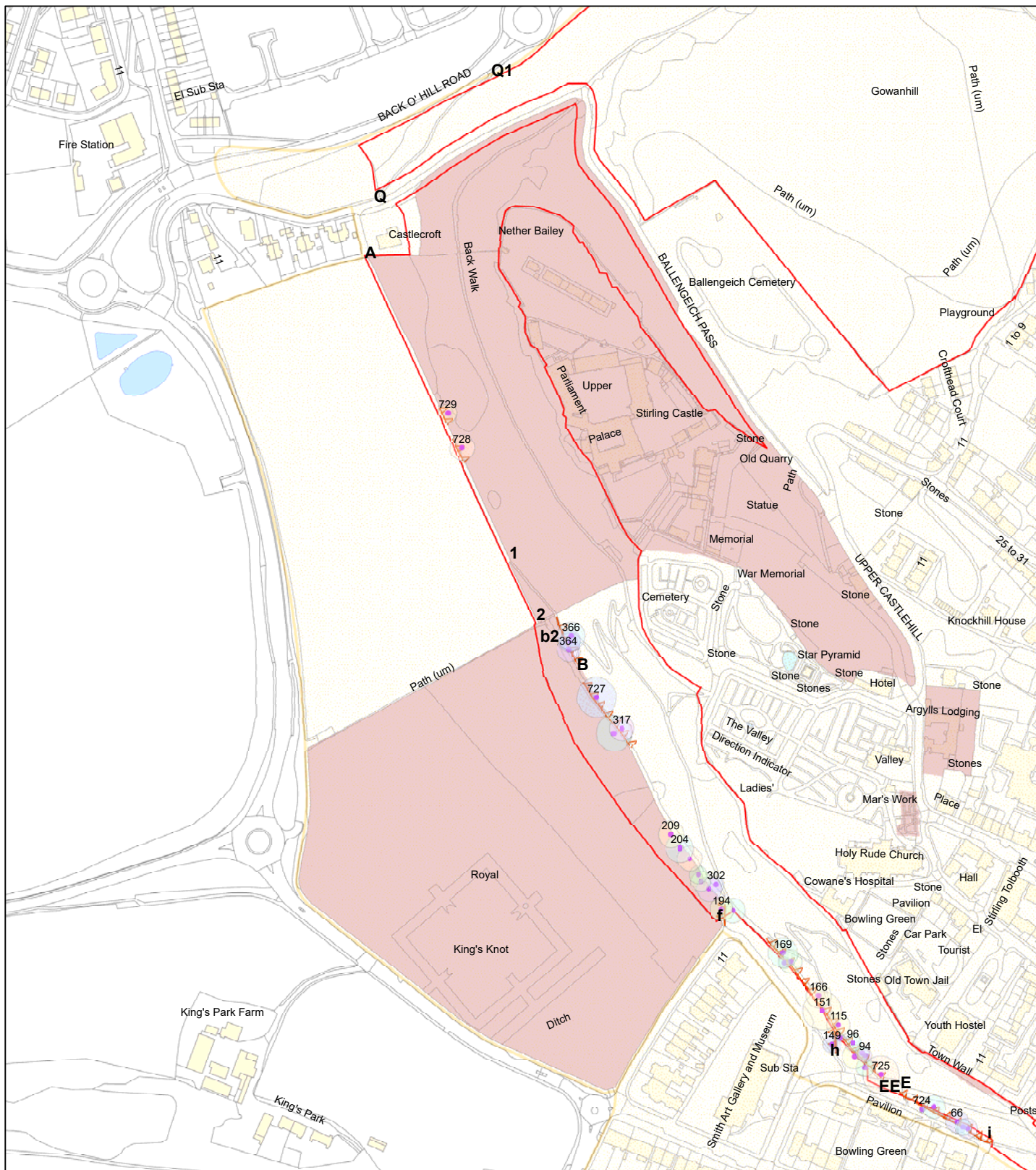




Lower Back Walk Path

BRN: 162950

Grid Ref: NS 792 950

Map 1: Overview

Refer to survey sheets 1 to 11

DATE: 17 August 2016

1:3,000 at A3



Legend

Site_boundary

Path Sections

i - E @78.8 linear metres

EE - D @58.4 linear metres

D - C @125.8 linear metres

C - B @216 linear metres

B - 1 @101 linear metres

B - b2 @46.4 linear metres

1 - A @270.4 linear metres

Q - Q1 @136.8 linear metres

Root Protection Areas (RPA)

Scheduled Ancient Monument (SAM)

~~~~~ Infracweb

Conservation Areas

### Spur Sections

i Greenwood Ave @9.2 linear m (patching)

D - H @16 linear metres

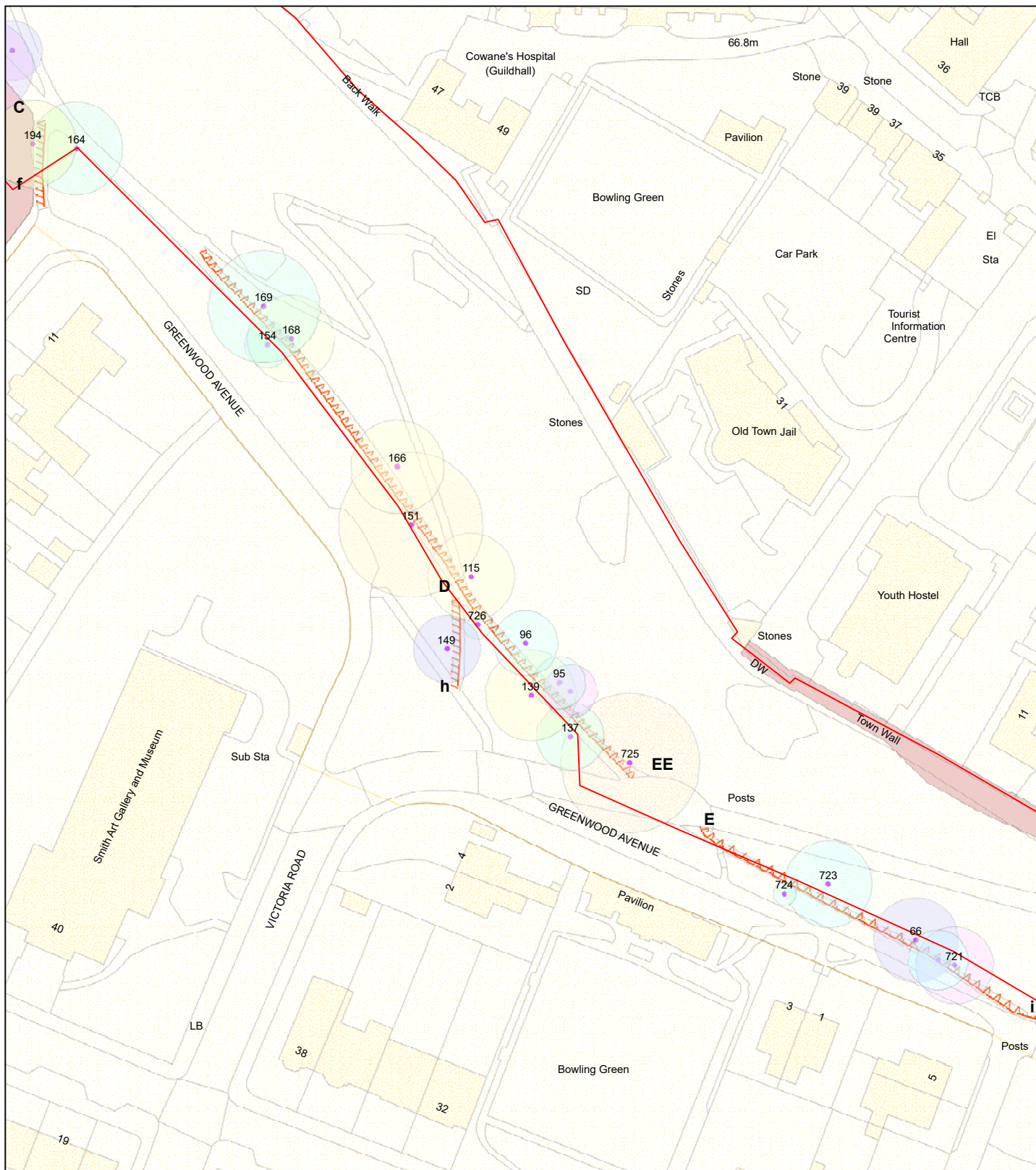
C - f @24.5 linear metres

1 - 2 @47 linear metres

● Tree & Tag no



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## Lower Back Walk Path

**BRN: 162950**

**Grid Ref: NS 792 950**

**Map 2: Section i-E, EE-D, D-C**

**Refer to survey sheets 1 to 11**

**DATE: 17 August 2016**

**1:800 at A3**



## Legend

Site\_boundary

Root Protection Areas (RPA)

Scheduled Ancient Monument (SAM)

Conservation Areas

v v v v v Infracweb

● Tree & Tag no

## Path Sections

i - E @78.8m x 1.5m wide

EE - D @58.4m x 3m wide

D - C @ 125.8m x 2.5m

## Spur Sections

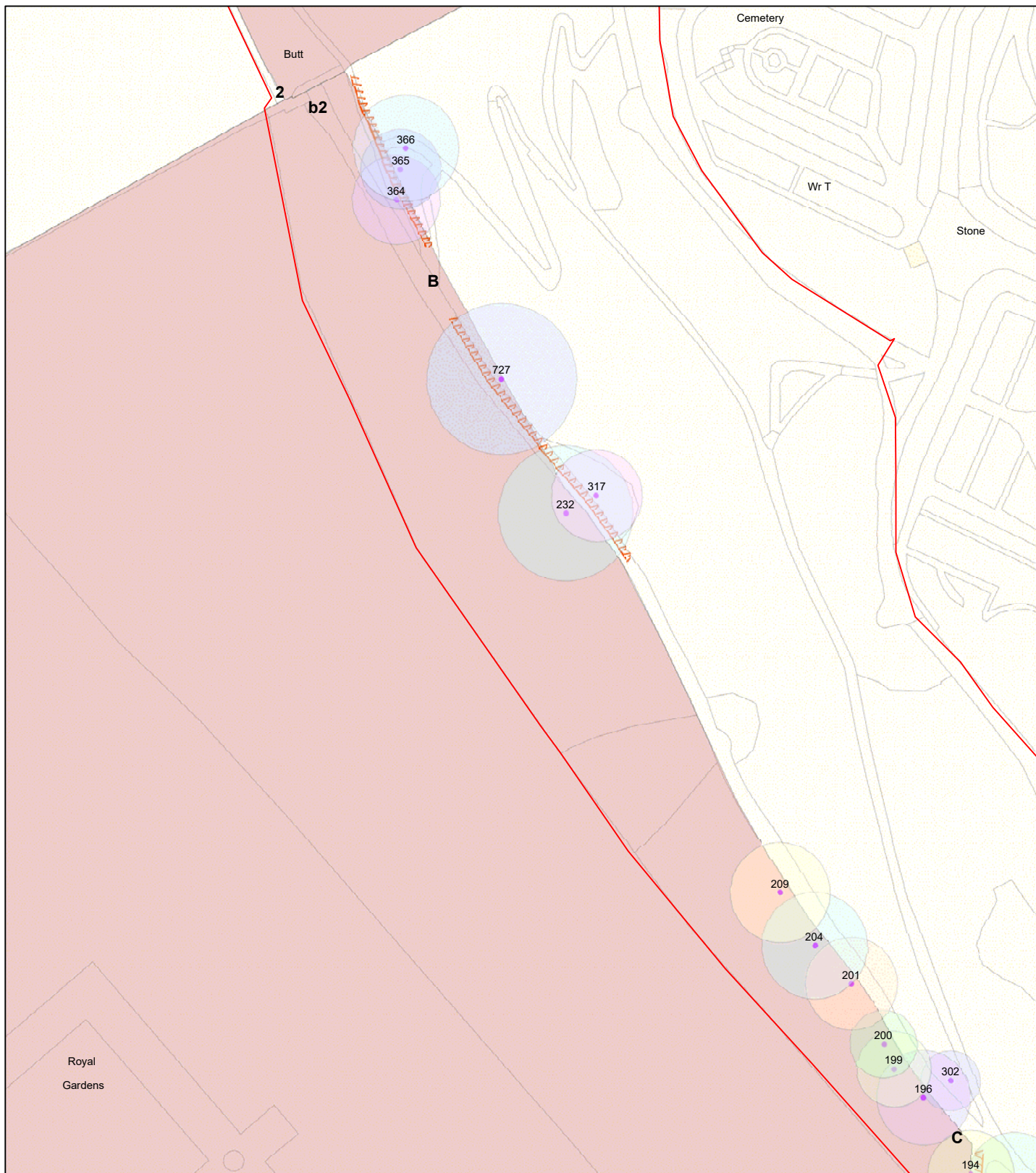
D - H @16m x 2.5m

C - f @24.5m x 3m (12 deg slope)

i Greenwood Ave @9.2m x 2.6m wide (patching)



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## Lower Back Walk Path

**BRN: 162950**

**Grid Ref: NS 792 950**

**Map 3:Section C-B, B-b2**

**Refer to survey sheets 1 to 11**

**DATE: 17 August 2016**

**1:800**

at A3



## Legend

Site\_boundary

### Path Sections

C - B @ 216m x 3m

B - b2 @ 46.4m x 3m

### Spur Sections

C - f @24.5m x 3m (12 deg slope)

1 - 2 @47m x 1m wide

**Root Protection Areas (RPA)**

**Scheduled Ancient Monument (SAM)**

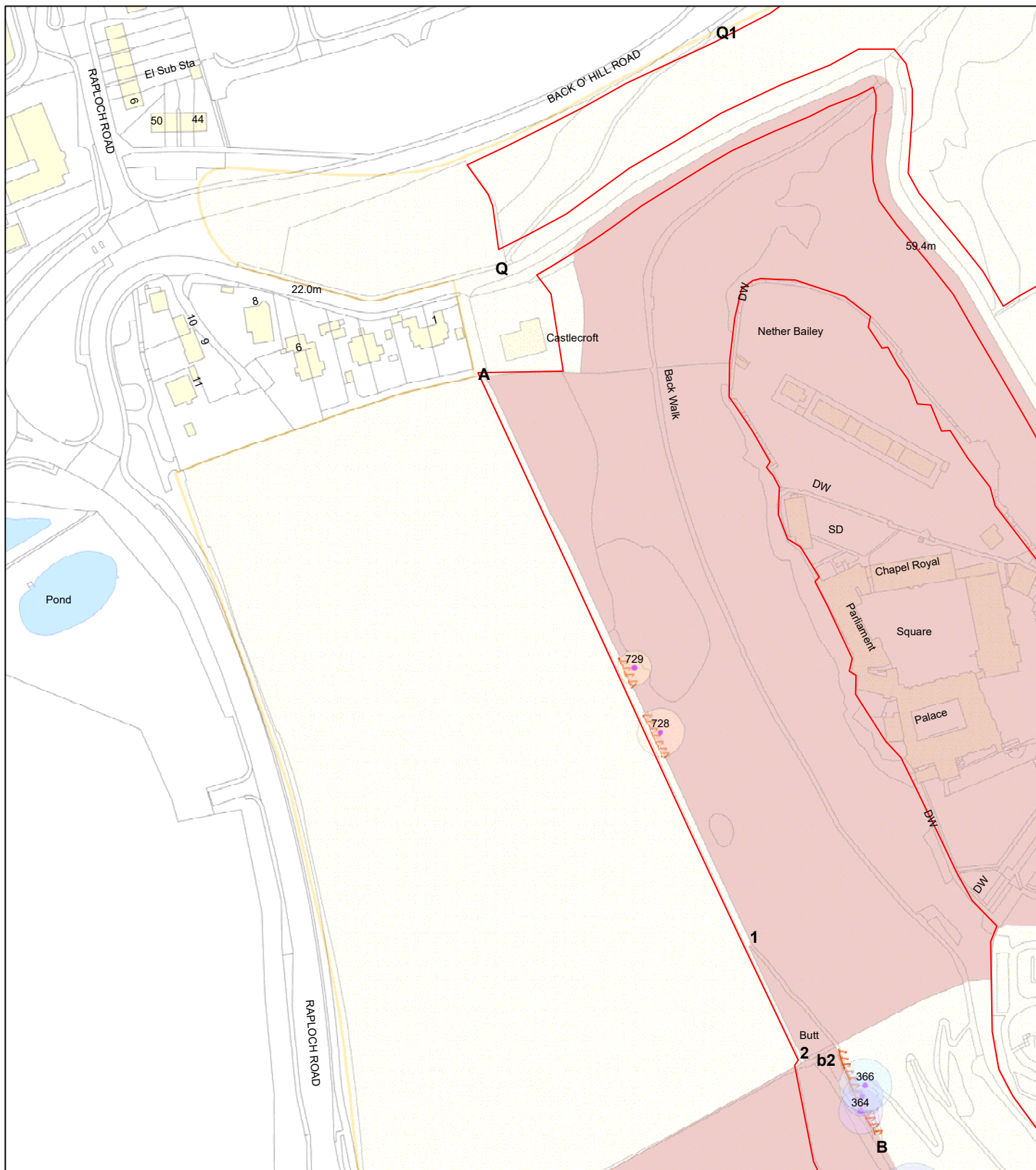
**Conservation Areas**

vvvvvv Infraweb

● Tree & Tag no



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## Lower Back Walk Path

**BRN: 162950**

**Grid Ref: NS 792 950**

**Map 4:Section B-1, 1-A,  
Q-Q1**

**Refer to survey sheets 1 to 11**

**DATE: 17 August 2016**

**1:1,600 at A3**



## Legend

Site\_boundary

### Path Sections

B-1 @101m x 1.5m

1-A @270.4m x 3m

Q-Q1 @136.8m x 1.5m

### Spur Sections

1 - 2 @47m x 1m wide

Root Protection Areas (RPA)

Scheduled Ancient Monument (SAM)

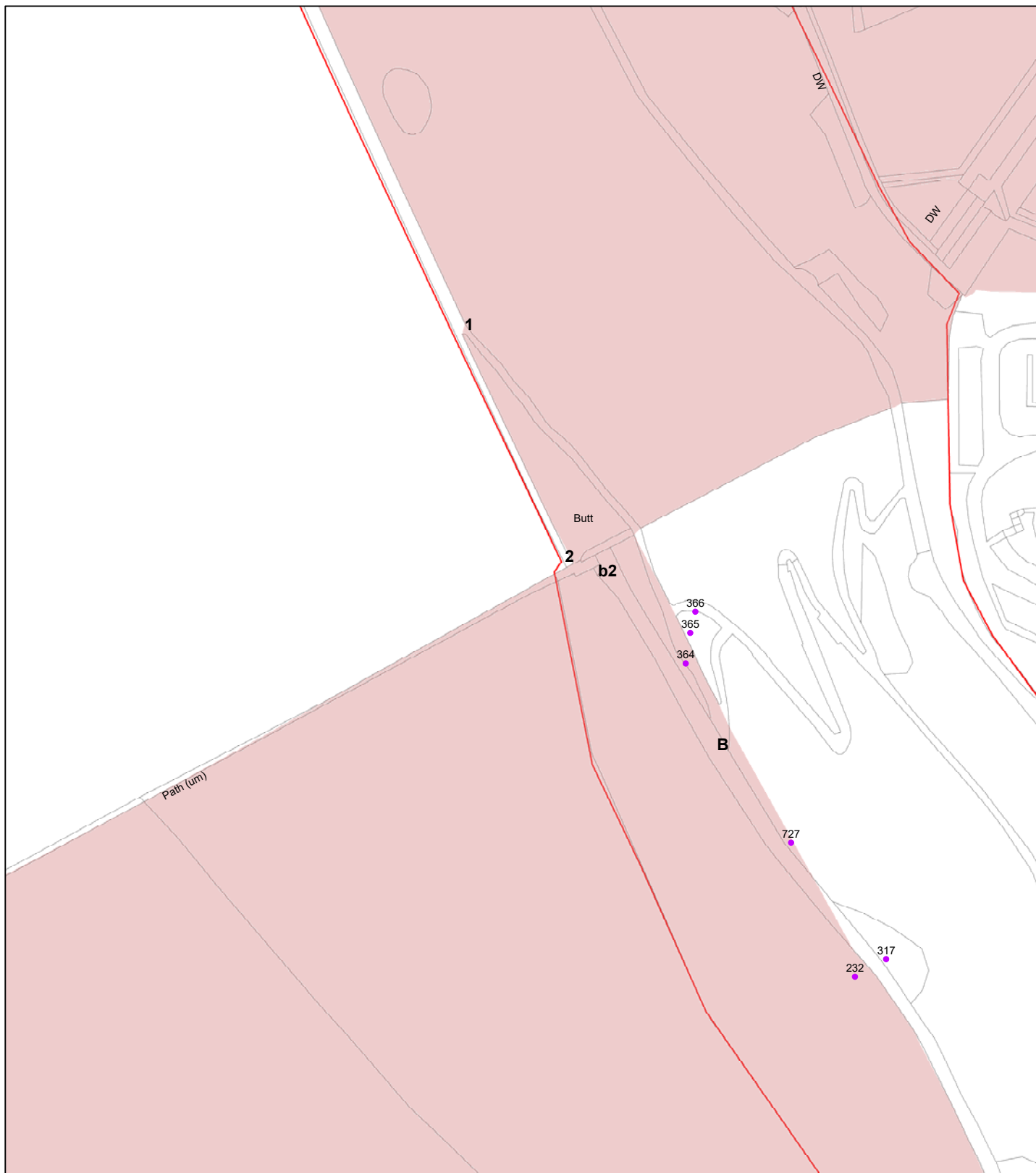
Conservation Areas

vvvvvv Infraweb

● Tree & Tag no



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## Lower Back Walk Path

**BRN: 162950**

**Grid Ref: NS 792 950**

**Map 5:Section B-1, 1-2**

**Refer to survey sheets 1 to 11**

**DATE: July 2016**

**1:800 at A3**



### Legend

Site\_boundary

**Root Protection Areas (RPA)**

● Tree & Tag no

### Path Sections and achievable width

B-1 @101m x 1.5m

1-A @270.4m x 3m

Q-Q1 @136.8m x 1.5m

hs\_scheduled\_monuments309669

### Spur Sections and achievable width

1 - 2 @47m x 1m wide



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# Section i → E

Ground Survey Record

Site: Lower Back Walk

Date: 25/5/16

Sheet 1 of 11

Weather: Warm + dry

Proposed Path Type: Flexipave/porous/infraweb

Section: i → E 78m

Path Rating:

| Distance tot. | Current Condition                            | Recommended Action                                         | 12 | Priority | Finished Condition | Notes |
|---------------|----------------------------------------------|------------------------------------------------------------|----|----------|--------------------|-------|
| 19.1          | 78.5<br>maple<br>tg 724<br>20dbh<br>2-4 rps  |                                                            | wp |          |                    |       |
| 9.4           | 59.4<br>Syc<br>tg 723<br>76dbh<br>9 rps      |                                                            | 33 |          |                    |       |
| 50m           | 50m                                          |                                                            |    |          |                    |       |
| 20.4          | 29.6m<br>maple<br>tg 66<br>86dbh<br>10-3 rps |                                                            | 32 |          |                    |       |
| 5.6           | 24<br>lime<br>tg 722<br>52dbh<br>6m rps      | ← 1.5m →<br>tar/<br>black tp                               | 31 |          |                    |       |
| 5.3           | 19.7<br>lime<br>tg 721<br>66dbh<br>8m rps    | flexi. pave +<br>infra web                                 | 30 |          |                    |       |
| 5.4           | 13.3<br>tar                                  |                                                            | 29 |          |                    |       |
| 5m            | 8.3<br>8°<br>slope<br>1 (up)                 |                                                            |    |          |                    |       |
| 8.3           | 1.5m                                         | infra web +<br>stone or<br>just stone to<br>bring level up |    |          |                    |       |
| 0             | 0                                            |                                                            | 28 |          |                    |       |

Ground Survey Record

Site:

Date: 25/5/16

Sheet 2 of 11

Weather: warm dry

Proposed Path Type: Flexipave/porous/infraweb

Appendix 1

Section: E12 → D 584 m

Path Rating:

| Distance | Current Condition | Recommended Action   | DB | Priority | Finished Condition | Notes           |
|----------|-------------------|----------------------|----|----------|--------------------|-----------------|
| 58.4m    | 153.7             | Spur no upgrade      |    |          |                    | All             |
| 6.7      | See Spur          |                      |    |          |                    | 'flex: pave'    |
|          | 147.0             | Syc 15 85 10.2       |    | 40       |                    | Sections        |
| 3.5m     | 139.5             | ground gravel rock   |    |          |                    | need further    |
| 7.5      | 137               | H. Chest 72.6 25-3m  |    | 41       |                    | investigation   |
| 2.5      | 136               | Syc 96 54-6.5        |    | 31       |                    | -possibility of |
| 1        | 130.2             | Syc 95 42-5m         |    | 38       |                    | other surfaces  |
| 5.8      | 127               | Syc 139 87-10.4      |    | 37       |                    |                 |
| 3.2      | 125               | Syc 94 43-5.4        |    | 36       |                    |                 |
| 2        | 116.7             | Line 137 61 dbh 7.3  |    | 35       |                    |                 |
| 10.3     | 100               | Syc 725 1.2 dbh 14.4 |    | 34       |                    |                 |
| 14.7     | 97.6              | ← 2.7m + 50cm veg    |    |          |                    |                 |
| 2.4      | 95m               | 6.25m                |    |          |                    |                 |
| 2.6      |                   | install bollards     |    |          |                    |                 |
| E12      |                   |                      |    |          |                    |                 |

tree - tag no  
x dbh - g r p a  
(root protection area)

↑  
78.5 tarmac - no work reqd.

## Ground Survey Record

Site: 10 Bards  
Date:

Sheet 3 of 11

Weather:

Proposed Path Type: Fiexipave/porous/backtop

Section: D → C

125.8m

Path Rating:

Appendix 1

125.8

| Distance | Current Condition | Recommended Action | Priority | Finished Condition | Notes |
|----------|-------------------|--------------------|----------|--------------------|-------|
| 11       | 277.8             |                    |          |                    |       |
| 1.4      | 266.8             | ← 2.15m →          |          |                    |       |
| 12.4     | 265.4             |                    |          |                    |       |
| 4.5      | 253               |                    |          |                    |       |
| 9.2      | 248.5             | ← 3.9m →           |          |                    |       |
|          | 239.3             |                    |          |                    |       |
| 19.5     | 121               | ← 2.3m →           |          |                    |       |
| 1.3      | 218.5             |                    |          |                    |       |
| 3.7      | 214.8             |                    |          |                    |       |
| 7.8      |                   |                    |          |                    |       |
| 19       | 207               | ← 2.5m →           |          |                    |       |
| 5.7      | 188               |                    |          |                    |       |
|          | 182.3             |                    |          |                    |       |
| 1.8      | 172.5             |                    |          |                    |       |
| 11.5     | 161               |                    |          |                    |       |
| 8        | 153               | ← 2.6m →           |          |                    |       |

0

Ground Survey Record  
 Site:  
 Date:

Butt Wall  
 Sheet 4a

Sheet 4 of 11  
 Weather:

Proposed Path Type: Blacktop/Flexipave /porous Appendix 1  
 Section: C → B 216.6m  
 Path Rating:

216.6

168.6

101.1

62.3

| Distance | Current Condition | Recommended Action               | ID | Priority | Finished Condition | Notes                                                             |
|----------|-------------------|----------------------------------|----|----------|--------------------|-------------------------------------------------------------------|
| 495.3    |                   |                                  |    |          |                    |                                                                   |
| 486      |                   |                                  |    |          |                    |                                                                   |
| 447.3    | Syc ty 232        | Syc ty 727<br>15-6rpa<br>Hanging |    |          |                    | Remedial work large boulder nr tree 317                           |
| 442.6    |                   |                                  |    |          |                    |                                                                   |
| 421      |                   |                                  |    |          |                    |                                                                   |
| 386.2    |                   |                                  |    |          |                    |                                                                   |
| 379.7    |                   |                                  |    |          |                    |                                                                   |
| 358.3    | Syc ty 209        | Stone Seating                    | 56 |          |                    | 4147.3 (1686) probable start of SAM (Sch An Mm)                   |
| 353      | Lime ty 208       |                                  | 55 |          |                    |                                                                   |
| 342.5    | Slump ty 204      |                                  |    |          |                    | gravel into Stone Seating Area + possible stone edged fire-square |
| 341      |                   |                                  |    |          |                    |                                                                   |
| 327      | Maple ty 201      |                                  |    |          |                    |                                                                   |
| 318      | HC ty 200         |                                  |    |          |                    |                                                                   |
| 310      | HC ty 199         |                                  |    |          |                    |                                                                   |
| 301      | Syc ty 196        |                                  |    |          |                    |                                                                   |
| 300      | 3.2m              |                                  |    |          |                    |                                                                   |
| 291      |                   |                                  |    |          |                    |                                                                   |
| 286.5    |                   |                                  |    |          |                    |                                                                   |
| 282.5    |                   |                                  |    |          |                    |                                                                   |
| 277.8    |                   |                                  |    |          |                    |                                                                   |

Stone seating area improve - gravel etc

infra web not essential

4147.3 (1686) probable start of SAM (Sch An Mm)

SAM 4

plating

Ground Survey Record  
 Site: Lower Back Walk  
 Date: 25.05.16

Sheet 49 of 11  
 Weather: warm & dry

Proposed Path Type: Blacktop  
 Section: B-b2  
 Path Rating:

Appendix 1

46.4

| Distance | Current Condition                                                        | Recommended Action                                                               | D | Priority | Finished Condition | Notes                                                                                                                                                                                                             |
|----------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------|---|----------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 54.7     | <p>well</p> <p>bench</p> <p>Steps</p> <p>fibre deck</p> <p>spur B-b1</p> | <p>well</p> <p>bench</p> <p>Steps</p> <p>3m flexi-pave only</p> <p>path B-b2</p> |   |          |                    | <p>B - b2 - refix loose boulder into wall (Photo 7d) and replace stone where path meets Butt Well drinking place. Also existing "Crop of flagstones" at b2 (Photo 7b,7c)- preferably cover with new surfacing</p> |
| 49.53    |                                                                          |                                                                                  |   |          |                    |                                                                                                                                                                                                                   |

Ground Survey Record  
 Site: Lower Back Walk  
 Date: 25.05.16

Sheet 5 of 11  
 Weather: warm & dry

Proposed Path Type: Flexipave/Blacktop  
 Section: B-D1 ~~101m~~ 101m  
 Path Rating:

Appendix 1

| Distance | Current Condition    | Recommended Action | w/m | Priority | Finished Condition | Notes                                                                                                                                   |
|----------|----------------------|--------------------|-----|----------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 101      | 597.3 2.6 + 0.5      | Spur 1-2           |     |          |                    | Butt Well "spring" bubbling up - cobble stones will require lifting and reset to keep water off the path (refer to page 11 Methodology) |
|          | 595.7 55 + 0.8 + 0.4 |                    |     |          |                    |                                                                                                                                         |
|          | 574 70 + 1.2 + 0.45  | 1.5m               |     |          | no web needed      |                                                                                                                                         |
| 55       | 549.9 1.5 + 1.40     |                    |     |          | 55m                | wall to wall gap 2.2m                                                                                                                   |
|          | 546 1.53             | ore-cobble         |     |          |                    |                                                                                                                                         |
|          | 544.7 Wall           | dig + pipe         |     |          |                    |                                                                                                                                         |
| 47.8     | 542.2 rock & spring  | rod & spring       |     |          |                    | Check for cable under BT hatch                                                                                                          |
|          | 539.9                |                    |     | 59       |                    |                                                                                                                                         |
|          | 530.9 Lime dig 366   |                    |     | 58       |                    |                                                                                                                                         |
|          | 526.9 BC ty 365      |                    |     |          |                    |                                                                                                                                         |
|          | 523 Lime ty 364 1.1m | 1.5m               |     | 57       |                    |                                                                                                                                         |
|          | 511 0.70 + 1.6       |                    |     |          |                    |                                                                                                                                         |
|          | 505.5                |                    |     |          |                    |                                                                                                                                         |
|          | 497.5 1.75m          |                    |     |          |                    |                                                                                                                                         |
| 0        | 495.3 2.9m           | 2.9m               |     |          |                    |                                                                                                                                         |

## Ground Survey Record

Site: Lower Back Walk

Date: 25.05.16

Sheet 6 of 11

Weather: warm &amp; dry

Proposed Path Type: Blacktop/Flexipave

Section: 1 → A

Path Rating:

Appendix 1

| Distance | Current Condition          | Recommended Action         | u/m | Priority | Finished Condition | Notes                                                                                                                               |
|----------|----------------------------|----------------------------|-----|----------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 370.4    | drive Bollingerich ↑ R & P | tar                        |     |          |                    | Protect entrance walls from machinery damage. Establish and maintain liaison with residents re unrestricted access from operations. |
| 366.9    | 865.3 wall ← 1.75 m → wall | 862.3 wall ← 1.75 m → wall |     |          |                    |                                                                                                                                     |
| 241.1    | 751.6 wall ← 5.5 m → wall  | tar 5.5 m                  |     |          |                    | Address surface water drainage issues near trees 728 & 729                                                                          |
| 203.2    | 698.3 wall ← 2 m → wall    | 3m                         | 60  |          | web needed         | Retain and maintain existing drainage gulleys and weepholes per Tom Gaze recommendations - refer to methodology page 11             |
| 193.2    | 618.9 wall                 | tar                        |     |          |                    | Path requires widening, scraping eastern boundary (SAM)- do not remove debris from site.                                            |
|          | 602.4 wall                 | 2.6                        |     |          |                    |                                                                                                                                     |
|          | 597.3 wall                 | 2.6 + 0.5                  |     |          |                    |                                                                                                                                     |

**Date:** 25.05.16

**Weather:** warm & dry

**Path Rating:**

## Appendix 1

| Distance                          | Current Condition                                                                                                                                                                                                                                                                                                                                               | Recommended Action | D | Priority | Finished Condition | Notes                                                                                                                                                                                                                                                                                  |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---|----------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47.1<br>29.1<br>25.7<br>15.1<br>0 | <p>Hand-drawn sketch of a wall section. The wall is shown in cross-section with a drain on the left side. The wall is labeled 'wall' and 'drain'. The area to the right of the wall is labeled 'field'. The wall has a base course and a top course. The drain is a culvert with a cover. The field area is indicated by a 'V' symbol and the word 'field'.</p> |                    |   |          |                    | <p>Remove old barrier bottom of steps</p> <p>Refer to page 11 Methodology regarding path height levels relative to wall height and base course of wall. Covering of culvert and protruding stones. Remediate cobble drainage gully per Tom Gaze recommendations</p> <p>type 1 Whin</p> |

Ground Survey Record  
 Site: Lower Back Walk  
 Date: 25.05.16

Sheet 8 of 11  
 Weather: warm & dry

Proposed Path Type: Flexipave/porous/Infraweb Appendix 1  
 Section: C → f spur  
 Path Rating:

| Distance | Current Condition | Recommended Action | D | Priority | Finished Condition | Notes                                                                                                                                                                                                                                               |
|----------|-------------------|--------------------|---|----------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 24.5     |                   |                    |   |          |                    | <p>12° slope over full length<br/>           9° from road to fence end (top)</p> <p>Tree no 194 adjacent to SAM.</p> <p>Remedial works required to reduce steep shoulder where path D-C joins spur C-f</p> <p>full length infraweb + flexi pave</p> |

Ground Survey Record  
 Site: Lower Back Walk  
 Date: 25.10.16

Sheet 9 of 11  
 Weather: warm & dry

Proposed Path Type: Flexipave/porous/Infraweb Appendix 1  
 Section: D-h Spur section  
 Path Rating:

| Distance | Current Condition | Recommended Action | <sup>w/m</sup><br>B | Priority | Finished Condition                                                                                                           | Notes                                                                                                           |
|----------|-------------------|--------------------|---------------------|----------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 16.2     |                   |                    | 63                  |          | <p>Trial installation completed 28.09.16 using Flexipave, Infraweb and geotextile - future sections can omit geotextile.</p> | <p>Import soil to bank sides of newly installed section</p> <p>Use obvious edges to surface to reduce width</p> |

# Ground Survey Record

Site: 136.9

Date: 13.4.6

Sheet 0 of 11

Weather: Sunny

Proposed Path Type: Tarmac patching Greenwood Ave. and TBC Q-Q1

Section: Greenwood Ave - Rd Q - Q1 spur joining Balangeich to Back O Hill Rd

Path Rating:

| Distance                                                               | Current Condition | Recommended Action | D | Priority | Finished Condition          | Notes                                                                                                                                               |
|------------------------------------------------------------------------|-------------------|--------------------|---|----------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 78.6<br>73.5<br>71<br>62<br>59<br>48.6<br>42.7<br>37.2<br>21.7<br>19.6 |                   |                    |   |          |                             | <p>Section Q_Q1 - very narrow overgrown, side slope - requires investigation to satisfy Sustrans funding from path sections i to A first phase.</p> |
| 9.2m                                                                   |                   |                    |   |          | <p>re-surface by roads?</p> | <p>Greenwood Ave - Patch holes in existing tarmac road</p> <p>SFD 38</p>                                                                            |

**Methodology** (in particular relating to points f to C, from C to tree no 232 and onwards to point A falling adjacent to and/or within SAM) - should conform where reasonably practicable to **BS5837 (2012) Trees in relation to design, demolition and construction**. Recommendations are to employ a “no dig” technique along the entire section of path (points i to A and Q-Q1) particularly where the path falls within the Root Protection Area (RPA) of existing trees as shown on attached Maps00. Materials to be used within the RPAs should be a porous surface to allow unimpeded access for moisture and gaseous exchange laid from 35mm to 50mm depth on top of a 70mm depth 3D cellular confinement system eg Infracore, filled with type 3 or preferably 4-20mm no fines stone. This acts as the sub-base and prevents against the compaction of air spaces within the soil around (fine) tree roots arising from anticipated increase in above ground pressure from foot/cycle and cleansing vehicle traffic. (The application of the Infracore or similar material assists with a “no dig” technique effectively allowing path to be built on top of existing path surfacing).

Some treatment of vegetation will be required including scraping to hard surface where it has encroached onto original path and/or chemical treatment, strimming. It is also desirable to “drill” holes in the areas where the existing path surface is still impermeable around the RPAs to improve aeration and drainage (eg tree no 727). This aeration will be carried out using a 25mm pickhead to 40mm depth at 1.5m centres.

Machinery used for installation of path is likely to be a 1.5tonne paving machine and 1.5tonne excavator for scraping the surface of existing path where required to provide level surface on which to lay new material. Areas inaccessible by machine will be barrowed in and hand laid ie section from tree no 727 (Photo 6) to Butt Well Spring (Photo 8).

Some digging may be required where the path requires widening over and above the original path width to facilitate an “Active Travel” route where a minimum of 2.5m width should be achieved where practicable in line with Sustrans funding criteria. (Please refer to **Ground Survey Sheets 1 to 10**). This should be no more than 100-150mm depth and would relate to the eastern boundary of the path section labelled 1 to A.

**Some remedial works** will be required;

- A large boulder encroaches onto the path near tree no 317 which may require removal and replacement along with “shaving” of large stones protruding from path surface in this section (C-B) to achieve level surface.
- Butt Well “spring” bubbling up - cobble stones will require lifting and reset to keep water off the path (see summary below).
- B – b2 - refix loose boulder into wall (Photo 7d) and replace stone where path meets Butt Well drinking place. Also existing “Crop of flagstones” at b2 (Photo 7b,7c)- preferably cover with new surfacing.

**Summary of proposed works;**

Upgrade of 1130m of path broken into sections as follows (please refer to accompanying Maps 1 to 5 indicating Root Protection Areas of trees (RPAs) and 3D cellular confinement sections (eg Infracore), Ground Survey Sheets 1 to 10 showing current condition and recommended action and Photos 1 to 8);

**Outwith Scheduled Ancient Monument (SAM);**

i-E 78.8 linear metres

EE-D 58.4 linear metres

D-C 125.8 linear metres

**Path sections or spurs adjacent to and/or falling within SAM;**

**Spur Section C-f @ 24.5m x achievable width 3m (Photo 1).** Some levelling required to reduce steep section which joins main path to the spur. Tree no 194 adjacent to start of SAM. Path works will not seek to encroach on SAM at this point. Infracore subbase, porous surface.

**C-B @ 216m x achievable width 3m (Photos 2 to 6)** This section is adjacent to the SAM until it reaches close proximity to tree no's 232 and 317 where the SAM appears to cross over and include the path up to and including the Butt Well at **b2 (Photo 7)**. This section relatively level with minor scraping and levelling required. Infracore subbase plus porous surface required along RPA sections for tree no's 232, 317 and 727.

**B-b2 @ 46.4m x achievable width 3m (Photos 7a,7b,7c,7d).** New surface to be hand laid directly onto existing surface up to the Butt Well crop of flagstones Photos 7b, 7c (HES to confirm if these can be covered over to tie in neatly with Butt Well "patio" stones), some resetting of stones required (Photo 7d).

**Path sections taking into account comment and recommendations received from Tom Gaze Historic Environment Scotland Architect;**

**B-1 @ 101m x achievable width 1.5m includes Butt Well spring.** Scraping of section to achieve width, taking care around RPAs of tree nos 364, 365, 366. Infracore subbase with porous surface required along RPA sections for tree nos 364, 365, 366. Re Tom Gaze comment – large edging stones following on from cobbled section will not be disturbed in proposed widening of path – this will be achieved to east of path. The path finish will be a "blacktop" or Flexipave surface and NOT hardcore. Stirling Council Roads service to confirm exact finish.

**Butt Well Spring (Photo 8 and Ground survey sheet 5 and annotated sheets and photos ex Tom Gaze).** The spring here has breached the cobbled section of the path route and will require remedial work to restore to the original watercourse ie open ditch.

This cobbled section forms part of the protected SAM wall directly north east. Comments and recommendations received from Tom Gaze are also noted and addressed below.

Although it is not proposed to address repairs as part of the path upgrade until required works and methodology have been further investigated, a recommendation has been proposed as follows;

- Cobble setts prior to removal should be recorded ie numbered and photographed and replaced in same position (Tom Gaze). Cobble setts removed should be cleaned down and set aside for re-use. Dig out spoil from area to expose source of spring and install 600mm plastic drainage chamber over spring and concrete into place. Core hole on side of chamber and install 150mm diameter outlet pipe running to open ditch. Dress area out with hard core and cap top of drainage chamber. Re-install cobble setts as advised above and grout using appropriate material between joints.  
**HES please advise if recommendation acceptable in principle?**

**1-A @ 270.4m x achievable width 3m (Photos 11, 12, 13 and Ground survey sheet 6 and annotated sheets and photos ex Tom Gaze)**

Eastern boundary to path will require scraping of vegetation to achieve width. Unknown at this stage if additional hardcore needs to be added to widen path – **Stirling Roads service to confirm methodology proposed**. Any debris scraped will not be moved off site and may be used to create a small “bund” alongside the path. The drainage issues commented on by Tom Gaze: “any available existing/established drains or weepholes” will be retained and run unimpeded where possible. The collection of surface rainwater within proximity to tree nos 728 and 729 should be alleviated by use of Infraweb or similar to raise path above water table or by creation of appropriate camber to eastern path boundary although the presence of a bench may make a “catch” drain difficult – **Stirling Council Roads service to confirm course of action and proposed methodology**.

**Walls at entrance point A – these walls will be protected from damage by machinery and to this end assurances will be given by Stirling Roads service by way of a job specification or similar to operatives as part of their working practice procedures.**

**1-2 @ 47m x 1m (Ground survey sheet 7 and annotated sheets and photos ex Tom Gaze)** Path finish will be aggregate. Application of will be so as to avoid obscuring lower course of boundary wall unless this has subsequently being worn below original path levels. Covering of protruding stones to reduce the trip hazard would attempt to be achieved without raising path level to unacceptable safe height relative to boundary wall and this may require further discussion – **Stirling Roads service to propose acceptable methodology**.

The “drainage gully” will be retained and any remedial works to this will be carried out similar to that of the Butt Well spring cobbles. **Stirling Roads service to propose acceptable methodology**.