

The 1825 Stockton & Darlington Railway: Historic Environment Audit

Appendix 1. Witton Park to St Helen Auckland.

October 2016 (2019 revision)

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NOTE

This report and its appendices were first issued in October 2016. Subsequently it was noted that some references to S&DR sites identified during fieldwork and given project reference numbers (PRNS) on an accompanying GIS project and spreadsheet had been referred to with the wrong PRN in the report and appendices. This revision of 2019 corrects those errors but in all other respects remains the same as that issued in 2016.

Introduction

This report is one of a series covering the length of the 1825 Stockton & Darlington Railway. It results from a programme of fieldwork and desk based research carried out between October 2015 and March 2016 by Archaeo-Environment and local community groups, in particular the Friends of the 1825 S&DR. This report outlines a series of opportunities for heritage led regeneration along the line which through enhanced access, community events, improved conservation and management, can create an asset twenty-six miles long through areas of low economic output which will encourage visitors from across the world to explore the embryonic days of the modern railway. In doing so, there will be opportunities for public and private investment in providing improved services and a greater sense of pride in the important role the S&DR had in developing the world's railways.

This report covers the first 3.7km (2.3 miles) between Witton Park and West Auckland (figure 1). It outlines what survives and what has been lost starting at the north and heading south to St Helen Auckland. It outlines the gaps in our knowledge requiring further research and the major management issues needing action. It highlights opportunities for improved access to the line and for improved conservation, management and interpretation so that visiting the remains of the S&DR merits a trip from the other side of the world. Reference numbers for sites use either existing Historic Environment Record numbers (HER001), or for new sites identified as part of this survey SDR numbers (SDR001). Occasionally Historic England Listed Building or Scheduled Monument numbers are used. (LB and SM)

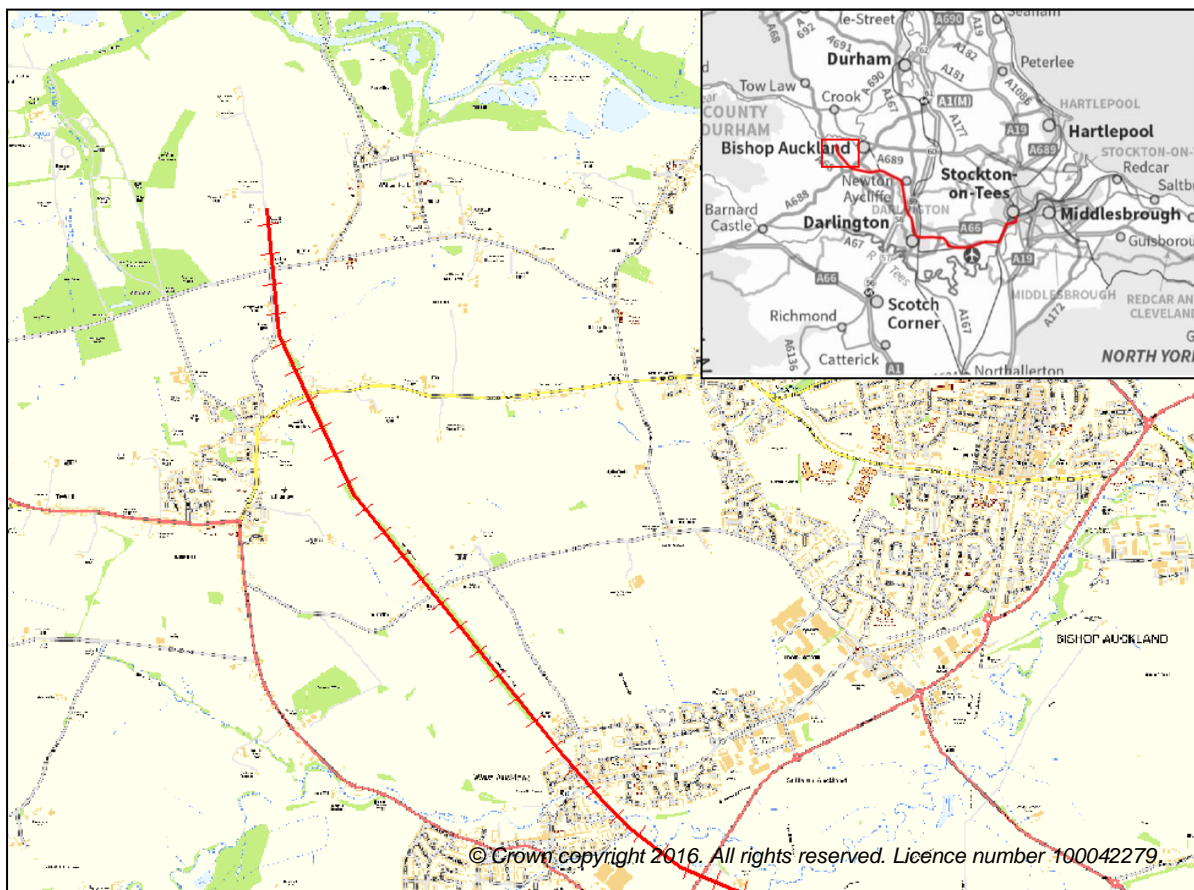


Figure 1. Area discussed in this document (inset S&DR Line against regional background).

Historic Background

At seven in the morning, on the 27th September 1825, 12 waggons of coal were led from the Phoenix Pit at Witton Park, to the foot of Etherley Ridge and then hauled up 1100 yards up the North Bank by the stationary engine at the top. Then the waggons descended Etherley South Bank to the road to West Auckland.

From West Auckland, the train was joined by another waggon filled with sacks of flour, and then led by horses across the level to the foot of Brusselton West Bank. Here thousands of people were waiting on the slopes of the ridge to see the 60 horse power stationary engine at work on Brusselton ridge. These waggons, along with 21 others, were coupled to Locomotion No.1 along with the first railway carriage "Experiment" at Shildon, on their way to Darlington.

And so by 7 am, the day that would change the world, was underway; and it had started here.

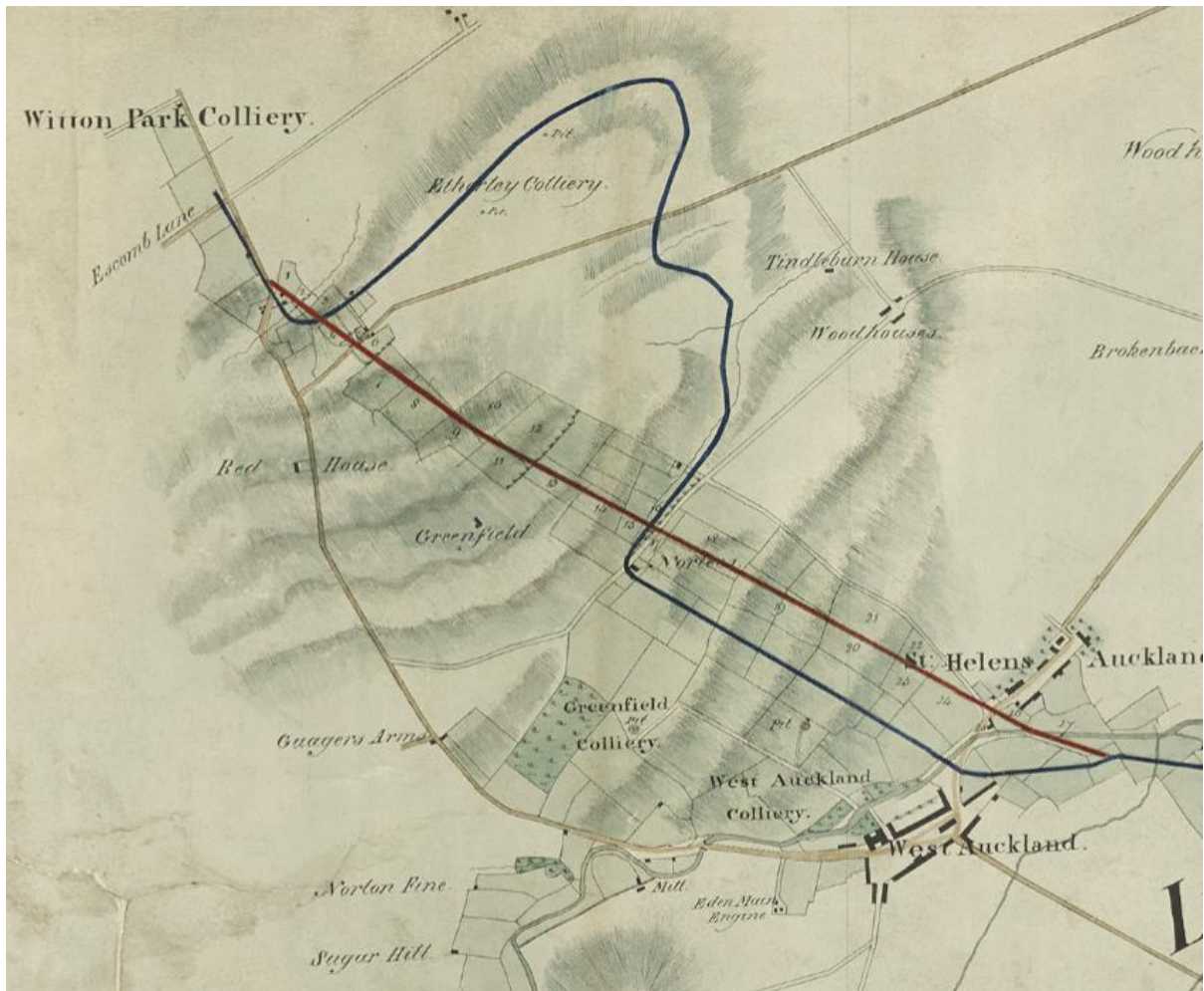
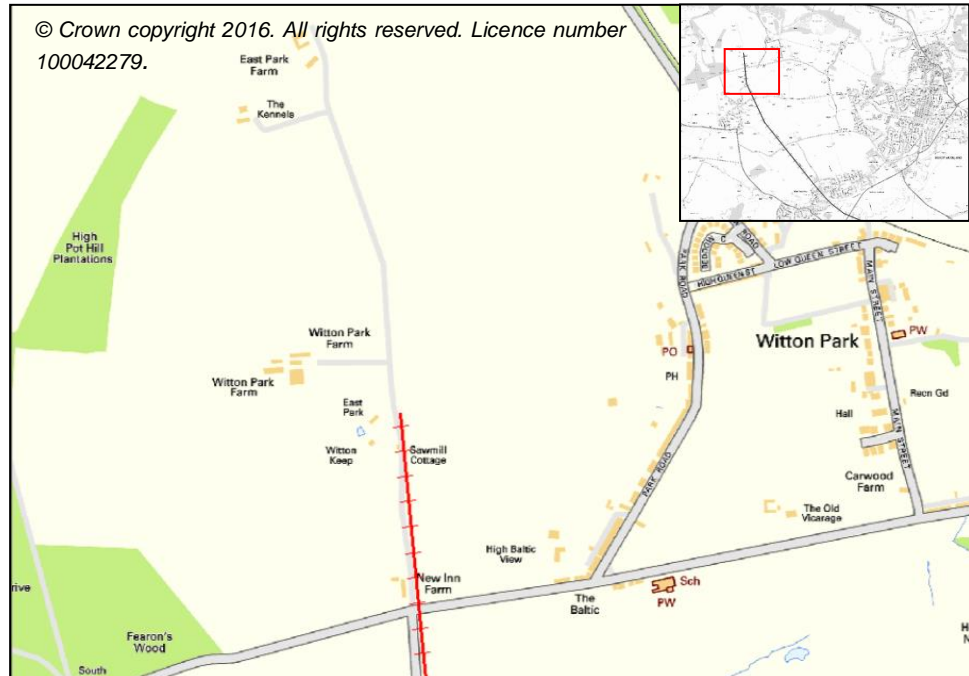


Figure 2. George Stephenson's map of the proposed S&DR railway, showing the route, in red, from Witton Park Colliery and surveyed in 1822 (DRO Q/D/P/8/1). The blue line marks the route, as originally conceived by George Overton. Neither route depicts the sidings nor the waggon ways, which would have extended from the surrounding collieries, to join up with the main line behind what is now 1 Phoenix Row.

1.0 EAST PARK FARM TO NEW INN FARM CROSSROADS.

The head of the line; formerly an area of scattered farmsteads amongst which were numerous small collieries all likely to have been connected to the head of the S&DR by temporary tub or tram ways. Extensive areas of 20th century surface coal mining and restoration have left a pleasant landscape of dry stone walled enclosures and pasture with some occupied and some abandoned farmsteads.

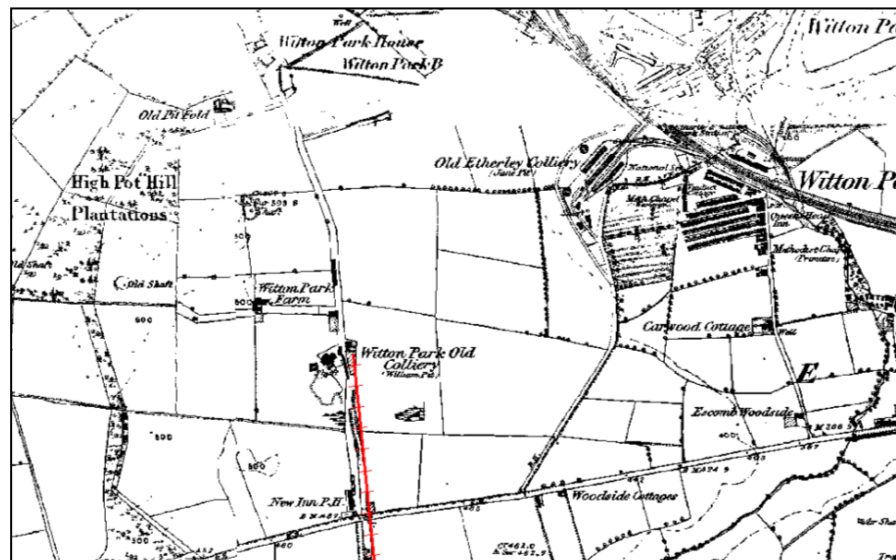
Figure 3. The head of the line where colliery wagons were assembled and led to the start of the Etherley Incline.



1.1 What survives and how do we protect it?

Witton Park is the area where waggons gathered from the nearby dispersed pits before being drawn by horses down to the beginning of Etherley Incline. Witton Keep was a farm in 1825 and some of the present day buildings once formed part of the William Pit of Witton Park Colliery (SDR36), although there were also early buildings on the other side of the road which have now gone. On the west side of the modern road just before the entrance to Witton Keep there is a grass covered linear earthwork (SDR503), running parallel with the modern road. This appears to be the northern end of the 1825 track which goes under what is now the access road, and ran down on the east side of the field wall.

Figure 4. The same area in 1856 as shown on the OS 6" to 1-mile mapping series. The Etherley Incline had been closed in 1843, and a new line and larger colliery had been established at Witton Park to the east.



The fields to the east of the modern track have been subject to open cast mining according to the Coal Authority records, but in the NW corner of the field, a well shown on OS maps dating to 1855 (1st ed) appears to have survived (SDR504). It is marked with some flat slabs with the letter T on one of them. This is a reminder that while fields were surface mined, remains can survive around field edges, under the site of bunds and former offices.

Evidence of possible coal pits can still be seen on aerial photographs in the fields to the west (NGR NZ 16437 29753, NZ 1661 29710), although similar markings could be produced by more recent agricultural activity.



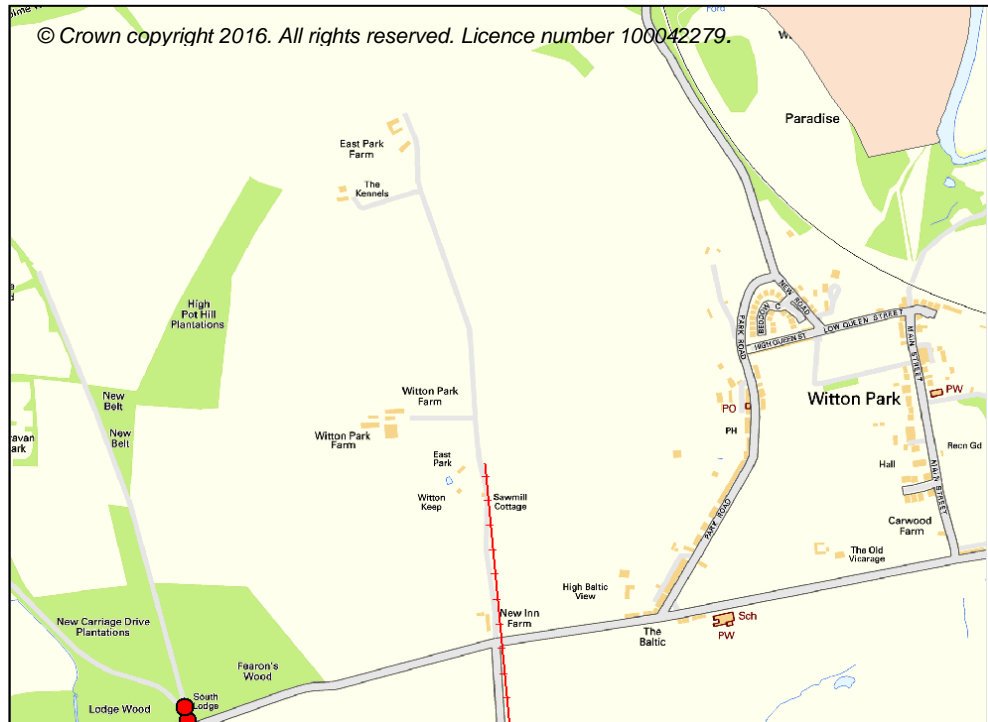
Plate 1. Left: the well shown on the 1855 OS map. Right: the line of the 1825 track from William Pit.

Figure 5. East Park Farm to New Inn Farm Crossroads, showing main features referred to in the text.










1.2 Existing Designations

Figure 6.
Existing
designations
(red dots)



1.3 Management and Protection

-  While visually pleasant, 20th century surface mining has largely removed landscape and archaeological features associated with early 19th century coal mining and the S&DR.
-  The few surviving identified archaeological features are vulnerable because it is unknown, ephemeral, unprotected and could easily be removed by access road repairs. Identified features have been added to the project database.
-  The possible remains of the 1825 track bed near the entrance to Witton Keep should be the subject of a small scale trial excavation to test if this identification is accurate.
-  If the track bed does survive, scheduling should be extended to here.
-  The track bed already features on the S&DR Self-Guided Walk Booklet No.1 which may require updating in the light of the trial trenching.
-  Development proposals at Witton Keep should bear in mind that some of the buildings at the heart of this domestic dwelling may be of historic interest to the history of mining and the S&DR.
-  The abandoned and semi-derelict East Park Farm at the north end of this section could provide a business and/or interpretation opportunity for the S&DR.

1.4 Access.

This stretch of track is the likely starting point for any future S&DR Trail and is now the starting point of the Friends of the 1825 S&DR Self-Guided Walk Booklet No.1. However, there is very limited parking without causing inconvenience to existing house holders.

Figure 7. Existing public rights of way.

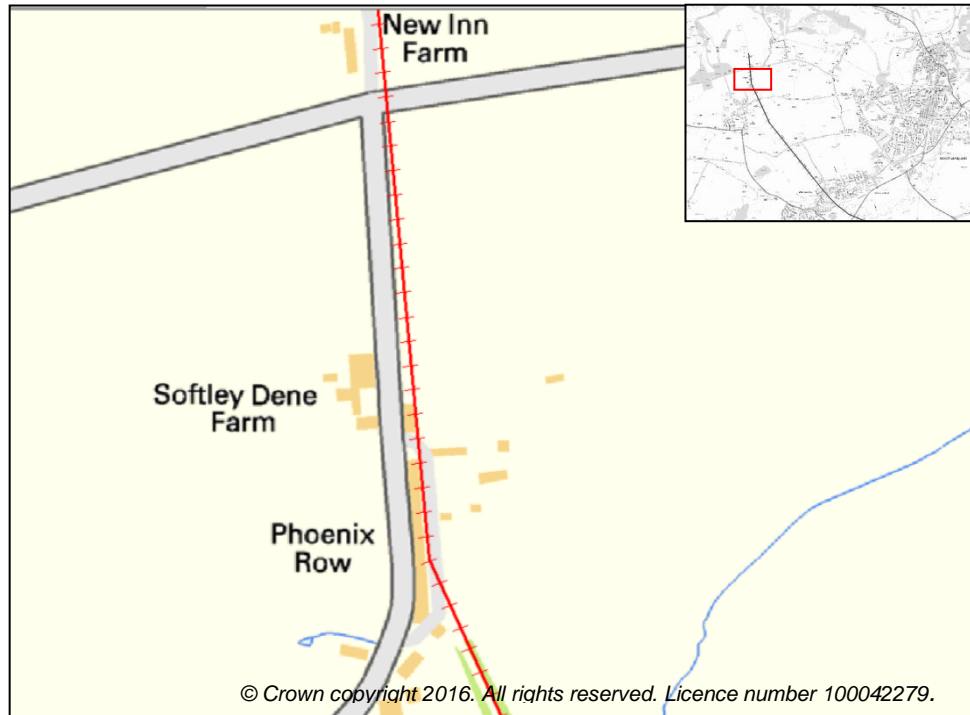


If an 1825 S&DR Rail Trail is to be developed, some parking nearby may need to be found that does not detract from the historic interest of the area nor the views or tranquillity of the existing residents. A public transport bus stop or drop off point needs exploring. This could be explored through a more detailed access audit.

2.0 SLOSH LANE TO THE SOUTH END OF PHOENIX ROW

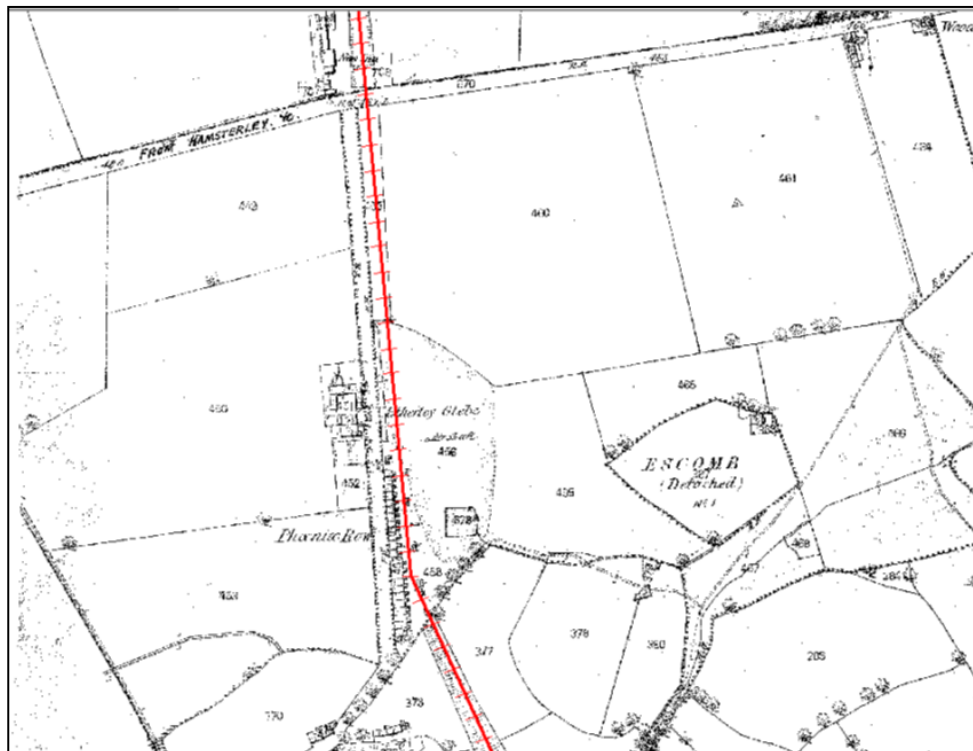
South of Slosh Lane, the line of the S&DR runs in the field to the east of the modern road and to the rear of the row of colliery houses at Phoenix Row built in the late 1840s-50s, after the Etherley Incline had been abandoned. Traces of the railway can be found re-used in buildings and significant archaeological remains may exist to the rear of the terraced houses.

Figure 8. Slosh Lane to Phoenix Row.



2.1 What survives and how do we protect it?

Figure 9. The same area in 1856 as shown on the OS 25" to 1-mile mapping series. The Etherley Incline had been closed in 1843, and the terrace of colliery housing at Phoenix Row partially built over the S&DR line.



The 1825 line ran parallel to Bank Well Road on its east side. Between Slosh Lane and the start of Phoenix Row a faint line can be discerned in the field where the earthwork appears to

survive below ground. Until relatively recently, this strip of land was not ploughed and the line could simply be a reflection of different ploughing regimes.¹ However, it is on the correct alignment and the lack of historic ploughing may be because of the presence of the earthwork remains of the line. If the earthwork is caused by the survival of the 1825 line, then it is vulnerable to plough damage and damage caused by heavy machinery passing through the field gate in wet weather. The tithe map of 1839 shows sidings from the line opposite East Softley Farm; there is no evidence of these on recent aerial photographs.

The S&DR line ran to the rear (east), of the houses at Phoenix Row, although its exact alignment is unclear. Local residents recount uncovering the remains of the line when building to the rear of their houses. This suggests that there are surviving remains of the line here. The line is therefore vulnerable to permitted development.

No.1 Phoenix Row (NZ1677 29188) has the scarring of former buildings on its south gable end and contains reused two-hole sleeper blocks within its fabric. Local knowledge suggests that one of these former buildings was the pay office or weigh house (SDR51) where waggons of coal were weighed and tickets purchased to use the Incline. There are no buildings shown on the 1839 tithe plan however, but there must have been a facility for weighing and paying. This area is of considerable significance therefore because this suggests that this was the hitch up point where waggons were transferred from horse power to steam engine powered rope incline.

The owners of No.1 Phoenix Row have also collected a number of artefacts from the incline over the years, including two-hole stone sleepers and a number of iron objects which may have come from coal waggons (SDR46, 70 & 71).

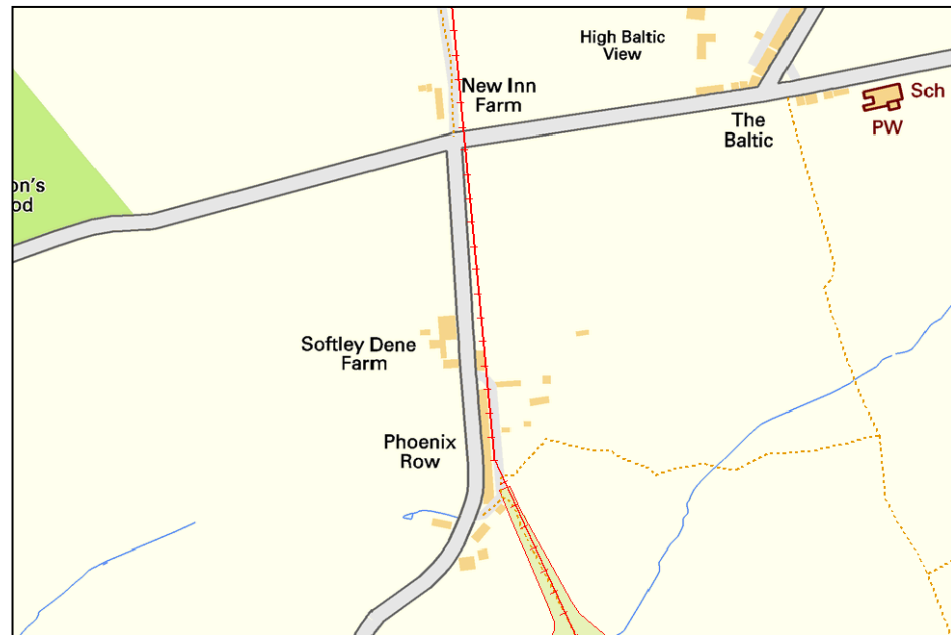


Plate 2. (left) Site of the pay office to use the incline, as shown on the gable end of no. 1 Phoenix Row. (right) The Tithe plan of 1839, prior to the building of the terrace of miners' housing and showing a colliery or sidings on the east side of the S&DR line.

¹ It was an unploughed strip in 2009 on Google Earth photographs

2.2 Existing Designations

Figure 10. Existing designations (pale green bordered in red is scheduled area)



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2.3 Management and Protection








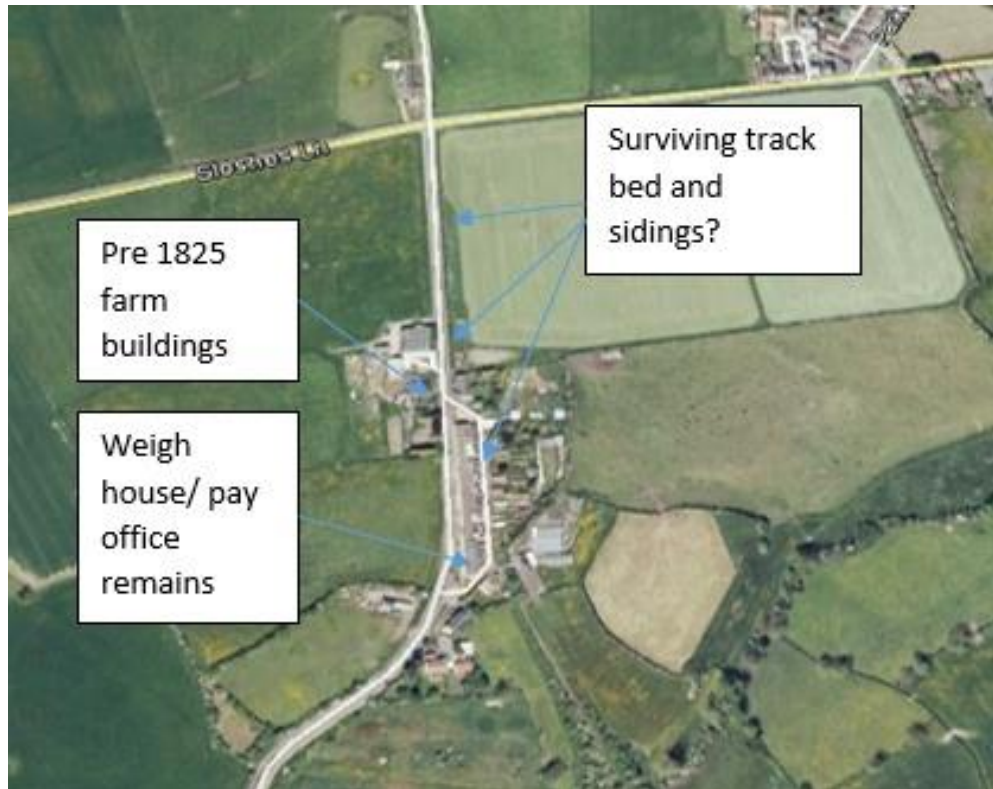
-  Trial excavation in the field east of Bank Well Road could confirm or refute the survival of the S&DR line in this field.
-  If the track bed survives in the field east of Bank Well Road, support should be found to offer the tenant/owner compensation to avoid further ploughing and to retain as a wildlife corridor which will also preserve the S&DR remains. It should also be included in the scheduling and so there is an option for a management agreement with Historic England.
-  Any development proposals to the rear of the houses at Phoenix Row including rear extensions, should be accompanied by archaeological recording and any encroachment on to surviving remains avoided where these remains are beyond current legal property boundaries
-  Further research is required to better understand how and where waggons were hitched to the incline and where facilities such as weigh houses were located and from what date. Research led excavation could uncover more information about the hitching up point from horse to incline plane powered by steam combined with additional archival research.
-  Development proposals here will need to be informed by further archaeological work. The owners here may be interested in participating in a community excavation as they are very interested in the history of the line.
-  The two-hole stone sleepers that have been found around the bottom of Etherley Incline are now on private land and out of sight. This protects them from theft, but there are opportunities here for the owners (should they wish) to display them near the incline, possibly as a rockery or garden features, although some thought would be required on how best to secure them without damaging them.
-  Historically accurate managed boundaries need to be maintained, such as the field wall running down Bank Well Road.

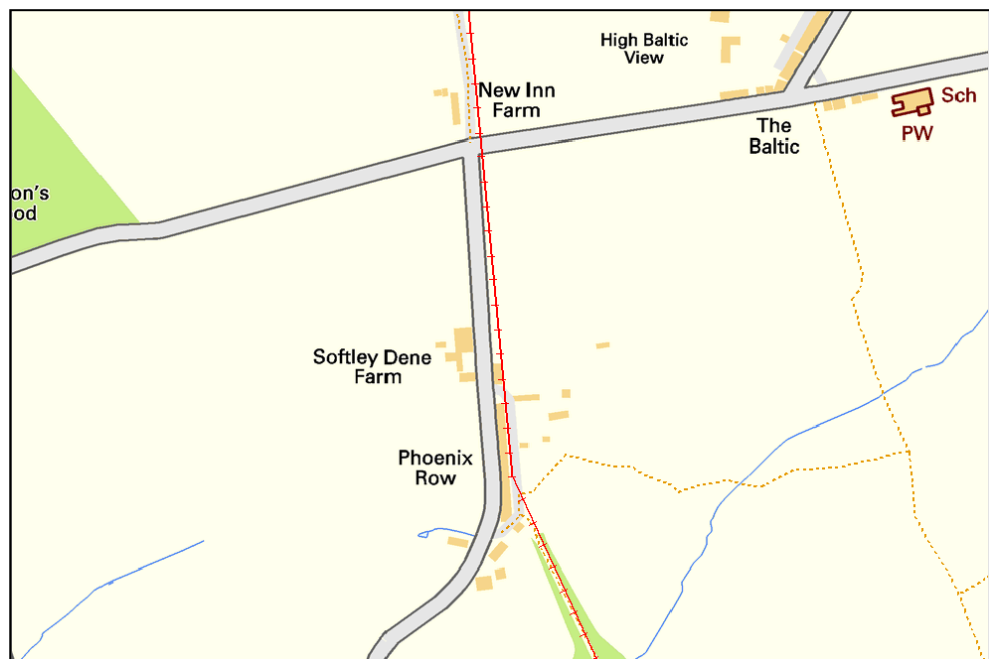
Figure 11. East Park Farm to New Inn Farm Crossroads, showing main features referred to in the text.



2.4 Access

There are no significant access issues, although some residents may be nervous if increased numbers of people use the back lane. Existing public footpaths, provide adequate access, but are not suitable for cycling.

Figure 12. Existing public rights of way (yellow dots).

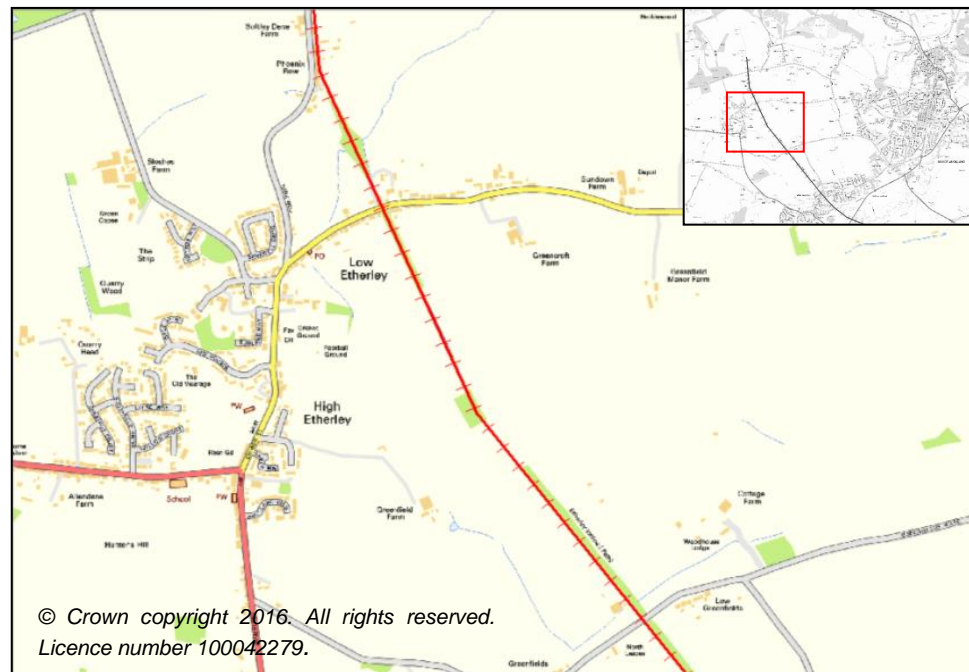


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3.0 ETHERLEY INCLINE FROM PHOENIX ROW TO GREENFIELDS ROAD

The Etherley Incline, a gentle rise and descent on a well used public footpath largely through farmland up and over the impressive and scheduled earthworks of the incline, via the site of the stationary engine and engineman’s house. Some visible stone sleeper blocks hint at significant archaeological potential while a number of original stone arched culverts carry streams under the embankment.

Figure 13.
Etherley Incline,
from Phoenix
Row to
Greenfields
Road.



3.1 What survives and how do we protect it?

This stretch of incline survives well as a substantial earthwork, with sporadic but good survival of stone sleepers, some of which have been deliberately exposed and reset, some have slipped down the side of the embankment and others re-used in garden features. The exposed stone sleepers and any that are not earth-fast are vulnerable to theft. Other original engineering features such as stone arched culverts survive well and still carry water courses under the incline earthworks; water management features at the site of the engine are also still functioning. Boundary features on this stretch take the form of hedgerows and dry stone walls.

Figure 14. The same area in 1856 as shown on the OS 25" to 1-mile mapping series.

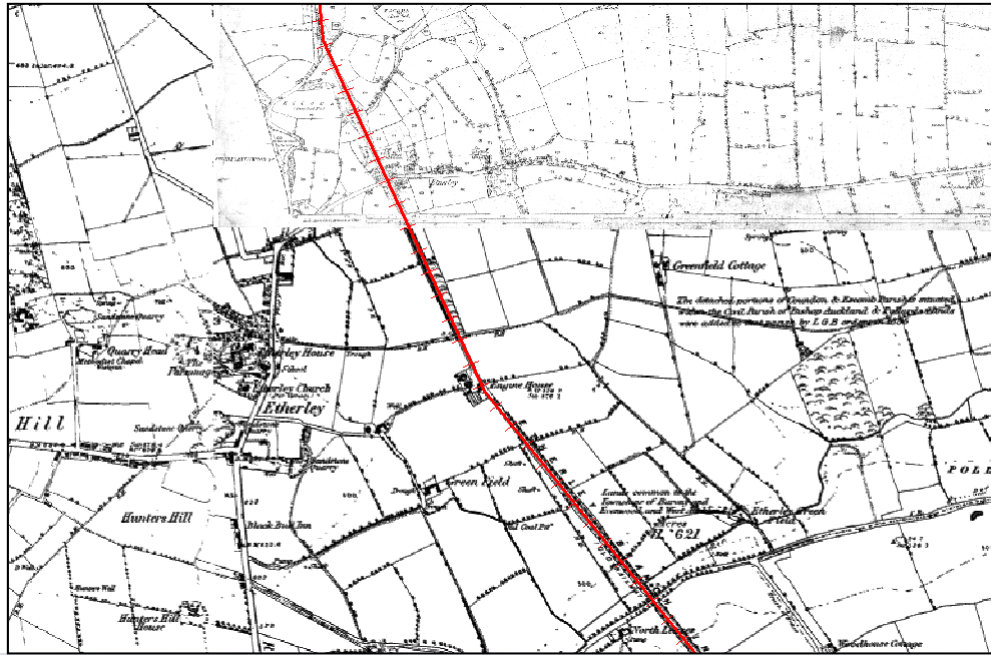


Plate 3. Etherley North Incline just south of Phoenix Row, looking south. This section is privately owned, but sympathetically well managed. It is also scheduled and a public right of way.



Part of the incline has been built over at Low Etherley and the bridge (SDR32) which carried the road over the incline at Low Etherley has been removed, although it is not clear if it was wholly demolished or buried.

The former Railway Inn adjacent to the incline survives. Initial research along the 1825 trackbed suggests that the role of the inns was very important in the early years. Anecdotal evidence acquired during fieldwork suggests that the same family live in the former inn now that occupied it in the 19th century and may therefore have additional information about the inn and its history.

Plate 4. (left) East facing culvert entrance under the North Etherley Incline.

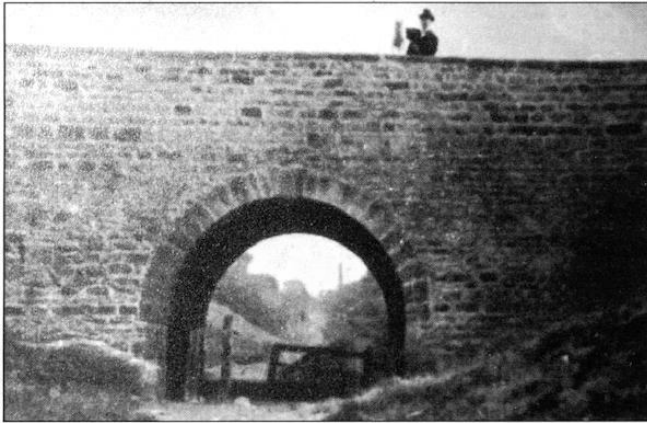


Plate 5. (Left): The lost road bridge at Etherley and, (right), the former Railway Inn adjacent

A short distance south of Low Etherley are a row of 18 pairs of sleeper stones. Set very close together these are not likely to be in their original position (SDR54 & 55). On the east side of the incline before the Engine House, there is a large rectangular boggy area (SDR60). Visible on the 1st edition OS it appears related to the incline but has no obvious function. It may have been a water collection point from the incline drainage.



Plate 6. Etherley Engine House from a watercolour in 1875 when it was no longer in use. The wall is presumably a later addition as it cuts across the line, which is clearly out of use with only the stone sleepers left, but no rails.



Plate 7. The Engineman's House, shortly before demolition. Originally two cottages, It had two doors to the front (right hand now blocked); one for the engineman and one for the blacksmith, although latterly it was simply rented out as domestic accommodation.

At the top of the incline and included in the scheduled monument is the site of a group of buildings and structures. The Engineman's House (SDR506) was demolished in the 1980s despite local opposition. The Engine House has been demolished for considerably longer, but architectural fragments of the building survive in adjacent boundary walls (SDR68). There is good documentary evidence about the first two Enginemen at Etherley (the Greeners), and the form and appearance of the Engineman's House (and adjacent blacksmith's house). Information even extends to the interior design of the engineman's house (Greener 1885).

The Greeners and the Etherley Engine

Steep hills had been negotiated innumerable times in the past by mineral waggons, but what made this section of the S&DR unique at the time, was the scale of the distance to be negotiated – about five miles from Witton Park to Shildon with two ridges at Etherley and Brusselton.

Etherley was designed to have an engine haul the waggons up by rope, and a self acting incline to help them descend, also by rope. The engine was operated by an engineman, who lived on site with his family in the adjacent house, along with a blacksmith and his family next door. The engine was steam powered and this required a reliable source of water, provided by two adjacent reservoirs.

The engineman from 1825 was Thomas Greener and he lived in the engineman s house. Greener was born in Killingworth in 1786 and, after attending school, he served an apprenticeship as a ship s carpenter at South Shields, before going to sea for fourteen years. On his return he was put in charge of an engine at Coopen (sic) Colliery, where he became acquainted with George Stephenson.

When Stephenson was made chief engineer for the construction of the S&DR line, he brought Greener with him to lay the rails. Greener commenced his work at Stockton in May 1822 and then moved to Etherley.

Once the line was opened for traffic, Greener was appointed engineer in charge of the engine at Etherley. He was very particular about maintaining the machinery, keeping it in good working order. He kept all the metalwork polished and the flooring in the engine house clean. *This beautiful engine was often visited by ladies and gentlemen in the neighbourhood, who mostly expressed their great satisfaction at this masterpiece of human skill, and the interesting conversation of the engineer.* When the engine was not working he kept himself busy with other tasks. He made a small waggon, presumably a model, to travel up a short incline, to indicate the position of waggons on the bank, which was useful when operating the incline in the dark. He took great delight in painting pictures and portraits, and had the walls of the engine house decorated with peculiar paintings of local characters. His talents also extended to rope splicing, making doormats out of old rope, sign writing, repairing pumps, and watch and clock repairs. When his beloved wife died, he took the opportunity to leave Etherley and follow George Stephenson to the Liverpool and Manchester Railway, where he worked on the infamous Chat Moss section of line and later on the London and Croydon, and Whitby and Pickering Railways, and finally at the London and Blackwall Railway (via a spell working at a brewery in Brentford.) He was buried in Tower Hamlets cemetery in London. He was replaced at Etherley by his brother, John Greener, on April 13th 1826. John Greener was prominent amongst the local Methodists and often spoke on the Bishop Auckland circuit. He also taught several working men to read. His life was cut short when he accidentally fell under one of the beams of the engine when it was in motion, at about 8 o'clock on Monday, February 20th, 1843 (Greener, 1885).

The engine house ceased working in 1843. The incline had been made redundant by the opening of the Shildon Tunnel Branch Line in 1842, but perhaps Greener s death was also a factor in its closure. The house remained in use and continued to belong to the S&DR, to which they added their distinctive number plaque to the house in 1857, allocating it number H5.

Nicholas Greener, another member of the family, was the engineman for the Black Boy Branch line which ran from Eldon to Shildon. The engine there started operating in 1828.



Plate 8. The remains of one of the reservoirs that fed water to the Etherley Engine House

The two reservoirs that fed the Engine House survive (SDR27 & 28), although only one now holds water. The culverted stream which supplies them still runs along a hedgeline to the west from a spring and should be considered as part of the monument (SDR25). Before reaching Greenfield Road, a good quality stone culvert runs under the incline carrying a small beck.

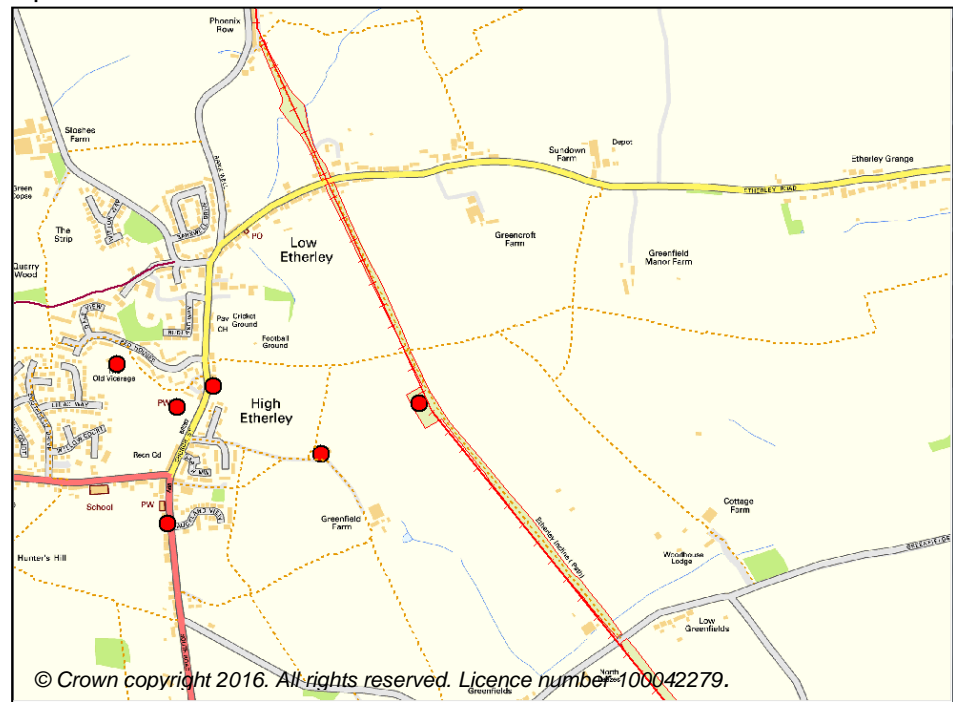


Plate 9. (above left) A two-hole stone sleeper from Etherley Incline and (above right) another incorporated into a dry stone wall near the site of the Engine House. Several architectural fragments from the now demolished engine house and cottages are present on site and re-used in boundary walls (below left).

3.2 Existing Designations

All of this section of the line is designated as a scheduled monument, in addition the steam engine pond at the top of the incline is also a Grade II listed structure.

Figure 15. Existing designations



3.3 Management and Protection



Ongoing vegetation clearance is required along the cutting towards the Engine House (site) and then down again to Greenfields Road. This will keep the path clear, but also ensure that the stone sleepers remain exposed.



Stone sleepers that have fallen down the side of the embankment, or are located in watercourses or are not earth fast, but are still visible, should be recorded in position, numbered and stored in a depot until provision can be made to securely reset them near where they were found.















No further development should be permitted on the line of the S&DR and where development takes place in proximity, design of new build and landscaping should be carefully considered to both maintain the character of the rail line and create accessible areas clearly marked out which coincide with the route.






Local interest groups should be encouraged to make contact with the home owners at the former inn to find out if they have additional information. There is a need for research into all the early inns along the line and their function (beyond refreshments). This has been started on an ad hoc basis by Brendan Boyle, Barry Thompson and Brian Llewellyn of the Friends of the 1825 S&DR.



The former Railway Bridge Inn has had a number of alterations resulting in a loss of historic character. Future development which requires planning permission here should seek to restore the historic character of the cottage.

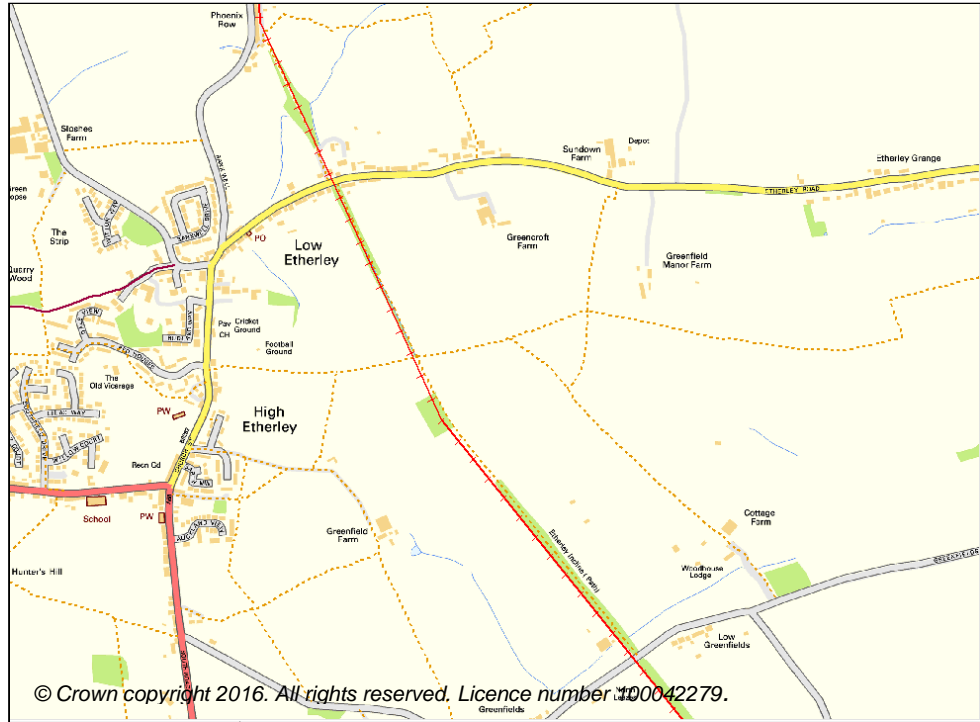
-  The former Railway Bridge Inn should be made a building of local interest and identified as such in any future local plan documents.
-  Further research could ascertain to what the extent the bridge (SDR32) at Low Etherley might survive as a buried structure
-  The culvert beneath the north incline, just south of Phoenix Row (SDR44), is in relatively good condition on the west side, but the east side has a slipped keystone which needs resetting.
-  The culvert to the north of Greenfields Road is good on the east side while the west side has a bit of slippage, but is generally fine. Part of the open drain to the west, originally of stone has been lined in concrete.
-  Both culverts require vegetation clearance to protect them from root damage and to allow better inspections for maintenance in the future.
-  Research led excavation could uncover more information about the form of the engine house and how it worked.
-  The dry stone wall boundary walls around the Etherley Engine house site are in poor condition and so the architectural fragments are vulnerable. Some consolidation is required.
-  The fruit trees (plum) originally planted by the enginemen have been recently cut down. New fruit trees could be planted on the site.
-  Images of the engineman's house could be reproduced as part of a smart phone application to interpret the S&DR line. If plans can be obtained of the house, then there is also scope to virtually reconstruct the interiors complete with drawings by the engineman of local characters.
-  Any research led excavation of the Engine House would feed into interpretation.
-  The engineman's house was only demolished in the 1980's and sufficient information exists to consider rebuilding it. This should be preceded by archaeological excavation.
-  Historically accurate managed boundaries need to be maintained

3.2 Access

-  This stretch of the line while public footpath is in private ownership, including the site of the Engineman's House.
-  Dog fouling is bad near Low Etherley and enforcement needs to take place.
-  Wooden sleepers have been reused along the line as gateposts and they should be retained.

- Vegetation clearance needs to take place to keep the path open – it is very narrow in places.
- The existing legal access is a footpath and is not suitable for cycling or access for people with mobility difficulties. Access for wheeled vehicles such as bicycles will conflict with the presence of stone sleepers. The path has to be wide enough to accommodate foot traffic, cyclists and stone sleepers.

Figure 16.
Existing public
rights of way.



4.0 ETHERLEY INCLINE FROM GREENFIELD ROAD TO LEAZES LANE

On the south side of Greenfield Road the scheduled earthworks of the Etherley South incline continue their descent towards St Helen Auckland. Although a path can be found, there is no right of way across privately owned land and it is heavily overgrown and in parts flooded due to agricultural encroachment. Nevertheless the line is well preserved with features of interest such as crossings. At the entrance to St Helen Auckland serious issues of damage and encroachment have occurred which require management and enforcement.

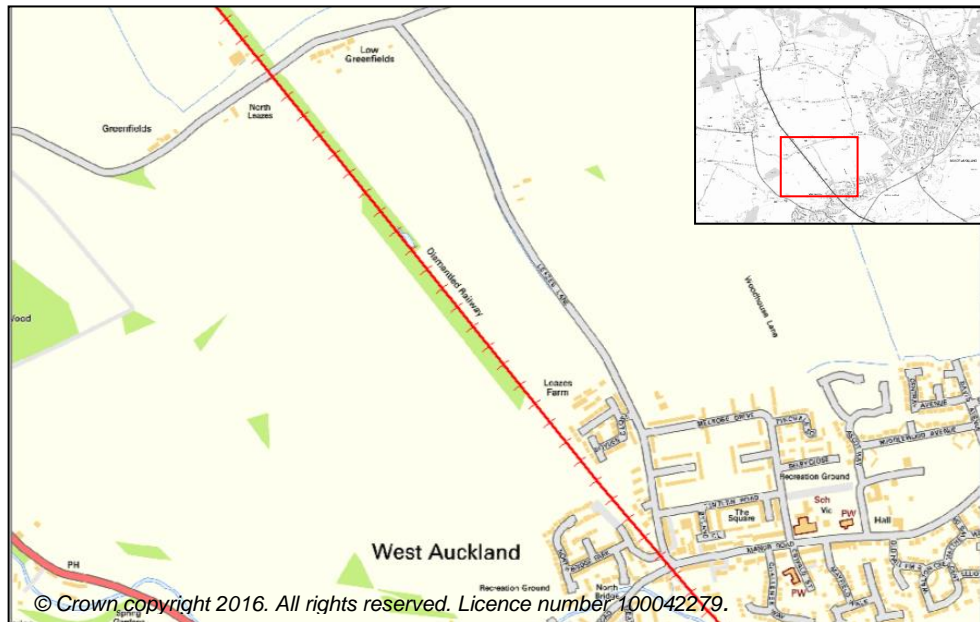


Figure 11.
Etherley Incline,
from Greenfields
Road to Leazes
Lane.

4.1 What survives and how do we protect it?

The incline must have crossed Greenfield road using a form of level crossing. The early level crossings simply passed over the road but were required to sink the stone sleepers and rails into the ground to avoid causing obstructions by the 1821 Act of Parliament. The line is in a cutting south of Greenfields Road and some dry stone boundary walls survive on both sides of the cutting but to variable heights. Where they survive to full height, the walls were about 1.3m high and were topped with triangular coping stones. The incline is extensively overgrown after about 100m from Greenfield Road.



Figure 12. The
same area in
1856 as shown
on the OS 25" to
1-mile mapping
series.



Plate 10. Examples of surviving S&DR boundary walls. The one on the right was behind barbed wire but survives to full height with triangular coping stones.

At about NZ 17910 27371 the level of the original line changes from a cutting to an embankment. At some point in the past, agricultural activity on the east side of the line has encroached on to the incline and pushed the earthworks into the cutting thus forming a dam which blocks the flow from a natural spring upline.

This has formed a substantial pond which keeps growing as more water fills the cutting. The original line of the east side of the incline is still visible in the adjacent field. Mapping from Historic England suggests the damaged side is however still scheduled.



Plate 11. (Left). The flooded cutting with boundary walls at ground height in the foreground (looking south-east).

Plate 12. (Below). Looking south at the west boundary wall and external drainage ditch of 1825. The flooded cutting can be seen to the far right.



Where the line is in a cutting there is a ditch on the west side outside the boundary walls which runs along the top edge. Such an external ditch appears to be standard practice along much of the line. There was presumably a similar ditch on the east side but access was not possible to check.

Where the incline is an embankment there was a crossing point which still survives (SDR 76). This approached the embankment via a ramp on both sides. The surface was metalled with small cobbled stones. A small simple culvert (SDR 75) ran below the ramp to carry a drain or watercourse alongside the embankment. At the point where the ramp met the incline track, two wooden gateposts still survive; one of them has a series of holes which could suggest that it was a reused wooden sleeper.



Plate 13. (Above). The overgrown embankment of the south Etherley Incline, looking south towards St Helen Auckland.

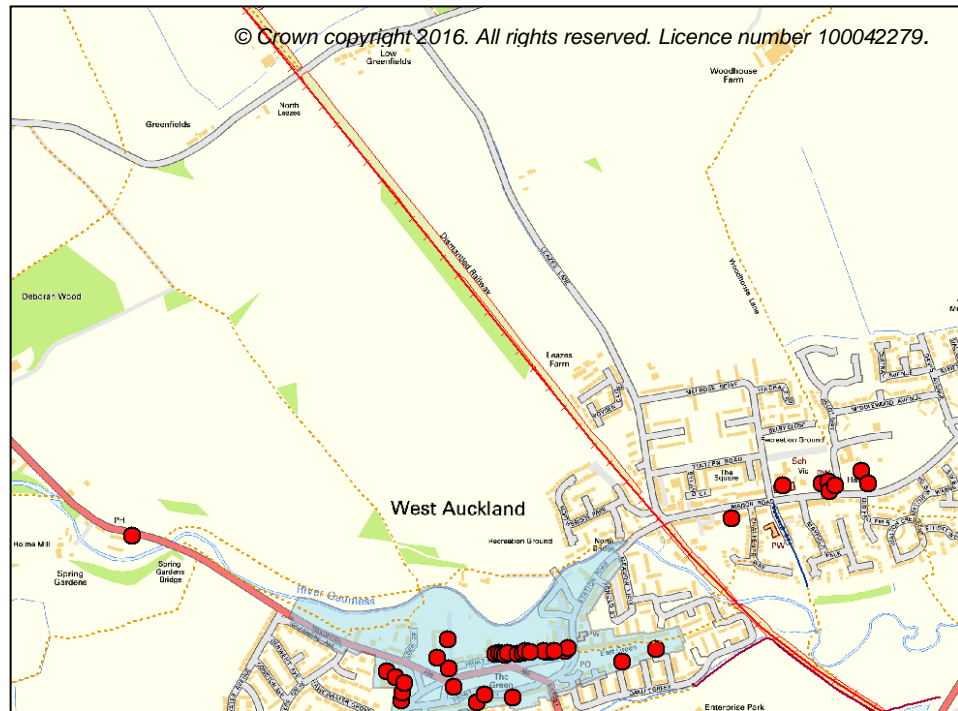


Plate 14. The incline has a crossing point consisting of metalled earth ramps to east (above left) and west. The drainage ditches of the incline run beneath the ramp in stone culverts (above right)


4.2 Existing Designations


Much of this section is already a scheduled monument, with a short gap at the crossing of the Station Road/Manor Road in St Helen Auckland.


Figure 17. Existing designations




4.3 Management and Protection

- 

Future road works at Greenfield Road could uncover evidence of a level crossing; therefore, any disturbance on the line of the incline on the highway should be monitored archaeologically. More evidence is required of what form the 1825 level crossings took and whether the same approach was always taken from the outset.
- 

If the line is used for access, or the land adjacent to it, then some thinning of the vegetation will be necessary so that boundary walls can be identified and the features on the incline made visible.
- 

Boundary walls need conservation. Some survive to full height but most are only a few courses high. 0.9km of the incline still has evidence of boundary walls, therefore the full restoration of walling would require 1.84 km of wall to cover both sides. However, it is clear that a lot of stonework has been removed from the site, especially the triangular copes. It may therefore be necessary to selectively conserve stretches of walling where survival is good using stone still available on site.
- 

The legality of encroachment needs to be researched. The line is very clear as the fields to the north and south maintain the original line and there is still a slight embankment. The encroachment had already taken place by 2001 (based on Google Earth aerial photography).



- 🏠 House owners are encroaching on to the scheduled area which belongs to DCC and which has been left as un-managed open space. This encroachment has been reported in the past ten years but appears not to have been fully resolved.
- 🏠 Encroachment may be less of an issue if the open space is better managed so that it does not attract anti-social behaviour. This is now an urgent matter as the space is visually unattractive and invites fly tipping. As DCC owned land, there are no issues of requiring owner consent.
- 🏠 The waste ground at Northbridge affords an opportunity for community excavation and subsequent landscaping. This may need adopting by local groups to help maintain it and to police encroachment.

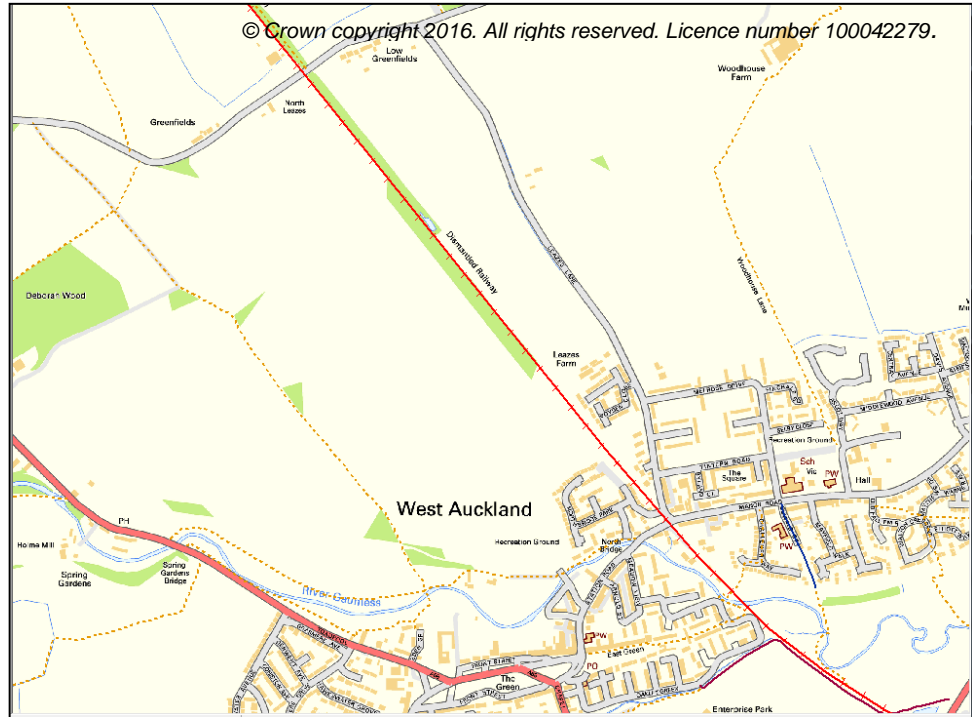


Plate 15. (Above left), The wooden fencing has enclosed part of the scheduled incline which belongs to DCC. The gap left follows the rest of the incline, but is blocked by undergrowth and fly-tipping. (Above right), immediately north further encroachment to the scheduled monument is taking place.

4.4 Access

There is no current legally defined public access to this stretch of the incline and so a legal access would require negotiation. Although the route is referred to as being a public route in a recent guided walk publication (Slack and O'Neill 2015), and a number of local people believe it to be a public footpath it carries no such status. It is also believed to have been used as part of a rail trail in 1975. As the route has only been partially used due to the flooding, the incline has become overgrown in places. It is therefore likely that it is now of considerable wildlife interest and that the creation of a right of way here may conflict with its use as a wildlife habitat.

Figure 18.
Existing public rights of way.



An alternative route runs parallel to the line and is clearly well used and a clear path has been formed through visitor erosion on land to the west. The north field is an arable field, but the rest is woodland and the south end is reclaimed DCC owned land at St Helen Auckland. The most practical solution is therefore to explore an alternative route by negotiation with the neighbouring landowners.



This stretch would require an ecological survey to help inform the extent and nature of any proposed accessible path.



Plate 16. Paths have become well established in the adjacent coniferous plantation woodland which would be an acceptable alternative for a rail trail to avoid the flooding while allowing the heritage features of the line to be appreciated. This would require the agreement of the landowners.

There are however problems of anti-social behaviour the nearer the incline is to St. Helen Auckland. Local residents report that glue sniffing also used to be a problem at the north end of the line and they have concerns that any new rail trail could result in a repeat of this behaviour.



Good management and the clearing of the areas from bushes which afford screening for anti-social behaviour, plus a higher usage rate by responsible users, might discourage such behaviour.

- Another option is to run a new access down the east side of the line through arable fields. In either case, access would need to be negotiated.
- The south end of the incline has been blocked at NZ 18332 26833 but could be easily cleared of vegetation and other materials which block it. It is DCC owned land.



- The encroachments currently taking place to the scheduled monument should be stopped and reversed. Failure to enforce the law and the Council's legal ownership is likely to result in additional damage and encroachment in the future. Local police and home owners should be informed about the legal status of the Etherley Incline and the police advised on procedures to use if prosecution is to be carried out.

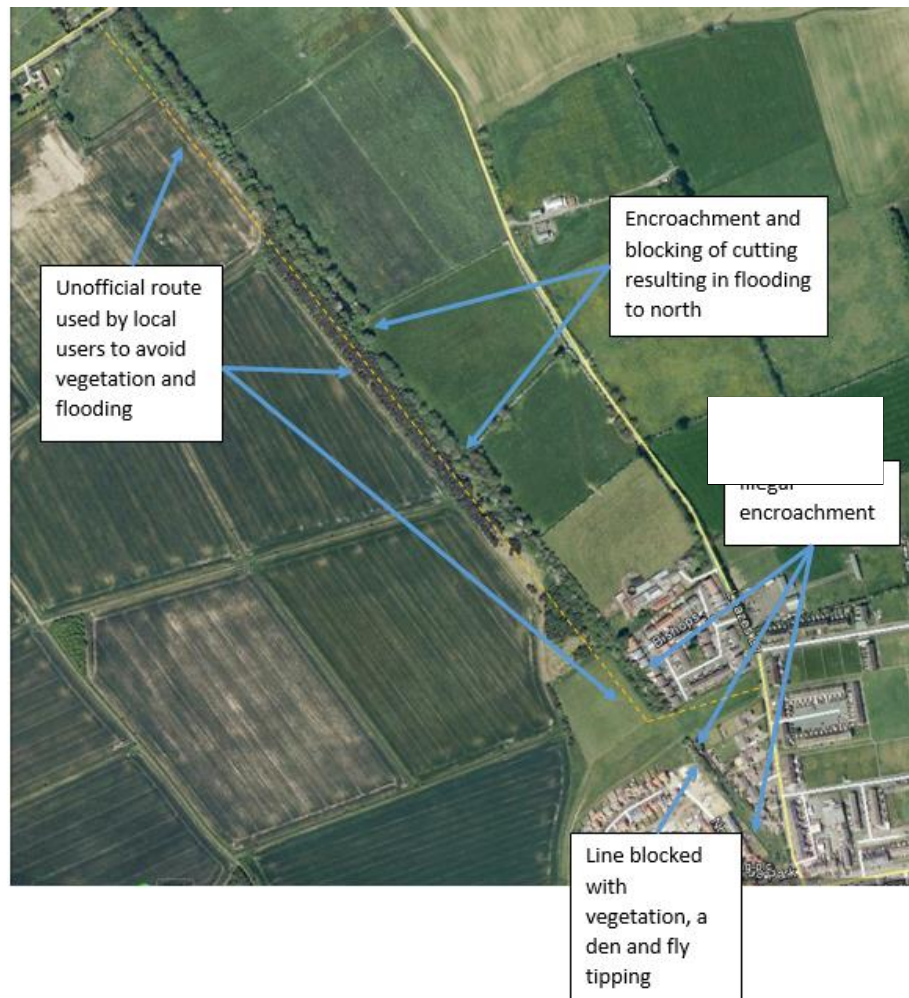


Figure 19. Management issues on the south part of the Etherley Incline

5.0 STATION ROAD, WEST AUCKLAND TO THE GAUNLESS BRIDGE

Here just north of Station Road, the Haggerleazes Branch line of 1830 joined traffic coming down the incline. After the closure of the Etherley Incline in 1843, trains continued using this stretch of line into the 20th century. South of Station Road, the track bed is obvious and runs

along a strip of land in council ownership, but not on the definitive rights of way map. Passing the station house of 1871/2, the line approaches the Gaunless Bridge. The original superstructure of Stephenson's iron bridge is now at the National Railway Museum, York, but the fine stone abutments and accommodation bridges leading to it are still in place, although suffering from vandalism and graffiti.

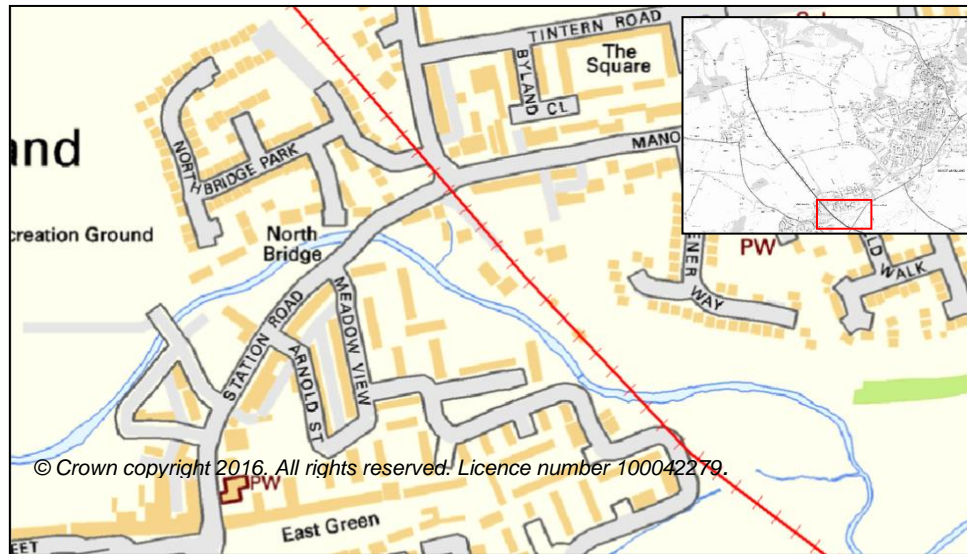


Figure 20. Station Road, St Helen Auckland to the Gaunless Bridge.

5.1 What survives and how do we protect it?

This was the site of a station halt, subsequently replaced with a station. The station master's house of 1871/2 survives and is now a private house (SDR7). The north embankment of the railway line survives but a substantial gap marks where there used be an accommodation bridge, since demolished (SDR2). The two large stone abutments on either side of the river are the remains of the nationally important and scheduled Gaunless Bridge, often referred to as the earliest iron railway bridge in the world (SM1002315). The iron structure is currently located at the National Railway Museum in York and the remains of the iron supports in the river bed are thought to survive but were not seen during fieldwork. The bridge has fine wing walls with curved piers and on the south side, they join with wing walls linked with the adjacent accommodation bridge on the south side, recently damaged (SDR16). The river bed has what appears to be 1820s retaining walls. The two structures and the river walls are extremely vulnerable to vandalism, neglect and tree damage.

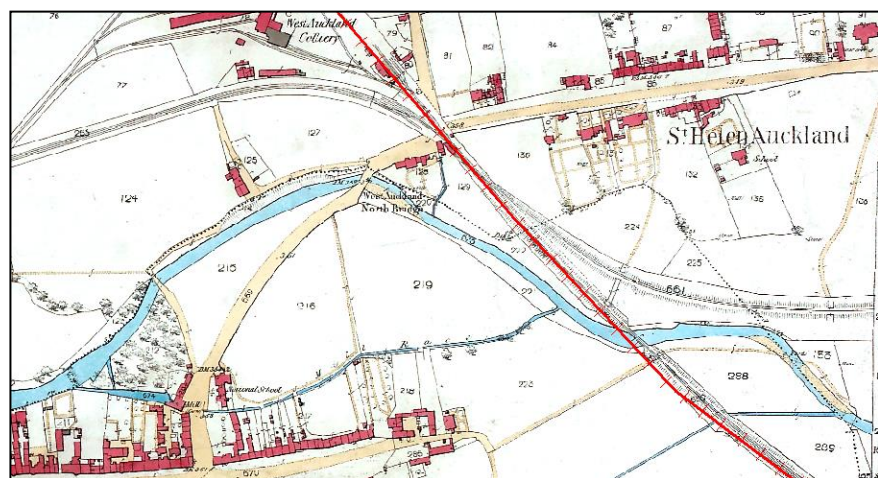


Figure 21. The same area in 1856 as shown on the OS 25" to 1-mile mapping series.

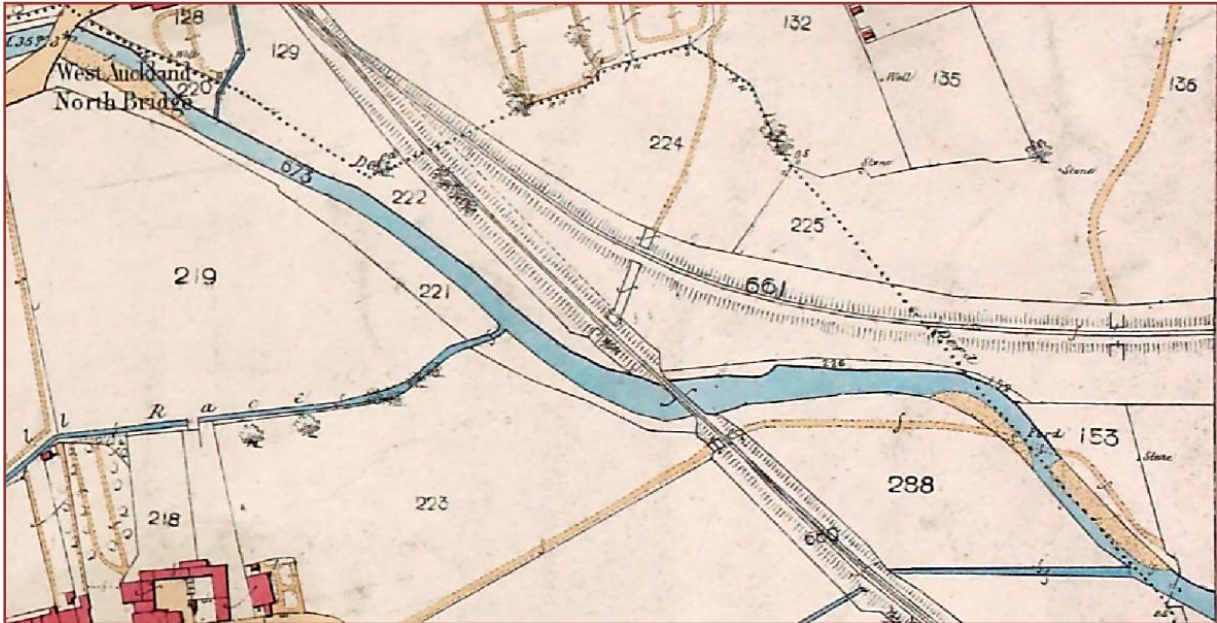


Figure 22. The 1st edition Ordnance Survey map of 1855, showing the 1825 line heading from West Auckland North Bridge south towards the River Gaunless, with its approaching embankments to north and south, each with narrow accommodation bridges and between them the narrow, elegant metal bridge and stone abutments of the Gaunless bridge of 1823-5. The branch line heading towards the east is the Tunnel Branch opened in 1856. A tunnel/ accommodation bridge appears to link the two railway lines. The station had not yet been built at West Auckland but a halt did exist from 1833 near the main road.



Plate 17. Waste ground on the north bank of the River Gaunless, near the Gaunless Bridge presents an opportunity for enhanced landscaping and community events. The majority of this area including the bridge abutments is in local authority ownership.

In late 2015 following a change in landownership on the south east side of the river crossing, part of the embankment and one side of the remaining accommodation arch was partially demolished despite being protected by designation as a scheduled monument. A condition survey and restoration report was commissioned by DCC from Blakett-Ord Conservation Engineering. At the time of writing repairs were still awaited.

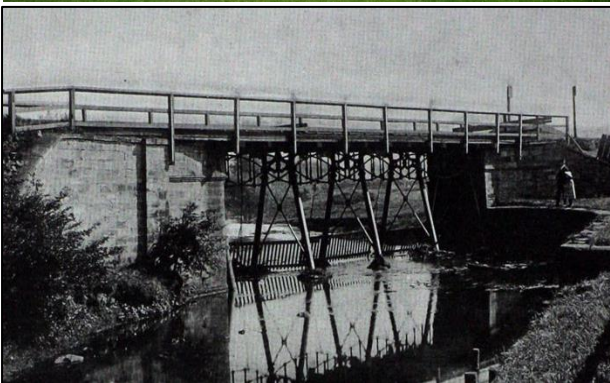


Plate 18. (Above Left): The former station house built 1871/2.

Plate 19. (centre left). The Accommodation Bridge on the southern embankment of the Gaunless Bridge shortly before partial demolition in 2015 of the right hand side



Plate 20. (below) The Gaunless Bridge looking south-east. Prior to 1901 (bottom left), and today (bottom right), partially dismantled, vandalised and covered in graffiti. This is a Scheduled Monument and one of the most important early buildings in railway history.



5.2 Existing Designations

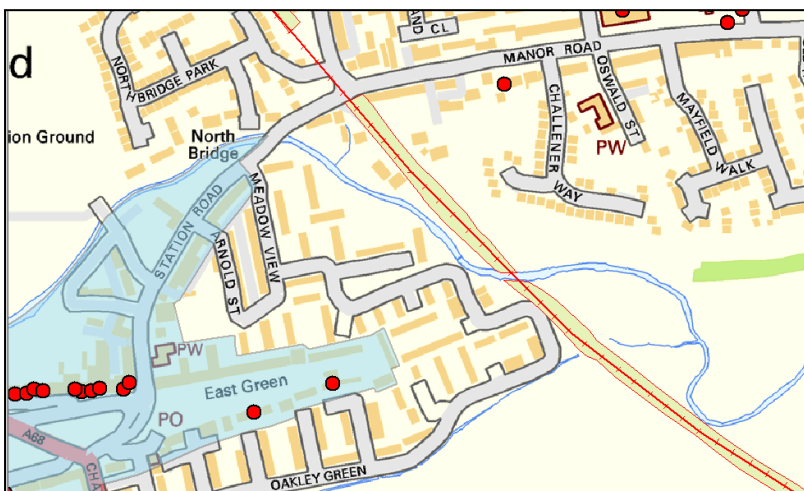















Figure 23. Existing designations

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5.3 Management and Protection

-  The area is the subject of vandalism and so it will need local volunteer or third party support to help enforce good behaviour and repair damage until its use is sufficiently popular with S&DR visitors to reduce the opportunities for vandalism.
-  Local police should be informed about the status of the remains (and Etherley Incline) and include the site on their rounds.
-  Enforcement action and legal action should be taken as appropriate against anyone causing damage.
-  The recommendations of the Blakett-Ord (2015) report should be implemented.
-  Links with local schools and community groups could be developed to encourage 'adoption' of the monument with activities such as regular litter picks and spreading the word of its importance and value.
-  A robust low maintenance landscaping scheme for the area that creates a more attractive environment is necessary. It also presents opportunities for events that will help to populate the area with people who care.
-  Any landscaping scheme should seek to make better visual links between the different aspects of railway heritage including the accommodation bridge, the embankments for both railway lines, the station, the boundary walls and bridge abutments. It should retain the gap in the embankment where the north (now lost) accommodation bridge was located, or provide a new bridge if it is to be used by cyclists.
-  Some vegetation removal is necessary along the riverbank to stop tree roots damaging the retaining wall.
-  The surviving remains of railway lines from the S&DR and the adjacent Tunnel Branch (which is another footpath linking), are confusing and would lend themselves to smart phone application interpretation to show how they looked when still in use (there are images available).
-  The river is being used to dump waste – it needs cleaning out and maintaining.
-  The portakabin on the south bank should be removed from the setting of the Gaunless Bridge as they are causing more than substantial harm to the setting of the designated heritage asset.

The Gaunless Bridge.

-  The south abutment of the Gaunless bridge is suffering from self-seeded vegetation which needs to be controlled. The un-managed bushes hide the ornate stonework of the bridge abutment and its sweeping wing wall with string coursing and rounded pillar terminus so that it cannot be appreciated and the self-seeded trees on top of the abutment will be causing root damage. Self-seeded vegetation also disconnects the visual links between the bridge abutments and the accommodation bridge.
-  The Gaunless Bridge abutments require cleaning of graffiti.

The iron structure from the Gaunless Bridge should be moved from NRM York to NRM Locomotion at Shildon for display. The bridge was designed to be free standing which might make it easier to display. It should not be replaced on the abutments as it would be at risk from vandalism and the abutments were modified in 1901 so the original decking would no longer fit.

The Gaunless Bridge does not need to be re-decked as a standalone project, but in due course, new infrastructure should be designed for the S&DR trail to allow use by walkers and cyclists. This should involve full reinstatement of the wing walls and an opportunity taken to introduce a new crossing using the abutments.

Accommodation Bridge, Gaunless Bridge Southern embankment.

The south embankment accommodation bridge (SDR16) should be rebuilt using the stone from the demolished abutment at its original width.

New decking could be added in due course as part of a S&DR trail, but in the short term, the current track from the riverbank with steps up the embankment would suffice (although would not be DDA compliant).

Vegetation removal is required alongside the walls between the Accommodation Bridge and the Railway Bridge to expose the attractive stonework and to widen the path

5.4 Access





Figure 24.
Existing public
rights of way.

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Access is already available for walkers, but the modern footbridge over the Gaunless has steps and is too narrow for other users. The stile on Station Road and the path that follows are too narrow for cyclists to use. However, there is a high rate of anti-social behaviour here and if the access points were made wider for cyclists, it is possible that this would be abused. There are many opportunities to enhance the appearance of this area and the scheduled remains and to improve access. It is currently largely used for dog walking, vandalism and gathering of youths to create an unattractive threatening environment. It is DCC owned land and so no consents from other owners are required to improve this area, although the parish council would be invaluable partners. A number of actions are required:

-  Provision for at least a walking route, but ideally one suitable for cycling as far as Shildon should be made to connect in with existing cycle path to Newton Aycliffe.
-  Explore options for a cycle friendly bridge across the Gaunless subject to concerns regarding abuse of the line by illegal motorcycle or four-wheel drive use. This should consider re-using the scheduled bridge abutments and in so doing create a reason for their maintenance. It should also consider reinstating the accommodation arches. This stretch of the line including the Gaunless Bridge although in local authority ownership, is not currently a PROW and so any new route could be permissive and exclude motorised vehicles.

Summary recommendations: Witton Park to St. Helen Auckland (Gaunless Bridge)		
Opportunities to find out more gaps in knowledge		
Task	Where	Priority
The possible remains of the 1825 track bed near the entrance to Witton Keep should be the subject of a small scale trial excavation to test if this identification is accurate.	Track near Witton Keep	High (vulnerable)
Trial excavation in the field east of Bank Well Road could confirm or refute the survival of the S&DR line in this field. Scope to include volunteers.	Field east of Bank Well Road, north of Phoenix Row	High (vulnerable)
Further research is required to better understand how and where waggons were hitched to the incline and where facilities such as weigh houses were located and from what date. Research led excavation could uncover more information about the hitching up point from horse to incline plane powered by steam combined with additional archival research.	No.1 Phoenix Row and area	Medium
Research into hitching points and local taverns.	No. 1 Phoenix Row	Low
	Former Railway Inn	Low
Further research could ascertain to what the extent the bridge (SDR32) at Low Etherley might survive as a buried structure	Low Etherley Bridge (site of)	Low
More evidence is required of what form the 1825 level crossings took and whether the same approach was always taken from the outset. Future road works at Greenfield Road could uncover evidence of a level crossing; therefore, any disturbance on the line of the incline on the highway should be monitored archaeologically.	Greenfield Road (and other possible level crossing sites)	Medium
Research led excavation with community involvement could uncover more information about the form of the engine house and how it worked.	Etherley Engine House	Low
Next steps in interpretation (see also main report).		
Task	Where	Priority
Transfer the iron bridge superstructure from NRM York to NRM Shildon and consider using as a viewing platform for observing events	From York to NRM Shildon	Medium
The engineman's house was only demolished in the 1980's and sufficient information exists to consider rebuilding it. This should be preceded by archaeological excavation.	Etherley Engineman's House	Low
Publish and sell Friends of the 1825 S&DR self-guided walks booklets		Medium
Develop smart phone applications as alternative off-site interpretation	Etherley Engine House; Gaunless Bridge area	Medium
Development proposals at Witton Keep should bear in mind that some of the buildings at the heart of this domestic dwelling may be of historic interest to the history of mining and the S&DR.	Witton Keep	N/A
The abandoned and semi-derelict East Park Farm at the north end of this section could provide a business and/or interpretation opportunity for the S&DR	East Park Farm	N/A

Policy and Management		
Subject to the results of trial trenching, designate field edge as scheduled monument with management plan to make the strip into a wildlife corridor	Field east of Bank Well Road, north of Phoenix Row	High
Any development proposals to the rear of the houses at Phoenix Row including rear extensions, should be accompanied by archaeological recording and any encroachment on to surviving remains avoided where these remains are beyond current legal property boundaries	Lane east of Phoenix Row	N/A
Explore the need to remove permitted development rights to the rear of the backyards at Phoenix Row	Land east of Phoenix Row houses	High (vulnerable)
Maintain historic field boundaries (hedgerows)	North of Phoenix Row	Medium
Ongoing vegetation clearance to keep path open to full extent	Etherley Incline from Low Etherley to Greenfields	High
No further development should be permitted on the line of the S&DR and where development takes place in proximity, design of new build and landscaping should be carefully considered to both maintain the character of the rail line and create accessible areas clearly marked out which coincide with the route.	Whole line	High
Any future permissions required at the former Bridge Inn should seek to restore historic character. If part of a S&DR Conservation Area, permitted development rights could be withdrawn here	Former railway inns including Bridge Inn	Low
The Bridge Inn should be included in a list of locally listed buildings	Bridge Inn, Low Etherley	
The culvert beneath the north incline, just south of Phoenix Row is in relatively good condition on the west side, but the east side has a slipped keystone which needs resetting.	Culvert south of Phoenix Row	Medium
Vegetation clearance of culverts and drains (ongoing management)	Culverts on Etherley incline	Medium
The dry stone wall boundary walls around the Etherley Engine house site are in poor condition and so the architectural fragments are vulnerable. Some consolidation is required.	Around Etherley Engine House	Medium
S&DR boundary wall sample repairs at South Etherley Incline	South of Greenfield Road to St. Helen's Auckland	High
The fruit trees (plum) originally planted by the enginemen have been recently cut down. New fruit trees could be planted on the site.	Etherley Engine House site	Low
Dog fouling is bad near Low Etherley and enforcement needs to take place	Low Etherley	High
Wooden sleepers have been reused along the line as gateposts and they should be retained.	Etherley	High
Resolving recent encroachment at St Helen's Auckland. Prosecution if necessary to prevent further encroachment.	113 Northbridge Park and 4 Leazes Court	High
Addressing historic encroachment at south end of Etherley incline and negotiating access	South end of Etherley Incline	High

Open space requires landscaping, encroachment removed and possibly subject of a community excavation. Also to include path creation. Prosecution if necessary to prevent further encroachment. Potential to work with parish council, local schools, community groups to design landscaping.	Northgate, Leazes Lane, St. Helen's Auckland	High
Record stone sleepers and store in depot if ex-situ or not earthfast (with a view to reusing them)	Various	High
Local police to be informed re legal status of remains and asked to patrol	St Helen's Auckland area and Gaunless Bridge area	High
Work with parish council (West Auckland) to develop landscaping scheme for Gaunless Bridge abutment area; remove graffiti, remove damaging trees and bushes	Setting of Gaunless Bridge (DCC owned land)	High
Implement Blackett-Ord recommendations (in part covered above)	Gaunless Bridge and accommodation bridge	High
Establish an adopt a monument scheme with local schools/ community groups to litter pick at Gaunless Bridge, keep river clear of fly tipping (not suitable for children) and start a programme of events and activities there	Gaunless Bridge area	Medium (after capital works)
Vegetation removal along riverbank to protect river wall	River Gaunless	Medium
Have portakabin removed from setting of Gaunless Bridges	Gaunless Accommodation Bridge	High
If trial excavation suggests survival, scheduling should be extended	Witton Keep track	High (vulnerable)
The two-hole stone sleepers that have been found around the bottom of Etherley Incline are now on private land and out of sight. This protects them from theft, but there are opportunities here for the owners (should they wish) to display them near the incline, possibly as a rockery or garden features, although some thought would be required to how best to secure them without damaging them.	Phoenix Row	Low
Enhanced access		
New decking for both Gaunless bridges as part of cycle trail	Gaunless Bridge and accommodation bridge	
The existing legal access is a footpath and is not suitable for cycling or access for people with mobility difficulties. Access for wheeled vehicles such as bicycles will conflict with the presence of stone sleepers. The path has to be wide enough to accommodate foot traffic, cyclists and stone sleepers and so while this is possible in places, it may need a cycle train to run alongside and not on it.	Etherley Incline	Medium
There is no current legally defined public access to this stretch of the incline and so a legal access would require negotiation. Ecological conflicts so desire lines show an existing route west of the incline through woodland to DCC owned land.	South stretch of Etherley Incline	High

Clear fly tipping at St Helen's Auckland and re-open access on line	St Helen's Auckland	High
Vegetation removal along path at Gaunless Bridge	Gaunless Bridge and river	High
Replace narrow footbridge with wider bridge suitable for cycles	River Gaunless	Low