas will be sensitive to the detailed design of the buildings. To illustrate the types of measures that could be used to create a suitable wind environment at roof level, this report references the assessment conducted for the Reserved Matters of Plot B, which included an illustrative wider Site. The illustrative scheme featured balustrades and screening around the rooftop areas which, combined with the larger scale effect of the change in massing of the building from the maximum parameters, demonstrates that an improvement in wind conditions of up to two categories is possible at these rooftop areas. As such, it is recommended that these rooftop areas are reassessed through further wind

tunnel testing at the detailed design stage, and appropriate further mitigation measures developed at that time if they are required.

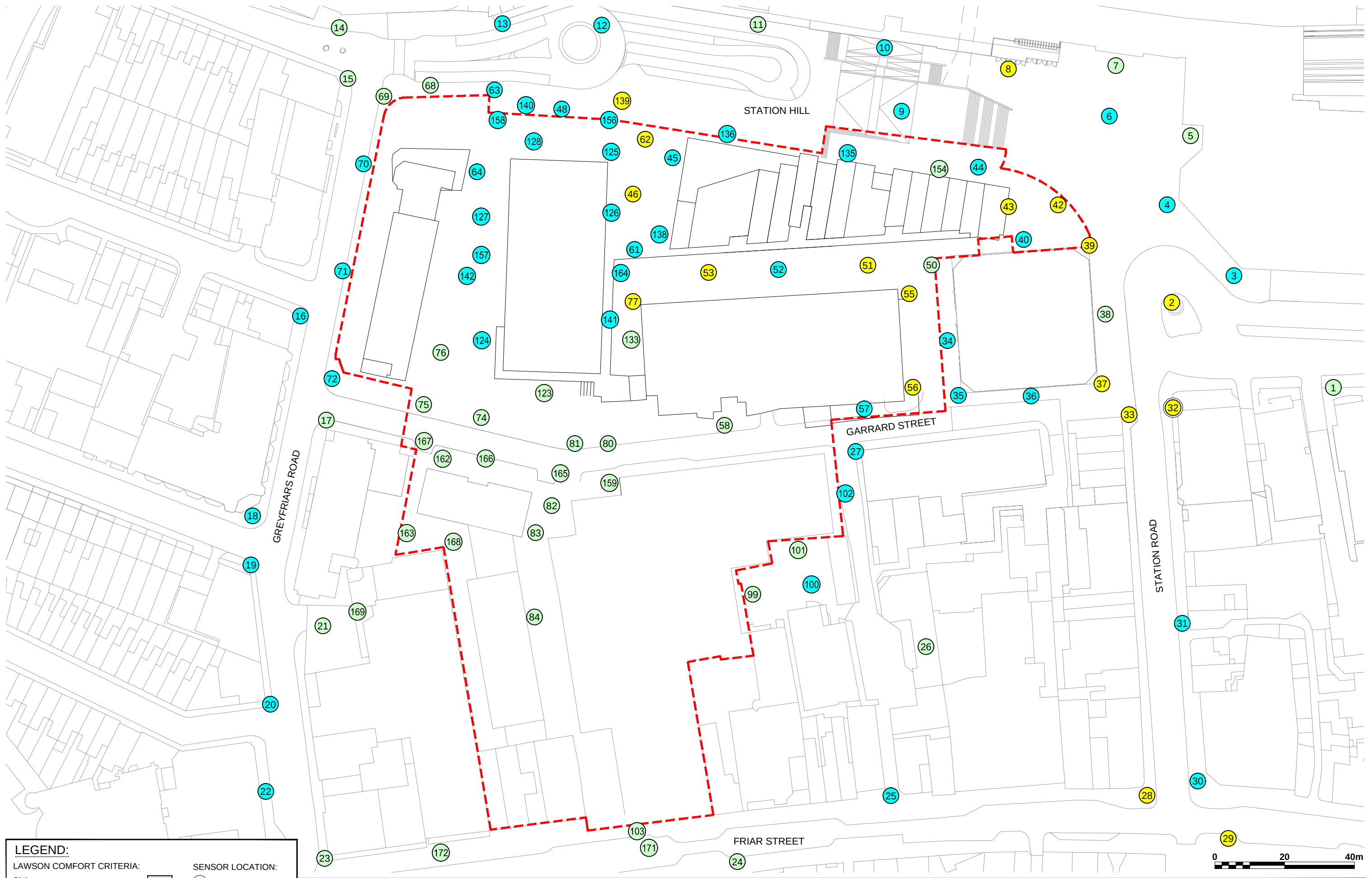
Figures



Figure 1: Aerial Photograph of the Existing site (approx. site highlighted in yellow)



Figure 2: Image of the Proposed Development –Configuration 3 in the Wind Tunnel (view from the South)



LEGEND:

LAWSON COMFORT CRITERIA:

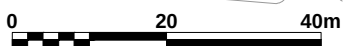
Sitting	Light Green
Standing/Entrance	Blue
Leisure Walking	Yellow
Business Walking	Magenta
Carpark/Roadway	Red

SENSOR LOCATION:

○ Grade Level
□ Podium Level
◇ Terrace/Balcony Level

Pedestrian Wind Comfort Conditions - Configuration 1: Future Baseline, Existing Site with Existing Surrounding Buildings.
Windiest Season

Station Hill Plot E - Reading, United Kingdom



Project #1402222

Drawn by:	SM	Figure:	3
Approx. Scale:	1:1000		
Date Revised:	June 19, 2015		