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Archaeological Monitoring Report

For the proposed development of Newtownabbey Way Phase 3, Co. Antrim

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF PLATES

Plate 6. Section 2: Looking south from section towards possible location of souterrain and rath (ANT 057:012)

Plate 7. Section 2: section of partially constructed footpath

Plate 8. Section 2: detail of partially constructed footpath showing depth of excavation into imported hardcore surface

Plate 9. Section 2: looking downslope across area into valley of the Three Mile Water

Plate 10. Test Pit 1: Detail of test pit showing glacial sub-soil consisting of clean, pink boulder clay overlain by a layer of light brown clay mixed with small stones

Plate 11. Test Pit 1: Looking downslope across test pit showing clean, pink boulder clay at base.

Plate 12. Test Pit 2: Looking southeast across test pit. Note glacial sub-soil consisting of clean, pink boulder clay overlain by a layer of light brown clay mixed with small stones

Plate 13. Section 3: looking southeast along section between base of hill and the Three Mile Water

Plate 14. Section 3: detail of depth of excavation showing glacial subsoil approximately 0.4m below current ground level

Plate 15. Bridge Footings 1: bridge footing on south bank of the Three Mile Water

Plate 16. Bridge Footings 1: bridge footing on north bank of the Three Mile Water

Plate 17. Bridge Footings 1: detail of depth of excavation of bridge footing

Plate 18. Bridge Footings 2: bridge footings on south bank of the Three Mile Water. Note clean orange boulder clay comprising section face

Plate 19. Bridge Footings 2: bridge footings on north bank of the Three Mile Water

Plate 20. Bridge Footings 2: detail of east facing section of bridge footing on north bank of the Three Mile Water

Plate 21. Bridge Footings 3: detail of bridge footings on northwest bank of Three Mile Water

Plate 22. Bridge Footings 3: detail of bridge footings on southeast bank of Three Mile Water

Plate 23. Bridge Footings 4: the southwest facing section of bridge footing on north bank of Three Mile Water

Plate 24. Bridge Footings 4: bridge footing on south bank of Three Mile Water. Note disturbed nature of ground

ABSTRACT

This report relates to archaeological monitoring carried out by ADS Ltd for WDR & RT Taggart on behalf of their client, Newtownabbey Borough Council. The proposed development relates to the Phase 3 construction of a public pathway with offshoots and associated footbridges in Newtownabbey in County Antrim.

The pathways mainly follow existing routes though portions do cross greenfield areas. One of these sections ran close to the reported position of a possible rath and souterrain (ANT 057:012) and another across the former location of the Monkstown Weaving Factory (IHR 07245:000:00).

Construction of the pathway required that only 0.15m of top soil be removed. Since the majority of the route had been previously disturbed, NIEA: Built Heritage required that only groundworks in the areas possibly associated with the heritage sites be archaeologically monitored. Additionally, groundworks associated with the construction of the bridge footings and the re-grading of a hill slope also required archaeological monitoring.

Archaeological monitoring/examination of these groundworks revealed no evidence of the known heritage sites or any previously unknown sub-surface archaeological features.

Archaeological Monitoring Report

1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

This Archaeological monitoring report was carried out by Archaeological Development Services Limited (ADS Ltd), having been commissioned by WDR & RT Taggart on behalf of their client, Newtownabbey Borough Council. It relates to Phase Three of a proposed foot path in Newtownabbey, County Antrim (Fig 1).

The proposed development involves the construction of a public path which will run southeast from Cashel Drive off the Monkstown Road to the railway bridges and viaduct across the Three Mile Water (Fig 2).

The public path will include offshoots to Devenish Drive and Ards Drive with the entire system incorporating 2555m of path while vegetation clearance and tidying will be carried out in a section adjacent to Glenville Park.

The path runs along the valley of the Three Mile Water and will cross the river in five places. Bridges will be required in all these positions. The path will be 2.5m wide and will entail the top soil strip to a depth of 0.15m with the path built up from this level (Fig 3).

The path will also involve the construction of drainage, street lighting, interpretative panel and fencing. All of these will require ground disturbance of depths between 0.67m and 1.4m (Fig 3).

1.2 SITE LOCATION.

The proposed development is located at Newtownabbey in County Antrim with the proposed pathway running from Cashel Drive off the Monkstown Road (J344844) southeast along the valley of the Three Mile Water to the railway bridges and viaduct (J355835) (Fig 2).

Offshoot pathways will also run north from the main pathway to Devenish Drive and Ards Drive (Fig 2)

1.3 TOPOGRAPHY

The proposed development is located along the valley of the Three Mile Water though will generally follow the higher ground to the south of the river. The local topography generally consists of high ground with a steep scarp of the valley of the Three Mile Water running approximately northwest to southeast across the area.

Local ground conditions vary from maintained grassed areas associated with urban areas in the north to marginal ground in the south. Much of the proposed route of the pathway will follow pre-existing paths and lanes. The valley of the Three Mile Water is gouged through the area and the steep slopes on either side of the valley tend to be wooded.

1.4 GEOLOGY

The underlying geology of the majority of the proposed development consists of till or boulder clay though there is an area of alluvium located within the extreme east beside the railway bridges and viaduct. This area of alluvium is associated with the Three Mile Water.

The underlying boulder clay is a pink/grey and lies approximately 0.2-0.3m beneath present ground level.

1.5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

For a full version of the archaeological and historical background see the previously submitted programme of works.

1.5.1 Archaeological Sites

The proposed route of the footpath lies within an archaeologically sensitive landscape with 10 recorded archaeological sites within a 1.5km radius (Fig 4).

The closest recorded site to the proposed foot path is a possible souterrain and rath (ANT 057:012) which lies approximately 20m south of the proposed pathway (Fig 5).

The site was mentioned in the Ordnance Survey Memoirs (1839) which gave a good account of the known antiquities of the Parish of Carnmoney towards the middle of the 19th century. According to the Memoirs, a large souterrain was uncovered in a gravely swell in the townland of Croghfern around 1809.

The souterrain was explored and was found to consist of 12 chambers which were linked by creeps. The chambers were said to be constructed from unworked stone

with the sides inclining towards the roof which was formed with massive slabs laid transversely.

The chambers measured approximately 21ft long, 6ft wide at the base and 5ft high. Some of the chambers contained paved hearths with wood cinders and burnt corn while smooth stones set around the hearths were interpreted as seats. The souterrain was located within a few feet of a rath.

A subsequent site visit was carried out by EHS:Built Heritage in 1982 which described the site's location as a level terrace on the south bank of a small stream. However, there were no visible remains of either the rath or the souterrain.

1.5.2 Industrial Heritage Record

There are 15 sites noted on the Industrial Heritage Record within the vicinity of the proposed footpath, with three sites located immediately along its route (Fig 6). These are Monkstown Weaving Factory (IHR 07245:000:00) located at the west end of the foot path and the railway viaducts (IHR 01339:289:00 and 05585:046:02) which are located at the east end of the foot path.

The first of these viaducts (IHR 01339:289:00) is on the Londonderry railway line and carries the line over Three Mile Water and the other viaduct. The other viaduct (IHR 05585:046:02) is located on the Larne railway line and carries the line underneath the Londonderry line viaduct via a 'burrowing junction'. The foot path will run under these viaducts.

The Monkstown Weaving Factory (IHR 07245:000:00) was located at the western end of the foot path. This was quite a large industrial complex which incorporated the factory, two mill ponds, a mill race, a chimney and a gasometer.

The site had been an industrial complex from the early 19th century when the First Edition Ordnance Survey map sheet (1834) showed a printworks occupying the site with two associated mill ponds and a mill race.

The printworks had been replaced by a weaving factory by the time of the Second Edition Ordnance Survey map sheet (1857) though the mill ponds and mill race were still extant. These had been joined by a chimney and gasometers. The site was marked as the Monkstown Weaving Factory on the 1904 edition Ordnance Survey map sheet which appeared to signify another change of use.

The 1938 Edition Ordnance Survey map showed both the weaving factory and chimney as disused. The chimney, mill ponds and mill race were all still extant.

There is no visible trace of the site on the current map suggesting that the structures have been demolished and the mill ponds and mill race in filled.

1.5.3 Historic Buildings

There are four Historic Buildings or structures within the vicinity with the foot path passing under two of the sites (Fig 7).

These two sites are the railway viaducts previously mentioned (Para 1.5.2). The Bleach Green viaduct and arches (HB 21/10/001) was constructed between 1931-33 and to designs by W.K. Wallace, CE for the L.M.S. Railway Company.

The viaduct consists of two very large reinforced concrete railway viaducts which combine to form the only flying junction in Northern Ireland. Nearby are three reinforced concrete bridges which carry the railway tracks across the Glenville Road.
The viaduct is part of a scheme that amounted to one of the most important examples of modern railway architecture in the British Isles and, as such, EHS: Historic Buildings has awarded the viaduct Grade B1 Listed protected status.

The other viaduct (HB 21/10/002) is part of the Belfast to Larne railway line. This was built in the mid 19th century and consists of a twin arched masonry viaduct with brick vaults which carries the railway over the Three Mile Water. The arches are braced by large iron stiffeners. EHS:Historic Buildings has awarded the viaduct Grade B1 Listed protected status.

1.5.4 Museum Topographical Record

The Ulster Museum topographical record of recovered artefacts lists one item from Monkstown plus two Recorded Specimens from Monkstown and three Recorded Specimens from Newtownabbey. All of these artefacts are prehistoric in date.

The artefact noted on the topographical record is a bronze palstave axe (BELUM.A439.1975) which dates to the Middle Bronze Age and was found within Monkstown Townland in 1975.

The two Recorded Specimens from Monkstown are an axe (1973.15) which was found in Upper Monkstown and a palstave (1974.11) which was found in Monkstown generally.

The Recorded Specimens from Newtownabbey are a polished stone axe head and lignite bracelet (1982.4), a worked flake (1987.5) and a flint flake (1992.128).
None of the above artefacts can be linked to the proposed development.

1.5.5 Cartographical Evidence

The First Edition Ordnance Survey map (1834) showed the area of the proposed development during the first half of the 19th century (Fig 8). The western half of the development area consists largely of previously development ground associated with the printworks (IHR 07245:000:00) with a laneway and some buildings in existence.

The laneway ran southeast before curving round to the south-southwest and the southern off-shoot of the proposed foot path will follow this. The remainder of the proposed development area lies within open ground leading to a forested area at the southeast extent. There were no features of note along this part of the proposed development and no visible indication of the possible rath and souterrain (ANT 057:012).

As previously mentioned, the western half of the proposed development will run through previously developed areas with the printworks complex (IHR 07245:000:00) occupying a portion. This complex consisted of the main printworks building, five ancillary buildings, a mill pond and a mill race.

The proposed line of the foot path will run through the middle of the complex including through the main print works building and a small rectangular building immediately to the south. The mill race and mill pond were both evident though neither was in the proposed line of the foot path.

The proposed line of the foot path will run southeast from the printworks (IHR 07245:000:00) to cross the (unidentified) Three Mile Water before running southeast largely along the line of the lane. The lane was not straight and did curve in places especially towards the southeast.

Several buildings were shown along the lane with two located in the western extent and three to four buildings to the east just before the curve to the southwest. The two western buildings were probably related though the eastern buildings appeared to be several properties with related garden areas. However, the proposed line of the foot path appears to follow the former road and skirts between the buildings.

There were few major features within the vicinity and the only archaeological site shown was the enclosure (ANT 052:051). As previously mentioned, the printworks (IHR 07245:000:00) was shown as were several other Industrial Heritage sites such as the log wood mill (IHR 07244:000:00) and the quarry (IHR 10259:000:00). None of the Historic Buildings were extant at this time.

The Second Edition Ordnance Survey map (1858) shows the layout of the proposed development in slightly better detail (Fig 9). The local field layouts were now shown and these help set the proposed line of the foot path into the landscape.

The area was shown to be more developed with a complex of buildings marked to the north of the western extent of the proposed foot path. These buildings were identified as Monkstown. The printworks site (IHR 07245:000:00) was now identified as a flax spinning mill with expansions including a large mill pond, a chimney and a gasometer.

The mill buildings were located on the site of the printworks with most of the buildings appearing to be extensions of the previous structures. Access was also shown running west to the (unnamed) Monkstown Road and running north east to the (unnamed) Jordanstown Road.

The proposed line of the foot path appears to skirt the eastern edge of the new mill pond before running southeast through the centre of the flax spinning mill. The proposed line of foot path continues southeast crossing the now identified Three Mile Water to join the laneway. This was unchanged in appearance from the previous map sheet with the two sets of buildings still extant.

As previously mentioned, the field system was now marked and this showed that the main foot path will run southeast through two large, sub-rectangular fields which were bounded by the Three Mile Water to the north. These fields were largely featureless and there were no indications of the possible rath and souterrain (ANT 057:012).

The line of the main foot path will continue into the wooded area at the eastern end. This had seen disturbance with the construction of the BCNR Branch line between Bleach Green to Larne Harbour (IHR 5585). The railway line could be clearly seen crossing the Three Mile Water and the map appeared to indicate that the railway line sat on an embankment as it crossed the wooded area.

The foot path offshoot to the south will run along the extant lane which now led towards the Whiteabbey Bleachworks (IHR 07316:000:00), another new industrial site within the vicinity. The bleachworks was a substantial complex consisting of the mill, large mill ponds and a chimney.

The northwest foot path off shoot will run through two fields before crossing a mill race and then veering east across the Three Mile Water. It was uncertain which

mill this race was associated with as it lay between the flax spinning mill (IHR 07245:000:00) and the bleach mill (IHR 07316:000:00).

The northeast path offshoot will run through three sub-rectangular fields. The form of these fields was regular with linear boundaries and there were no signs of possible archaeological features.

This map was much more detailed than the First Edition map sheet with more archaeological features marked. The enclosure (ANT 052:052) was still marked though it was identified as a fort on this map sheet. The Belfast and Ballymena Railway was now extant and this appeared to truncate the southern extent of the enclosure.

Additionally, the enclosures (ANT 052:051) and (ANT 052:050) were now also clearly marked as very obvious archaeological features. The logwood mill (IHR 07244:000:00) was still extant though the site appeared unchanged. The major change to the area north of the proposed path was the construction of the railway.

Several of the industrial sites associated with the railway were also marked such as Henderson's Bridge (IHR 01339:222:00) and Rodger's Bridge (IHR 01339:224:00). Most of the Historic Buildings were not extant at this stage though the viaduct (HB 21/10/001) on the Bleach Green to Larne railway line was in existence.

The Fourth Edition Ordnance Survey sheet (1938) showed the area of the proposed development in the mid 20th century (Fig 10). There had been some development within the area with housing constructed in Monkstown. Similarly, housing had been built to the east and the south showing considerable residential expansion.

The line of the proposed foot path was largely as shown on the previous map sheet. The flax spinning mill (IHR 07245:000:00) was now the Monkstown Weaving Factory which was marked as disused at this stage. Similarly, disused gasometers were also marked on the site. The line of the proposed foot path will still run through the middle of this industrial site.

The line of the foot path will run along the lane and the buildings located along the lane which was still extant. The fields to the east were largely the same as previously shown though some topographical information was shown. An unidentified oval feature was marked in hachures in this area. This was approximately the size of a rath and it would be tempting to suggest that it was the rath (ANT 057:012). It was certainly in the correct location suggested by the Sites and Monuments Record.

An ‘L’ shaped pathway was shown running out towards the area of the oval feature though few other features were marked in the area. The proposed line of the foot path will continue to the southeast under the BNCR Main line between Belfast to Londonderry which was a major new addition to the area. The viaduct (IHR 1339:289) was now extant and the proposed line of the foot path will run under it. The viaducts (IHR 05585:046:02) were now also extant carrying the Bleach Green to Larne Harbour line under the Belfast-Londonderry line viaduct (IHR 01339:289:00). The proposed line of the foot path will pass under these as well.

The southern off shoot of the foot path will run along the laneway. Development had taken place within this area with a residential development, Loughview Terrace, erected to the south west. The Whiteabbey Bleachworks site (IHR 07316:000:00) was still a prominent site to the south east of this.

A mill race had been noted on the previous map sheet, and which cuts across the proposed northwest foot path off shoot. The mill race was clearly marked as flowing to the southeast into the mill pond associated with the Whiteabbey Bleach Works. The area around the proposed offshoot was still largely the same though several of the fields had been amalgamated into larger fields. This was also evident in many of the fields within the surrounding area.

The area of the proposed northeast foot path off-shoot had also seen smaller fields amalgamated into larger areas. A stream was now clearly shown running from the northeast into the Three Mile Water. The proposed off-shoot footpath will continue across this stream.

Development within the area had affected many of the archaeological sites within the vicinity. The enclosure (ANT 052:052) had been truncated by the Belfast and Ballymena Railway. This section of the railway was shown as disused though the enclosure was still marked as a mound.

The enclosure (ANT 052:051) was also partially extant though it had been encroached upon by housing to the east. Similarly, the enclosure (ANT 052:050) was still extant though a building had been constructed within it. All of these sites were shown as circular or semi-circular hachured features practically identical to the feature shown along the proposed line of the path.

The Industrial Heritage sites within the area had also seen change. The logwood mill (IHR 07244:000:00) was no longer in existence though its mill pond was still very evident. Similarly, the construction of the BNCR Main line from Belfast to Londonderry caused change to the existing Belfast and Ballymena Railway.

The existing line now joined the new line at Monkstown Halt (IHR 01339:223:00) and while Rodgers Bridge (IHR 01339:224:00) was still extant, Henderson's bridge (IHR 01339:222:00) had been removed.

Historic Buildings were also now evident. Monkstown Bridge (HB 21/11/004) was now extant as were the related viaducts (HB 21/10/001&2) and St. Patricks (HB 21/11/001) was clearly marked to the northeast.

1.5.6 Aerial Photograph

The aerial photograph collection held by Ordnance Survey Northern Ireland was also examined. Two aerial photographs relevant to the proposed development were examined ranging in date from 1983 to 2004.

The earlier photograph (R17 3986) was taken in colour at 1:10,000 scale in October 1983. This showed the area of the proposed foot path to run through marginal ground with dense growth along parts of the Three Mile Water. There were no traces of either the Monkstown Weaving factory (IHR 07245:000:00) or its associated mill ponds.

There were no clearly visible signs of the oval feature noted on the cartographic evidence at the possible location of the rath and souterrain (ANT 057:012). This area was clearly marginal ground with some tree growth.

The later photograph (TER 442) was also taken in colour and at 1:10,000 scale. This photograph was taken in September 2004 and the open areas of the proposed line of the path appeared rough and overgrown.

Again, there were no signs of the possible rath (ANT 057:012) or the Monkstown Weaving factory (IHR 07245:000:00). However, some development was evident in the vicinity as pathways and planting could be seen in the area to the north of the proposed line of the path.

2.0 METHODOLOGY

The proposed development consisted of the construction of a public pathway and several off-shoots. The network of pathways crossed the Three Mile Water in four locations necessitating the construction of foot bridges.

Ground disturbance associated with the construction of the pathway and off shoots was limited, as only 0.15m of topsoil was stripped with the pathway built up from this level. The construction of the bridge supports required ground disturbance up to 1.2m

Discussions were held with NIEA:Built Heritage regarding the required archaeological mitigation for the scheme. Given the shallow nature of the proposed ground disturbance associated with the pathways, added to the fact that much of the route followed existing paths and a lane. NIEA:Built Heritage required that groundworks should be archaeologically monitored only within the areas of recorded archaeological and Industrial Heritage features (Fig 11).

Additionally, the excavation of the bridge footings should also be carried out under archaeological supervision (Fig 11).

3.0 RESULTS

Groundworks had commenced in advance of archaeological monitoring taking place with the majority of the pathway constructed and the bridge footings dug.

Additionally, the layout of the proposed development had been changed (Fig 12). However, these changes to the layout mainly concerned the off-shoots running to the north and actually lessened the potential for the disturbance of possible sub-surface archaeological features.

NIEA:Built Heritage did not require the archaeological monitoring of top soil stripping associated with the construction of the two northern off-shoots, though the northwest off-shoot originally ran across the Three Mile Water to Hollybank Park. It now ran to Devenish Drive which meant that the position of the bridge over the Three Mile Water had now changed.

Additionally, the main pathway originally crossed the Three Mile Water in two locations by a pronounced horseshoe bend towards the eastern end of the proposed development. The revised layout now crossed the river at one point at this location. This lessened the potential archaeological impact of the development.

As previously mentioned, the areas of the proposed development requiring archaeological mitigation were two sections of the main pathway plus the four river crossings (Fig 12)

3.1 SECTION 1

This section was located at the west end of the main pathway and ran south from Cashel Drive to the Three Mile Water. The Monkstown Weaving Factory (IHR 07245:000:00) was formerly located within this area although there are, now, no extant above ground remains.

The section of pathway was largely complete at the time of the testing including through the area of the former Monkstown Weaving Factory (IHR 07245:000:00) though a section towards the Three Mile Water remained unfinished (Plates 1 & 2). This section of unfinished pathway showed how shallow the groundworks actually were. The exposed depth of excavation was approximately 0.15m which corresponded with the stated depth of ground works provided by the client.
This level of excavation was not deep enough to expose subsoil and the contractor confirmed that no sub-surface evidence of the former Monkstown Weaving Factory (IHR 07245:000:00) was encountered.

It is highly unlikely that the groundworks associated with this section of the pathway would have penetrated through to any sub-surface archaeological deposits, should they exist.

3.2 SECTION 2

This section was located towards the southeast of the main pathway on high ground overlooking the Three Mile Water (Plate 3). The area consisted of level marginal ground that has seen disturbance in the form of tree planting by the Woodland Trust (Plates 4-5).

The method of planting employed here has created a great deal of ground disturbance across this area. Trenches are mechanically dug with the resultant spoil tipped upside down into small piles. The saplings are then planted within these piles.
These excavations revealed that this area has been covered with a layer of modern rubble and other building debris.

This rubble has been imported from elsewhere and may have been associated with the Whiteabbey Bleachworks (IHR 07316:000:00) that was originally located to the south of the area. This site has since been demolished and replaced with housing.
The pathway was under construction at the time of the time of monitoring, though it had not yet entered the area where the possible souterrain and rath (ANT 057:012) may be located (Plate 6).

Examination of the pathway already partially extant clearly showed the method of construction (Plate 7). Topsoil was stripped to the required depth and a layer of terram laid on the exposed surface. This terram was then covered with a layer of hardcore. The hardcore was awaiting a finishing layer of tarmac.
The depth of topsoil stripped was approximately 0.15m which corresponded with Section 1 (Plate 8). It could be clearly seen that this depth of stripping did not penetrate the layer of modern rubble. Since this layer of modern rubble covered

the area, it was surmised that topsoil stripping associated with the main pathway would not impact upon any subsurface archaeological features, should they exist.
However, the proposed route of the pathway ran southeast from this area down a steep slope into the valley of the Three Mile Water **(**Plate 9). Large scale groundworks were required in this area in order to create an appropriate gradient for the path.

The hillside was judged to be of too steep a gradient to contain archaeological features. Therefore, the only areas archaeologically tested were where groundworks would take place at the brow and base of the hillside. These were archaeologically tested by mechanically excavating a test pit at each location.

Additionally, the pathway continued east from the slope, across level ground to the river bank beside the Three Mile Water. It was possible that the groundworks within this area could also impact upon any sub-surface archaeological features that may exist. Therefore, archaeological testing was carried out within these areas. This area has been labelled Section 3 for ease of discussion.

3.3 TEST PIT 1

Testing at the brow of the hill revealed no evidence of possible archaeological features (Plates 10-11). Glacial sub-soil consisted of clean, pink boulder clay which was overlain with a layer of light brown clay mixed with small stones. This layer was approximately 0.8m deep and underlay a layer of sod/vegetation.

3.4 TEST PIT 2

Testing was also carried out on level ground at the base of the hill (Plate 12). Glacial subsoil consisted of clean, pink boulder clay which was exposed at a depth of approximately 0.6m. This was overlain with a layer of light brown clay which contained modern artefacts such as a plastic bag in its upper layers. This layer was overlain with a thin layer of sod/vegetation. No evidence of possible archaeological features was observed.

3.5 SECTION 3

The proposed line of the pathway between the base of the hill and the bank of Three Mile Water was also tested. As with the other sections of pathway, only 0.15m of topsoil stripping was required in order to facilitate construction.
This depth was exceeded for the purpose of testing with approximately 0.4m of topsoil removed expose glacial subsoil (Plates 13 & 14). No evidence of possible archaeological features was noted within this area.

3.6 BRIDGE FOOTINGS

As previous mentioned, the proposed pathway will cross the Three Mile Water in four locations. Excavations for these bridge footings had been carried out in advance of archaeological testing with concrete bases constructed in three cases. These footings were still exposed at the time of testing thus allowing examination.

3.7 BRIDGE FOOTINGS 1

These are located towards the western end of the development and carry the pathway south across the Three Mile Water from the area of Cashel Drive (Plates 15 & 16).

The groundworks within this area consisted of topsoil stripping as a continuation of the main pathway. Examination of exposed section faces suggested that topsoil within these areas appeared to have been stripped to a depth of 0.4m exposing glacial sub-soil consisting of pink/grey boulder clay (Plate 17). No archaeological features were noted

3.8 BRIDGE FOOTINGS 2

These bridge footings carry the off-shoot running south from Devenish Drive across the Three Mile Water. The bridge footings consisted of rectangular sections dug out of both river banks (Plates 18&19).

The visible parts of these sections were approximately 1.5m deep though the central concrete bases had been constructed with the surrounding excavated ground in-filled with gravel. This gravel obscured the full depth of the excavated area.

The visible section faces were examined for evidence of possible archaeological features. However, the section faces on both sides of the bridge footings revealed clean, natural boulder clay (subsoil) with no evidence of possible archaeological features (Plates 18 & 20).

3.9 BRIDGE FOOTINGS 3

These bridge footings were located towards the eastern end of the proposed development immediately adjacent to Section 3 of the main pathway. Again, two rectangular sections had been dug into the river bank to a depth of approximately 1.5m with concrete bases laid and the surrounding excavated ground in-filled with gravel (Plates 21 & 22).

The excavated faces within both footings showed no evidence of possible archaeological features. The footing on the western bank of the river consisted of pink basal boulder clay overlain with a layer of light brown clay which in turn was overlain with a thin layer of sod (Plate 21).

The excavated footing on the east bank of the river revealed different material (Plate 22). The lower layer of this section consisted of pink/grey boulder clay overlain with a naturally occurring layer of gravel/stone which in turn was overlain with a layer of soil under the sod.

3.10 BRIDGE FOOTINGS 4

These are the easternmost bridge footings within the proposed development and were located within the immediate area of the railway viaducts (IHR 01339:289:00) and (IHR 05585:046:02). These viaducts carry the Londonderry and Larne railway lines across the Three Mile Water and were constructed during the first part of the 20th century.

The construction of these viaducts will have caused a great deal of ground disturbance within the area. This is borne out by the faces of sections within the bridge footings which show evidence of ground disturbance.

The section faces of the footing within the north river bank showed pink glacial boulder clay towards the northwest extent of the section face while the southeast extent of the section face was a mixture of pink, bright orange and mid-brown boulder clay (Plate 23). This mixture of clay was sealed with a layer of gravel which formed the ground level within this area. The pink glacial boulder clay was consistent with the subsoil uncovered within the majority of the project and represented the natural ground surface. The mixture of pink, bright orange and mid-brown boulder clay abutted the pink clay to the southeast and appeared to be redeposited material added to the original river bank. Given this, the redeposited material may have been associated with a possible realignment of the line of the Three Mile Water.

The footing on the south side of the river was located immediately adjacent to the railway viaduct (IHR 01339:289:00). Faces of the footing on the southern side of the river also showed signs of disturbance (Plate 24). The section faces consisted of a mix of light brown clays and stone which were sealed with a layer of concrete. This material appeared to be redeposited and was probably associated with disturbance caused by the construction of the viaduct.

4.0 SUMMARY OF RESULTS

Examination of groundworks can be divided into three areas- Sections, Test Pits and Bridge Footings.

4.1 SECTIONS 1-3

The three sections of footpath were examined. Sections 1&2 had already been partially constructed though examination revealed that groundworks associated with these sections were only 0.15m deep. In the case of Section 1, this did not appear to penetrate through to glacial subsoil while the area of Section 2 was covered in a layer of imported modern hardcore. Groundworks associated with Section 2 were contained within this layer of imported hardcore.

Section 3 was located towards the southeast extent of the project and was situated between the base of a hill to the west and the Three Mile Water to the southeast. The line of this section was excavated under archaeological supervision and revealed undisturbed glacial subsoil at a depth of 0.4m. No archaeological features or deposits were noted within this section.

4.2 TEST PITS 1&2

Two test pits were excavated within the slope of the hill towards the southeast of the project immediately to the west of Section 3. Test Pit 1 was excavated at the top of the slope while Test Pit 2 was excavated at the base of the hill. Both test pits revealed undisturbed glacial subsoil at depths between 0.6m and 0.8m.

4.3 BRIDGE FOOTINGS 1-4

Bridge footings had already been constructed by the time of the site examination.

Examination of Bridge Footing 1 revealed that the footings within this area had been excavated to glacial subsoil at a depth of 0.4m.

Bridge Footings 2 & 3 were excavated to approximately 1.5m with glacial subsoil excavated to a depth of approximately 1m. No evidence of sub-surface archaeological features was noted within the exposed section faces of these Bridge Footings.

Bridge Footings 4 was excavated in the area of the railway viaducts (IHR 1339:289) and (IHR 5585:46:2). These footings revealed evidence of heavily disturbed ground probably associated with the construction of the viaducts and the realignment of the course of the Three Mile Water. No archaeological features were noted within this area.

5.0 RECOMMENDATIONS FOR FURTHER WORK[1]

Groundworks associated with the construction of the network of pathways and bridges had largely taken place by the time of archaeological examination. Examination of these areas revealed no evidence of disturbance of possible archaeological features.

The southeast extent of Section 2 had not been constructed at the time of the archaeological examination. However, this area was covered with a layer of

[1] All recommendations are subject to the approval of NIEA

imported modern rubble and had also suffered disturbance through tree planting by the Woodland Trust. The depth of groundworks associated with this section of pathway is only 0.15m deep and will be contained within this layer of modern rubble material. Therefore, it is unlikely that sub-surface archaeological features or deposits, such as the rath and souterrain (ANT 057:012), will be impacted upon if they exist within this area.

The area between the Section 2 and the Three Mile Water was archaeologically tested using test pits on the hill slope while the line of Section 3 was topsoil stripped under archaeological supervision. Nothing of archaeological importance was noted.

Given these conditions, it is recommended that this project can proceed with no requirement for further archaeological mitigation.

Figures & Plates

FIG 1: General Location of site on OS map.

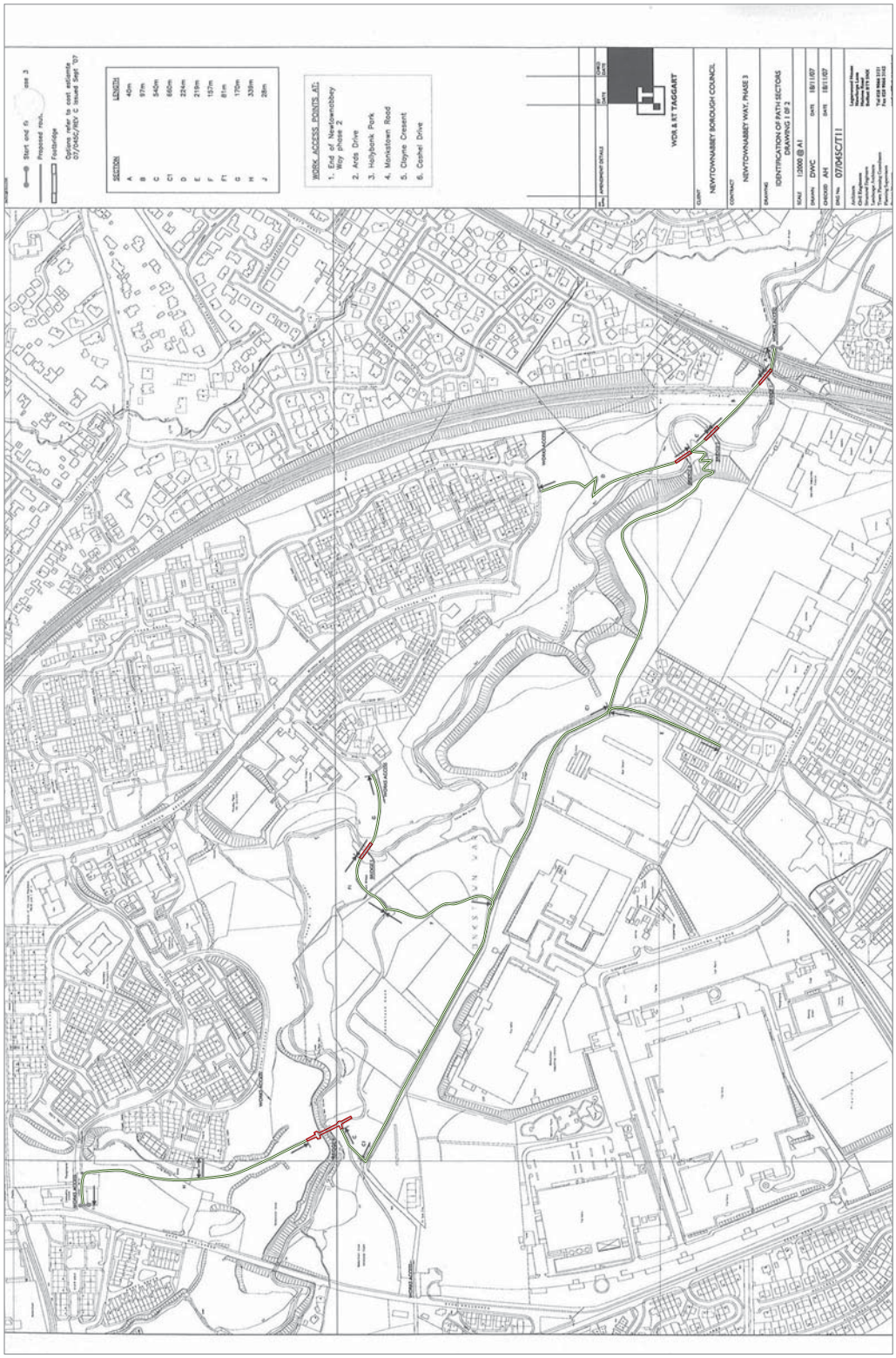


FIG 2: Current layout of site showing proposed route of footpaths.

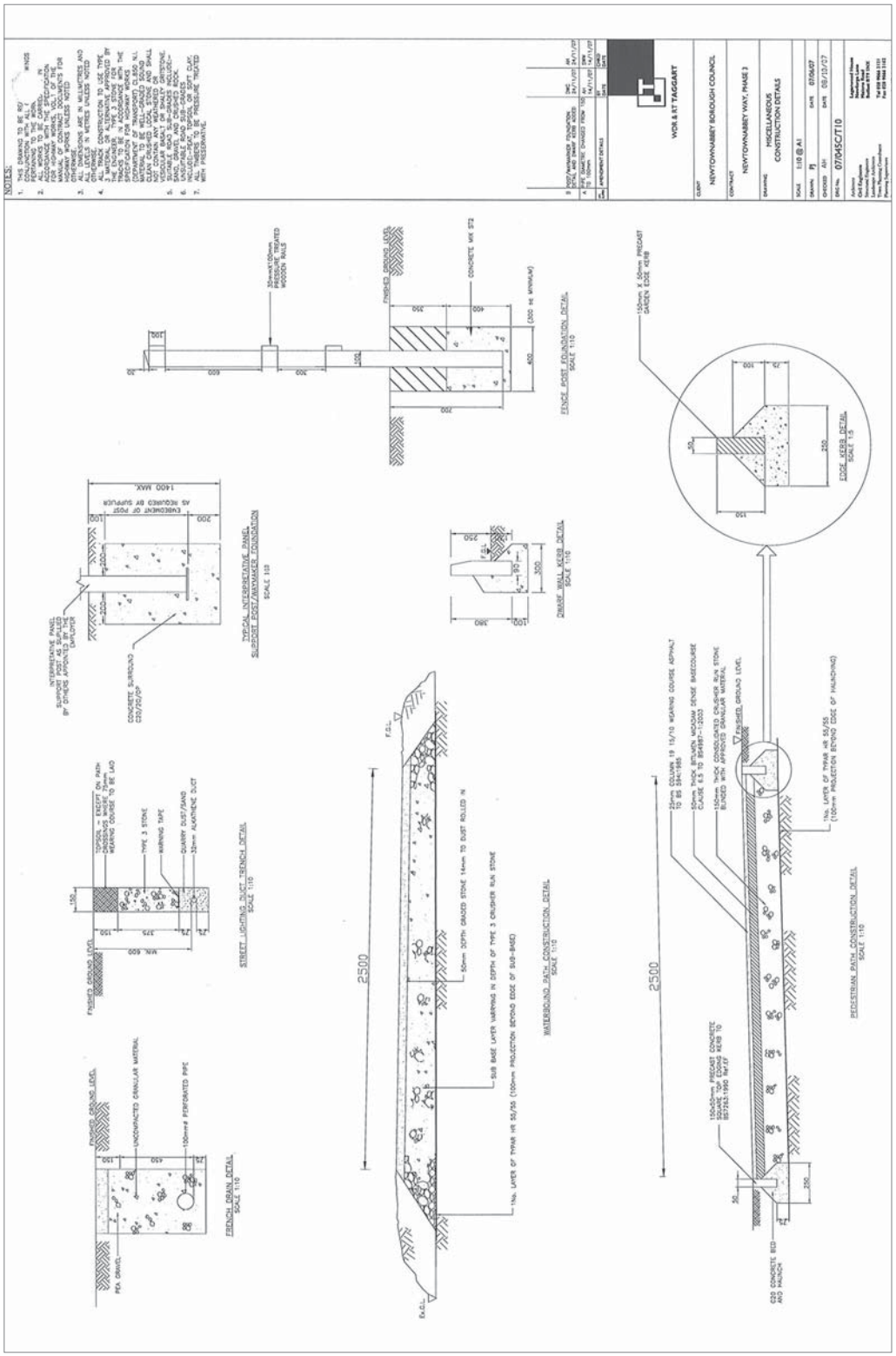


FIG 3: Sections showing depths of ground disturbance associated with the proposed footpaths and associated features.

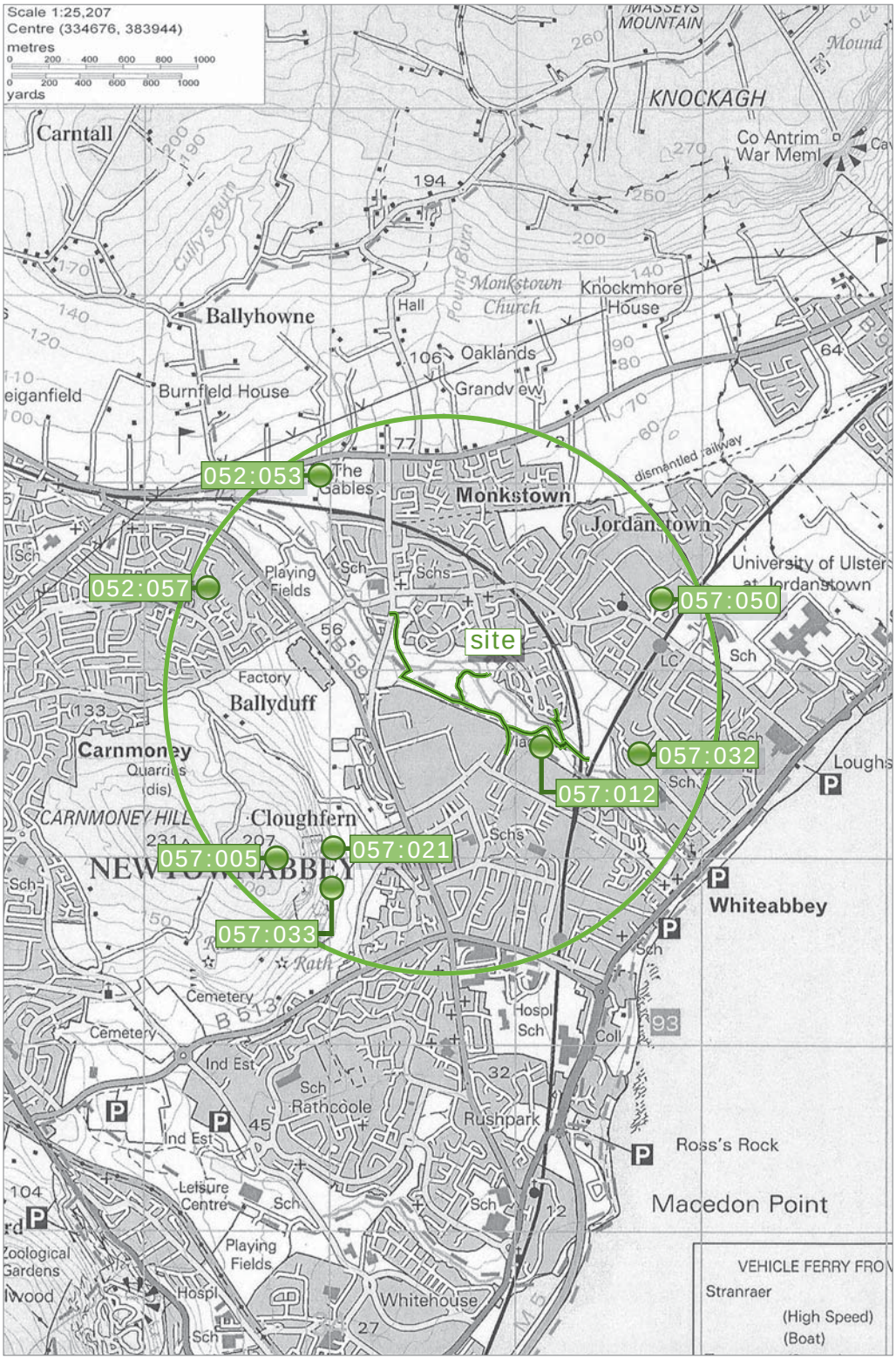


FIG 4: Archaeological sites within a 1.5km radius of the proposed route of the footpaths.

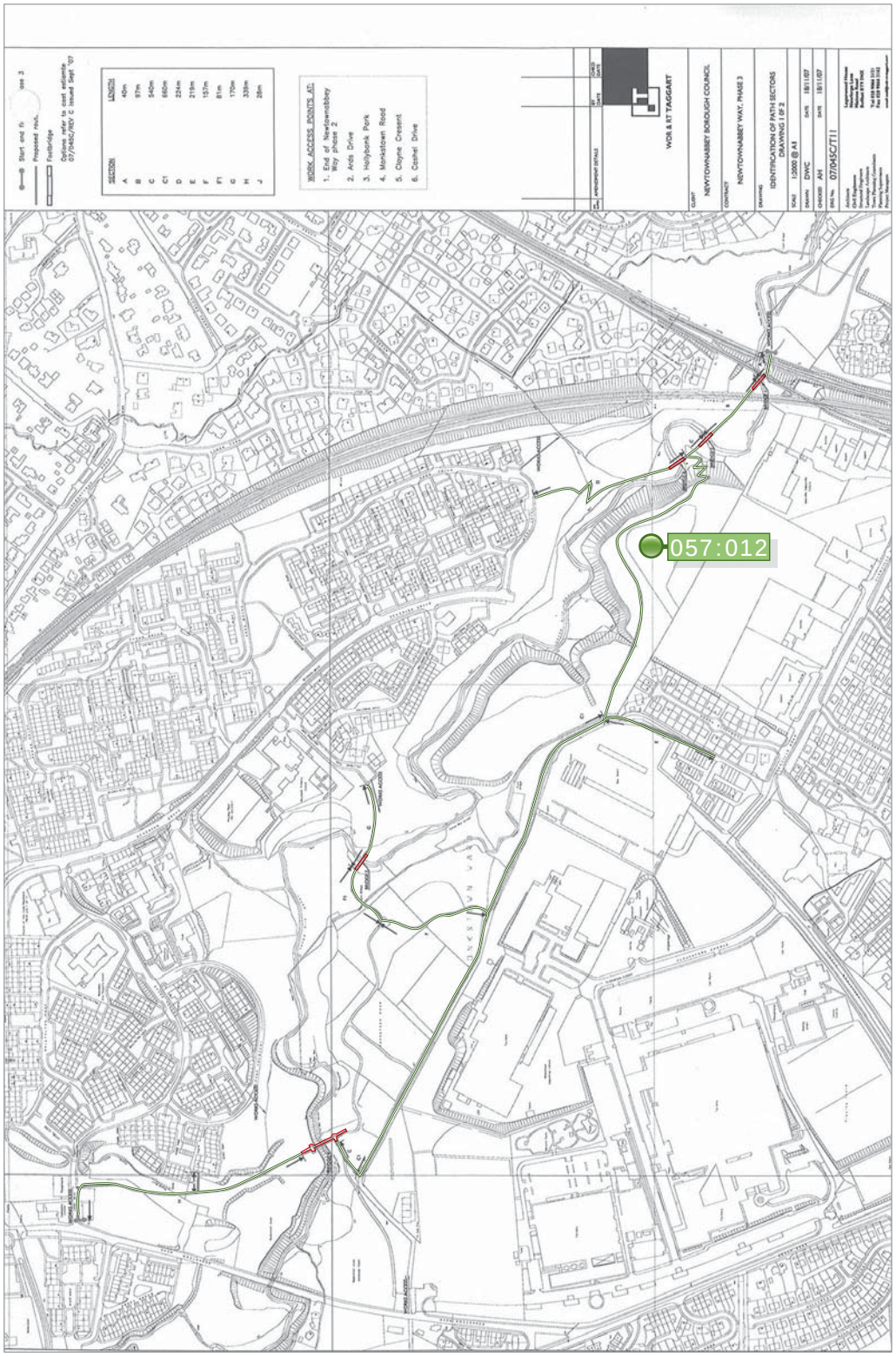


FIG 5: Location of possible rath and soutterrain (ANT 057:012) close to the proposed route of the footpath.

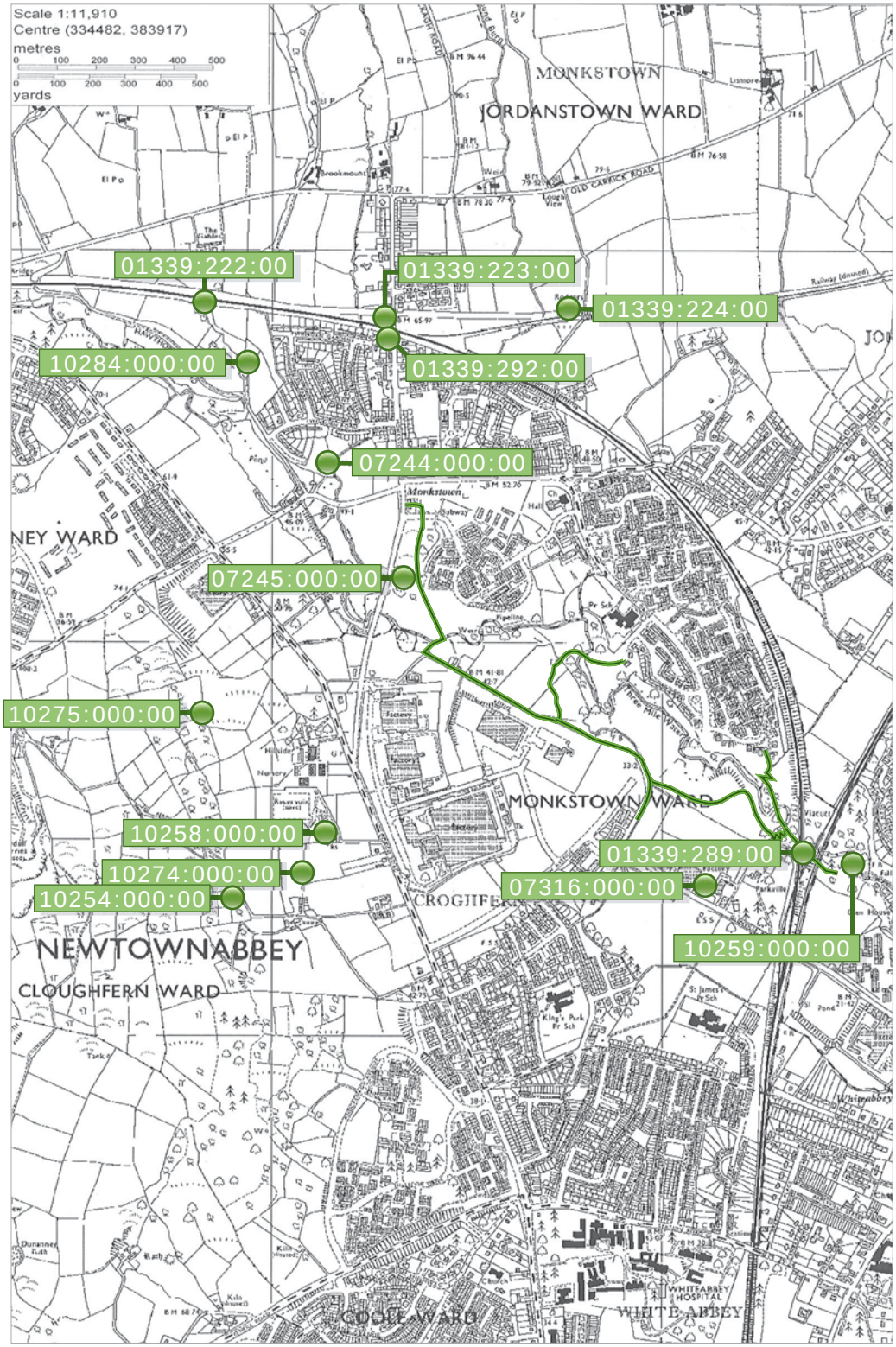


FIG 6: Industrial Heritage within the immediate vicinity of the proposed route of the footpaths.

FIG 7: Historic buildings within the immediate vicinity of the proposed route of the footpaths.

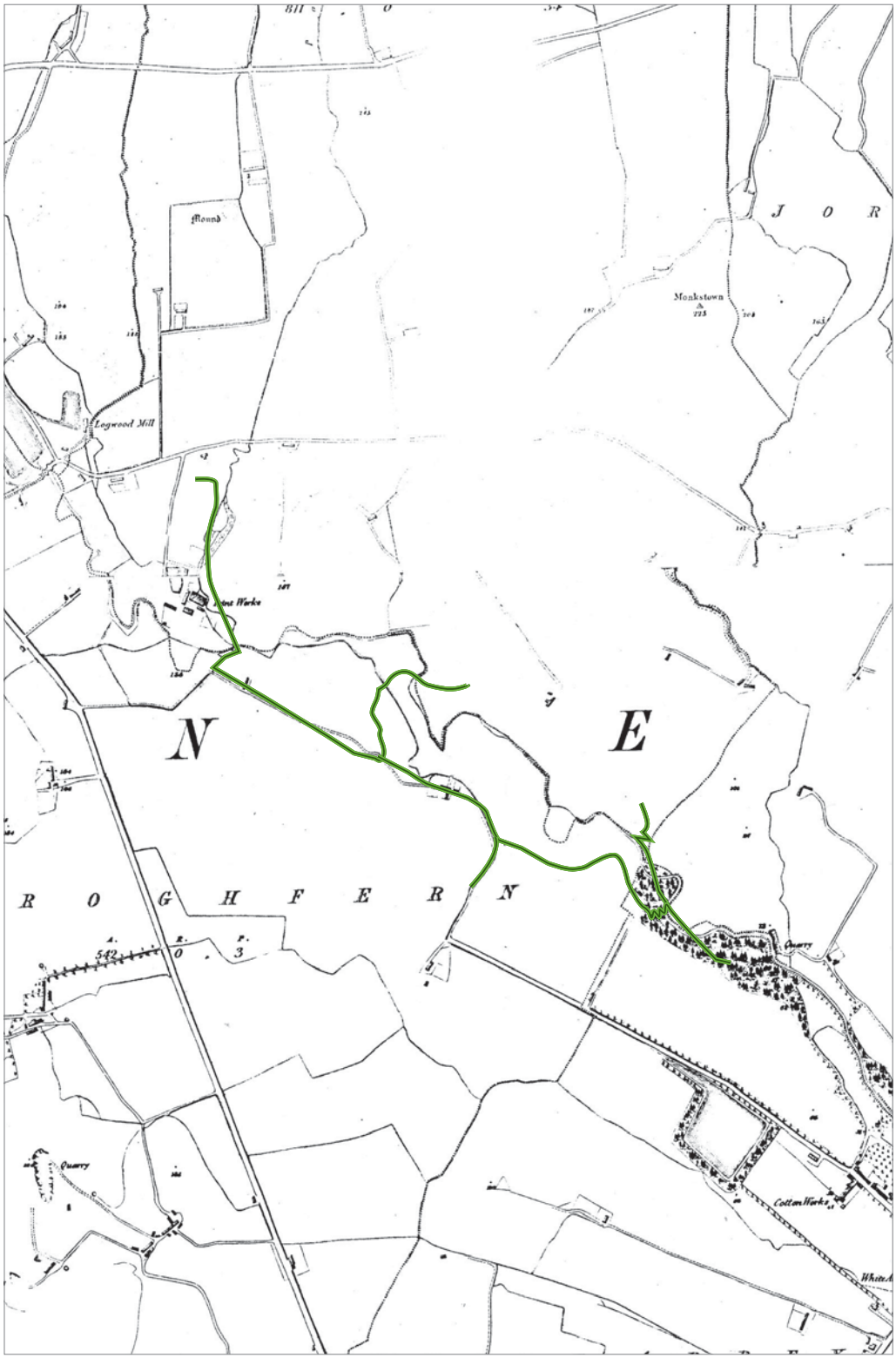


FIG 8: First Edition Ordnance Survey map (1834)

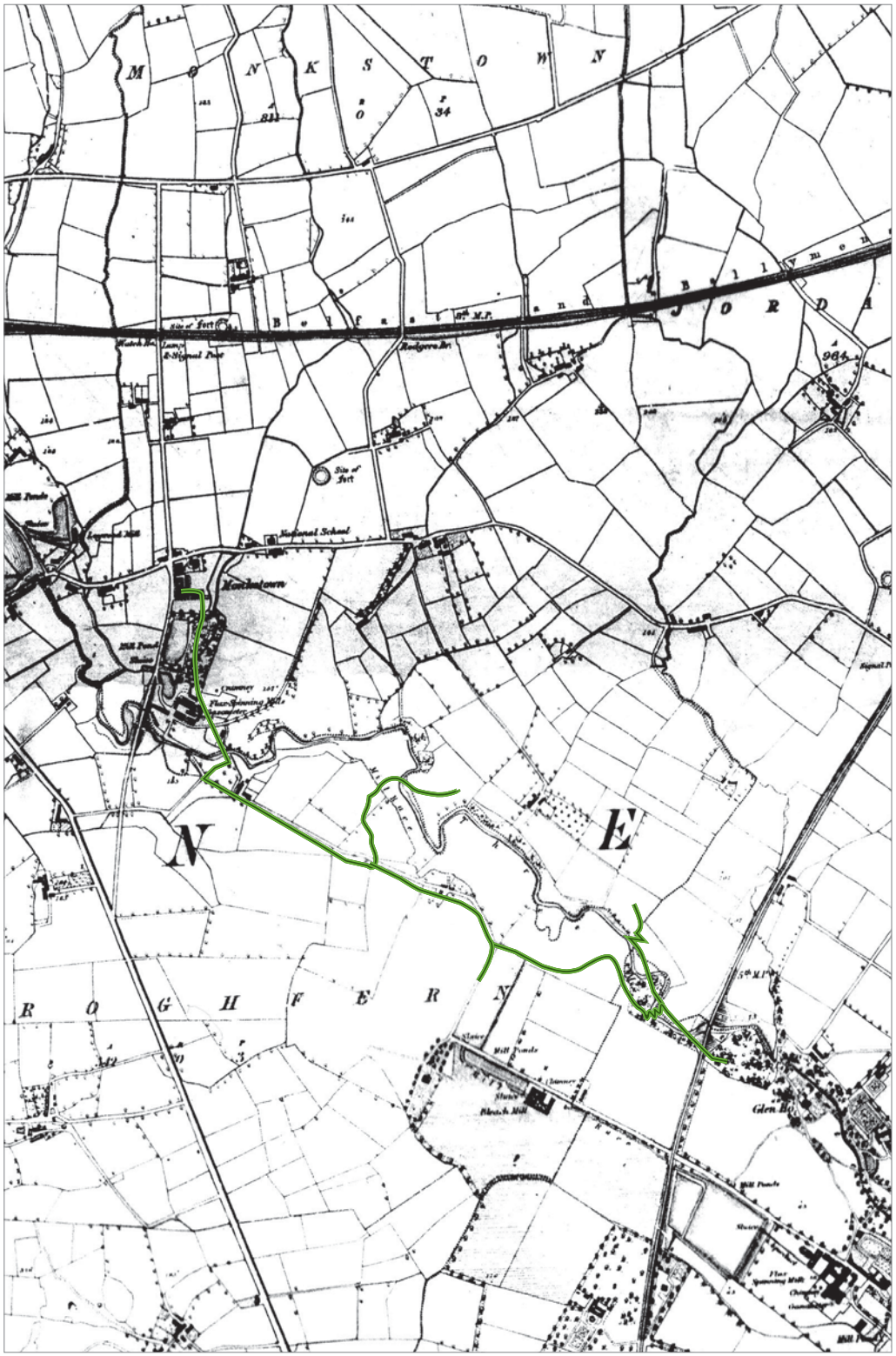


FIG 9: Second Edition Ordnance survey map (1858).

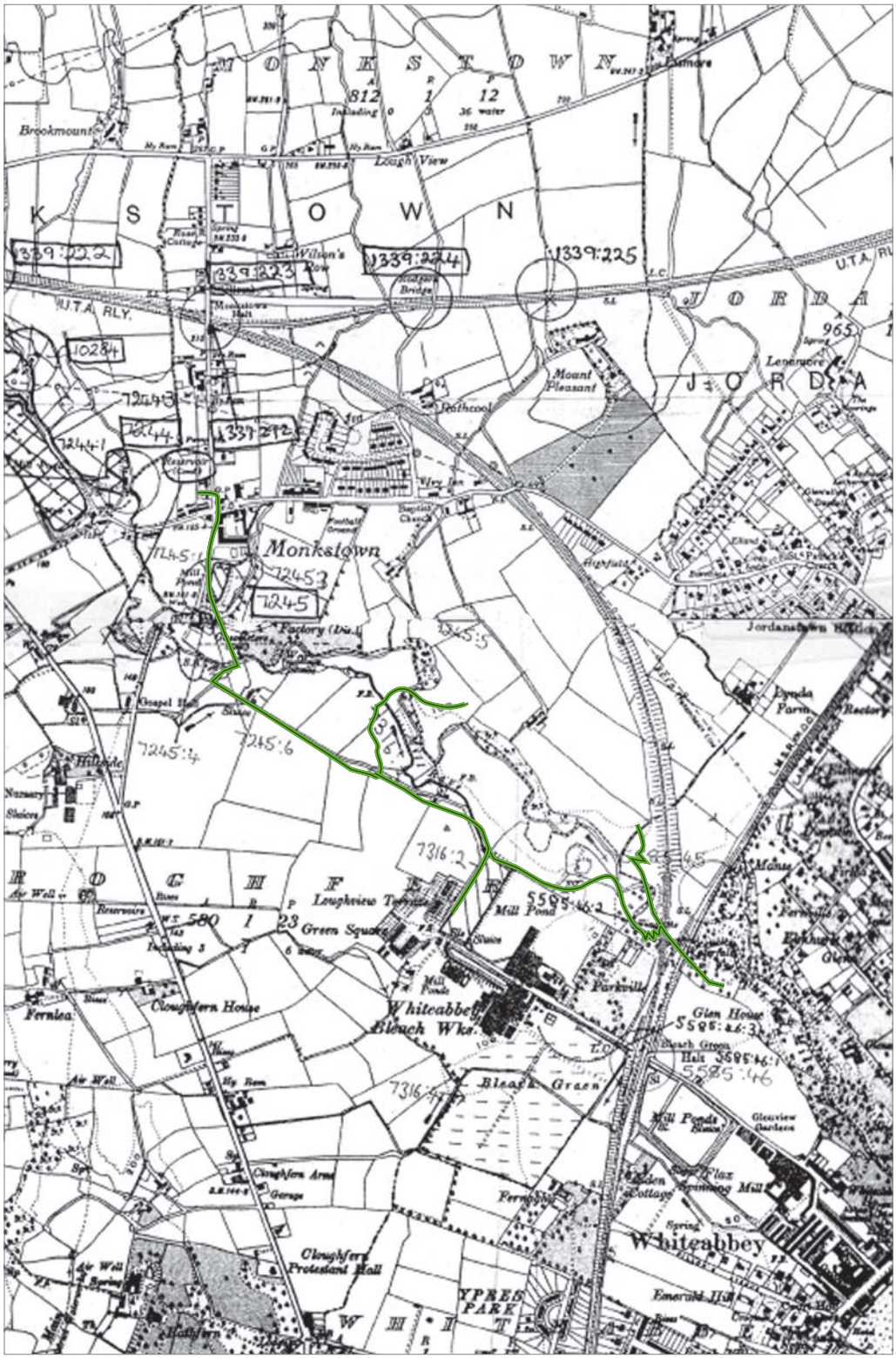
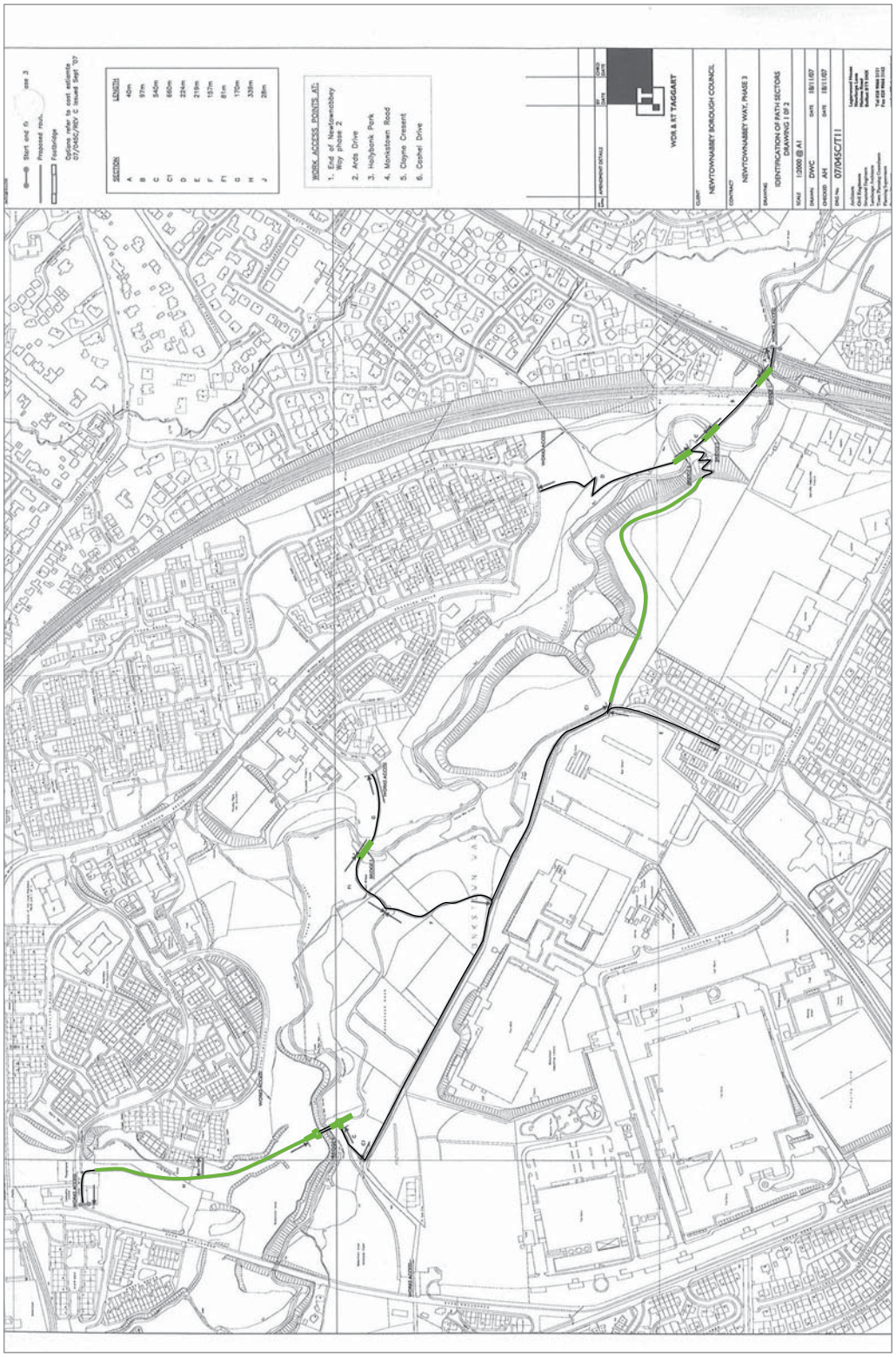


FIG 10: Fourth Edition Ordnance survey map (1938).



All groundworks carried out under archaeological supervision.

FIG 11: Archaeological mitigation as agreed with NIEA: Built Heritage..

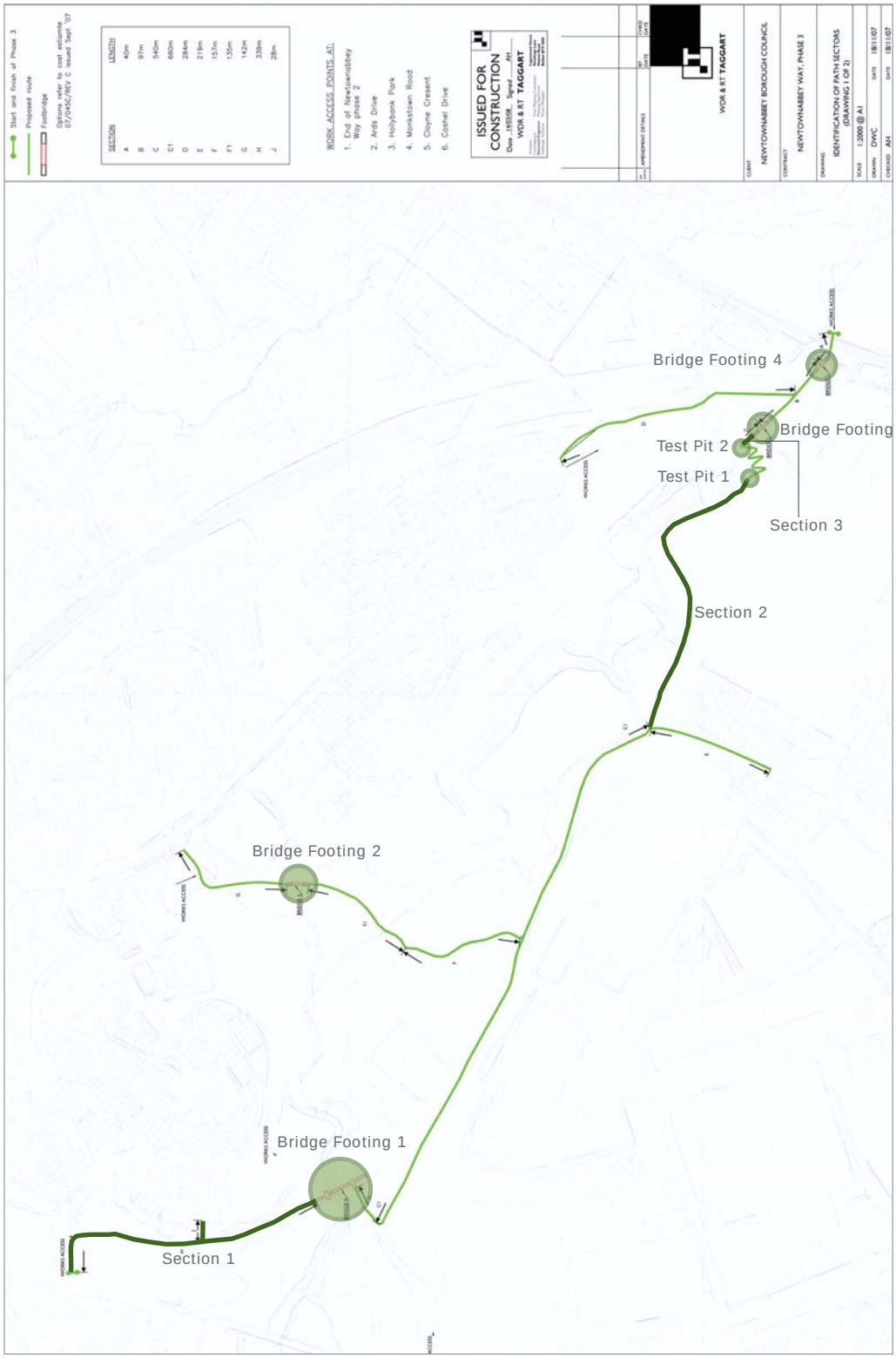


FIG 12: Revised layout of footpaths showing areas where archaeological monitoring was carried out.

PLATE 1: Section 1: Looking at section of unfinished pathway towards Three Mile Water.

PLATE 2: Section1: Detail of unfinished pathway showing depth of excavation.

PLATE 3: Section 2: Looking east across area

PLATE 4: Section 2: Evidence of trenches and ground disturbance caused by Woodland Trust plantings schemes.

PLATE 5: Section 2: Sapling planting with evidence of modern fill material in spoil.

PLATE 6: Section 2: Looking south from section towards possible location of souterrain and rath (ANT 057:012).

PLATE 7: Section 2: section of partially constructed footpath.

PLATE 8: Section 2: detail of partially constructed footpath showing depth of excavation into imported hardcore surface.

PLATE 9: Section 2: looking downslope across area into valley of the Three Mile Water.

PLATE 10:Test Pit 1: Detail of test pit showing glacial sub-soil consisting of clean, pink boulder clay overlain by a layer of light brown clay mixed with small stones.

PLATE 11:Test Pit 1: Looking downslope across test pit showing clean, pink boulder clay at base.

PLATE 12:Test Pit 2: Looking southeast across test pit. Note glacial sub-soil consisting of clean, pink boulder clay overlain by a layer of light brown clay mixed with small stones.

PLATE 13: Section 3: looking southeast along section between base of hill and the Three Mile Water .

PLATE 14: Section 3: detail of depth of excavation showing glacial subsoil approximately 0.4m below current ground level.

PLATE 15: Bridge Footings 1: bridge footing on south bank of the Three Mile Water.

PLATE 16: Bridge Footings 1: bridge footing on north bank of the Three Mile Water.

PLATE 17: Bridge Footings 1: detail of depth of excavation of bridge footing

PLATE 18: Bridge Footings 2: bridge footings on south bank of the Three Mile Water. Note clean orange boulder clay comprising section face.

PLATE 19: Bridge Footings 2: bridge footings on north bank of the Three Mile Water.

PLATE 20: Bridge Footings 2: detail of east facing section of bridge footing on north bank of the Three Mile Water.

PLATE 21: Bridge Footings 3: detail of bridge footings on northwest bank of Three Mile Water.

PLATE 22: Bridge Footings 3: detail of bridge footings on southeast bank of Three Mile Water.

PLATE 23: Bridge Footings 4: the southwest facing section of bridge footing on north bank of Three Mile Water.

PLATE 24: Bridge Footings 4: bridge footing on south bank of Three Mile Water. Note disturbed nature of ground.