

The Vyrnwy Aqueduct Modernisation Programme

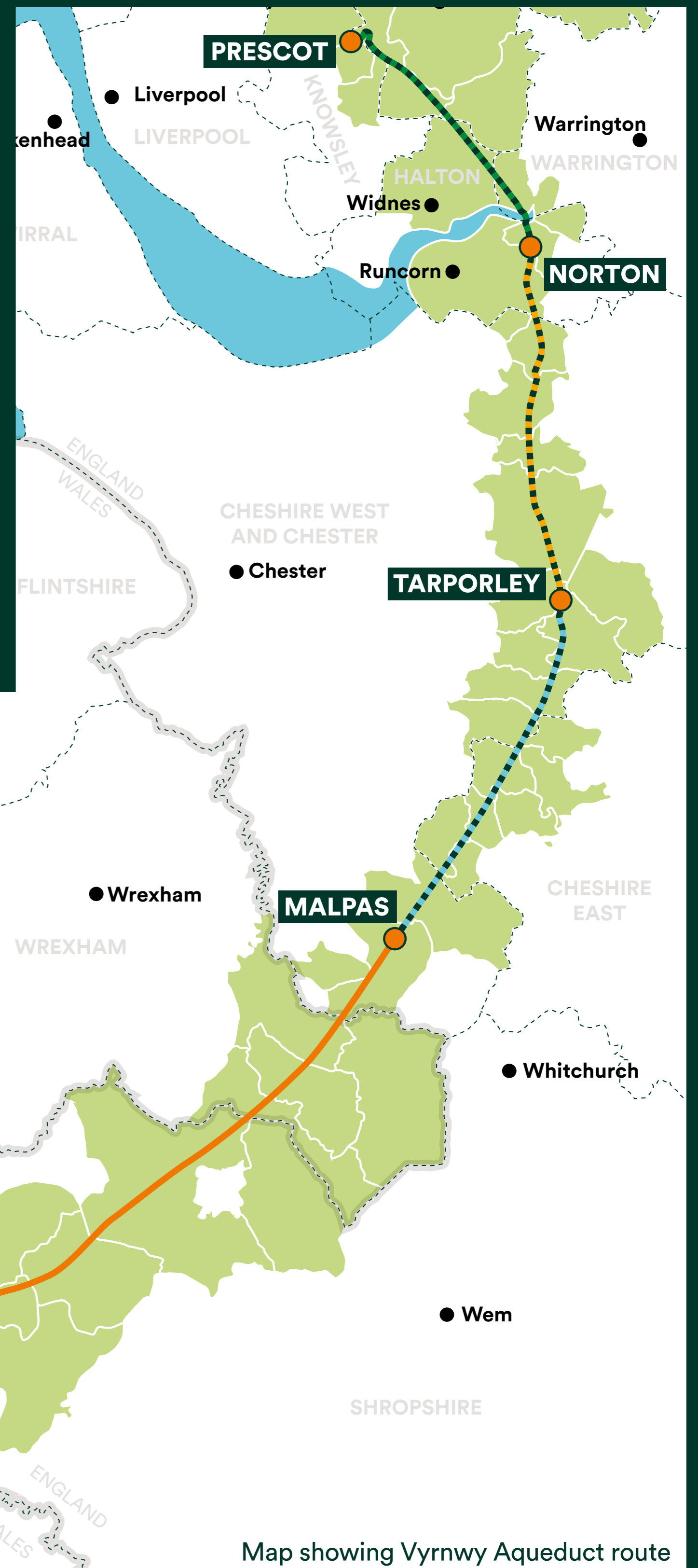
Welcome to our exhibition on the proposals for the Vyrnwy Aqueduct Modernisation Programme

About the Vyrnwy Aqueduct

The Vyrnwy Aqueduct runs from Lake Vyrnwy through to Merseyside. It was first installed in 1892 and has helped deliver clean, wholesome drinking water to customers and communities across Cheshire, Merseyside and the wider North West region. The aqueduct system comprises of three parallel pipelines, referred to as Lines 1, 2 and 3. Each line is 42 inches (over 1 metre) in diameter and has a combined distance of 110km in length.

- Line 1 is made of cast iron and was constructed between 1881 and 1892
- Line 2 is made of cast iron and was constructed between 1902 and 1905
- Line 3 is made of steel and was constructed between 1926 and 1938

We now need to carry out some work on the three pipelines to ensure the quality of the drinking water for those currently supplied by the Vyrnwy aqueduct.



Construction of the aqueduct in the late 1920s

Why do we need to do this work?

We have a duty to work with our regulators to ensure the drinking water supplies in the North West are the highest quality.

Over time, a build-up of minerals can occur within the aqueduct pipelines from the water running through them. These minerals don't pose any health risks but can result in discolouration of the water and be detrimental to the internal condition of the pipe.

What have we done so far?

We've already carried out upgrades at our water treatment works and refurbished around 40% of the pipeline which runs south of Malpas. We're now planning work for the remaining sections of the aqueduct.

What these proposals mean for the region

- Securing a long-term, fresh drinking water supply for the North West
- The creation of jobs locally across the North West
- Huge investment into the local and regional economy
- Opportunities to improve your local area and engage local communities

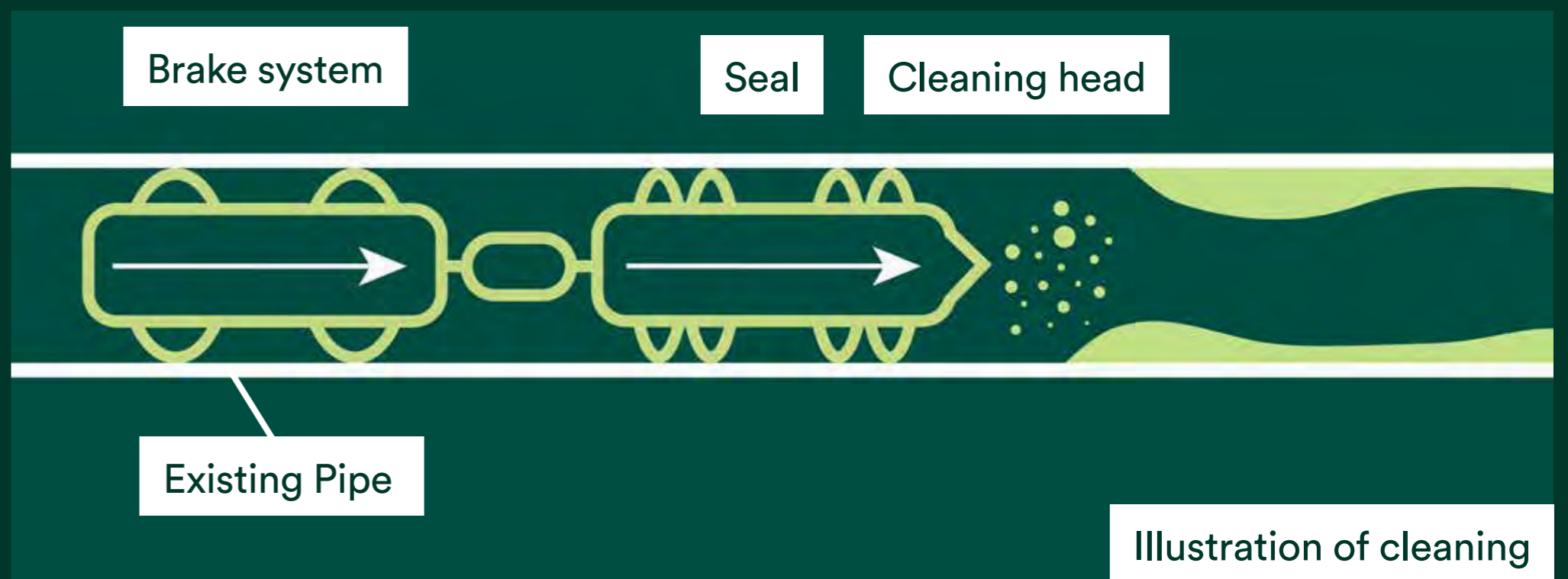
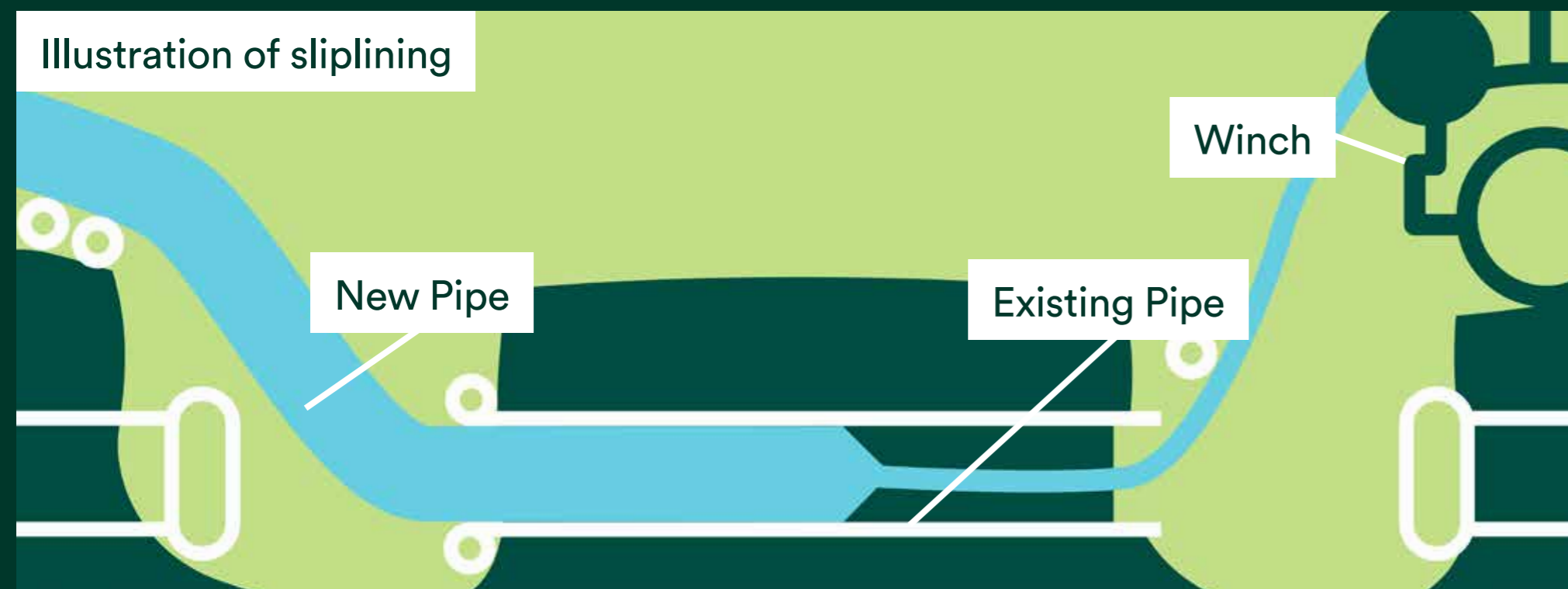
What our work will involve

As the pipes are constructed of different materials, and some sections are newer than others, we will use two methods of refurbishment; cleaning and lining.

Due to the ages of line 1 and line 2, we will need to reline the pipelines which will require inserting a new, slightly smaller diameter plastic pipe inside the old main, creating a brand new pipe. This process is called sliplining.

The more modern Line 3 which is made of steel will be cleaned to remove minerals that have built up over time.

Below is an illustration of a cleaning method we will use.



In order to maintain the water supply to our customers throughout the refurbishment programme, we will not work on all three lines of the aqueduct at the same time. This means that there will be periods of time where there is no activity at some sites while we work at other locations.

Working areas

The majority of our work will be carried out in private land at various locations along the pipeline route. Both methods, cleaning and sliplining, will involve digging holes at regular intervals so that we can access our underground pipes.

At each location we will create a secure working area to accommodate the necessary machinery, plant, equipment and staff.

The size of our working areas will be dictated by the work required at each location.

To carry out this work, we will have 3 main types of working areas:

- Launch site
- Winch site
- Intermediate site

What will our working areas look like?

Launch site

Launch sites will be our largest working area where the new pipe will be delivered to site and stored. Once prepared, sections of new prefabricated pipe will be welded together before they are inserted into the existing aqueduct.

In most locations, our launch sites are 100 metres long to accommodate our working area. However, in some locations, the launch site could be used to insert the pipe in two directions making a working area up to 200 metres long, similar to the length of two football pitches.

These sites would typically contain:

1. Digging a hole in the ground to create an opening and provide access to the existing aqueduct.
2. Topsoil strip and storage.
3. New welded pipes ready to be inserted into the aqueduct.
4. Welding unit to join the new pipes together.
5. Storage area for new pipe lining sections ready to be welded together.
6. Staff welfare areas and parking.





Winch site

Winch working areas will be used to help pull and guide the new pipe that has been inserted from a launch pit, which could be from up to 800m away. This site will need a 50 metre long by 25 metre wide working area, similar to the size of an olympic swimming pool.

Intermediate site

Additional sites will be required along the pipeline where we have existing valves and connection points. At these locations, we will need to dig down and replace the existing equipment. A working area of 25 metres long by 25 metres wide is needed for this work.

All of our sites may also require:

- Alterations to existing, or creation of new access points off the highway to provide access to our working areas.
- Environmental protection measures such as ground water systems and specialist ecological fencing.
- Specialist fencing and gates to protect farm animals.

Construction Traffic

There will be an increase in construction vehicles while we carry out this work and travel between our sites transporting machinery, materials, people and pipes.

The number and size of vehicles will vary as our work progresses and will be at intermittent periods, so there will be times of no activity on site while we are working at other locations.

Information on the typical vehicle sizes and numbers for each working area can be seen opposite.

We'll make sure that traffic management plans are in place to minimise disruption for the community and the local road network.

Launch site

Typical vehicle movements **15-40 / week**

Light Vehicles

HGV

 **85%**

 **15%**

Winch and intermediate sites

Typical vehicle movements **10 - 30 / week**

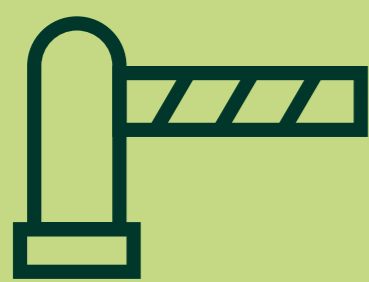
Light Vehicles

HGV

 **95%**

 **5%**

More about our work

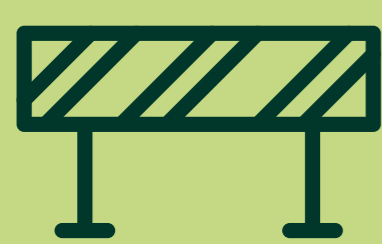


Site access points - To get into our working areas we will use existing accesses where possible. In some locations we will need to install new gates or alter existing ones to make them large enough for construction vehicles.

You can find out more information on our access point requirements within the area specific boards.



Tree and hedgerow removal - We'll do everything we can to minimise the impact on trees, hedgerows and the environment while setting up our working areas and access points. As part of our maintenance programme we will aim to enhance the local environment where feasible.



Work in the road - We may need to put temporary traffic management in place such as traffic lights, speed restrictions and in some instances we may need to temporarily close the road. We recognise the disruption this can cause and will continue working with the local highways authority, local residents and businesses.



Visual and noise impact - This is a large construction project so you will notice and hear our teams as the work takes place. We will be considerate to the local communities around our working areas, providing advance notice of any particularly disruptive elements of work. If there are any problems you can contact us anytime of the day or night, 365 days a year.

Area 01

Our work within this area is located within Malpas Parish and No Mans Heath and District Parish in Malpas Ward.

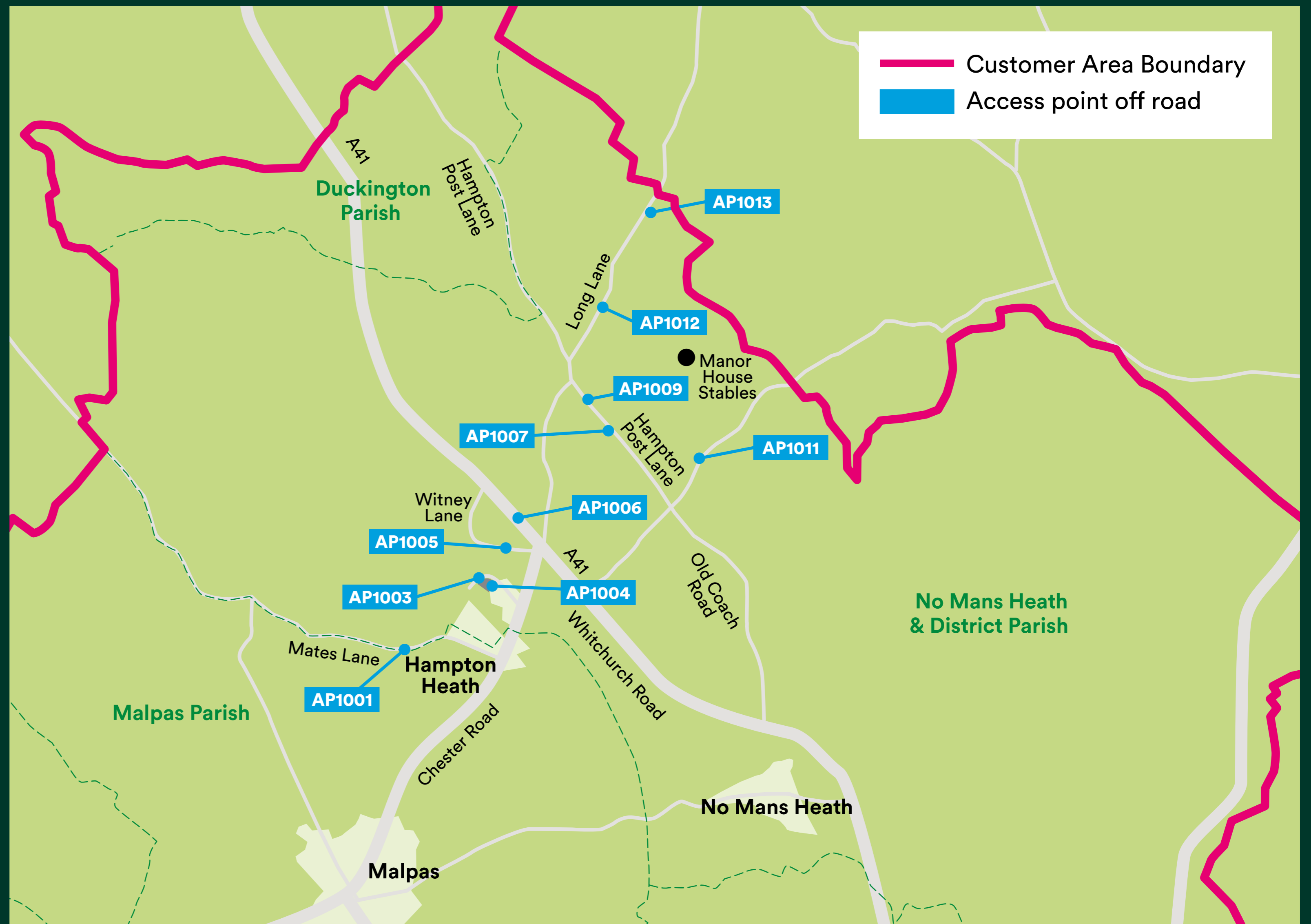
Local authority: Cheshire West and Chester

Parliamentary constituency: Eddisbury

Within the map and table, you can find more information on the location and requirements for each access point. These will be the designated points of entry off the road to our working areas.

We welcome your comments and feedback which can be submitted via our [feedback form](#). It would be appreciated if you can indicate the access point reference in your response.

More information on the programme of works in this area can be found on our [live updates page](#).



Access Point	Ward	Parish	Road	Access Requirements
AP1001	Malpas	Malpas	Mates Lane	Use of an existing access point for launch working areas.
AP1003	Malpas	No Mans Heath and District	Industrial Estate	New temporary access point installed to facilitate intermediate working areas.
AP1004	Malpas	No Mans Heath and District	Industrial Estate	Use of an existing access for storage.
AP1005	Malpas	No Mans Heath and District	Witney Lane	Existing access point widened to facilitate intermediate working area. Temporary traffic management required when reinstating access in 2025.
AP1006	Malpas	No Mans Heath and District	A41	New temporary access point installed to facilitate launch working area. Temporary traffic management required when reinstating access in 2025.
AP1007	Malpas	No Mans Heath and District	Coach Road	Existing access point widened to facilitate winch and intermediate working areas.
AP1009	Malpas	No Mans Heath and District	Coach Road	Existing access point widened to facilitate winch and intermediate working areas.
AP1011	Malpas	No Mans Heath and District	Shay Lane	Use of an existing access for launch working areas.
AP1012	Malpas	No Mans Heath and District	Long Lane	Access point no longer required.
AP1013	Malpas	No Mans Heath and District	Long Lane	Use of an existing access for launch and intermediate working areas.

Area 02

Our work within this area is located within Bickerton & Egerton Parish and Bulkeley & Ridley Parish in Wrenbury Ward.

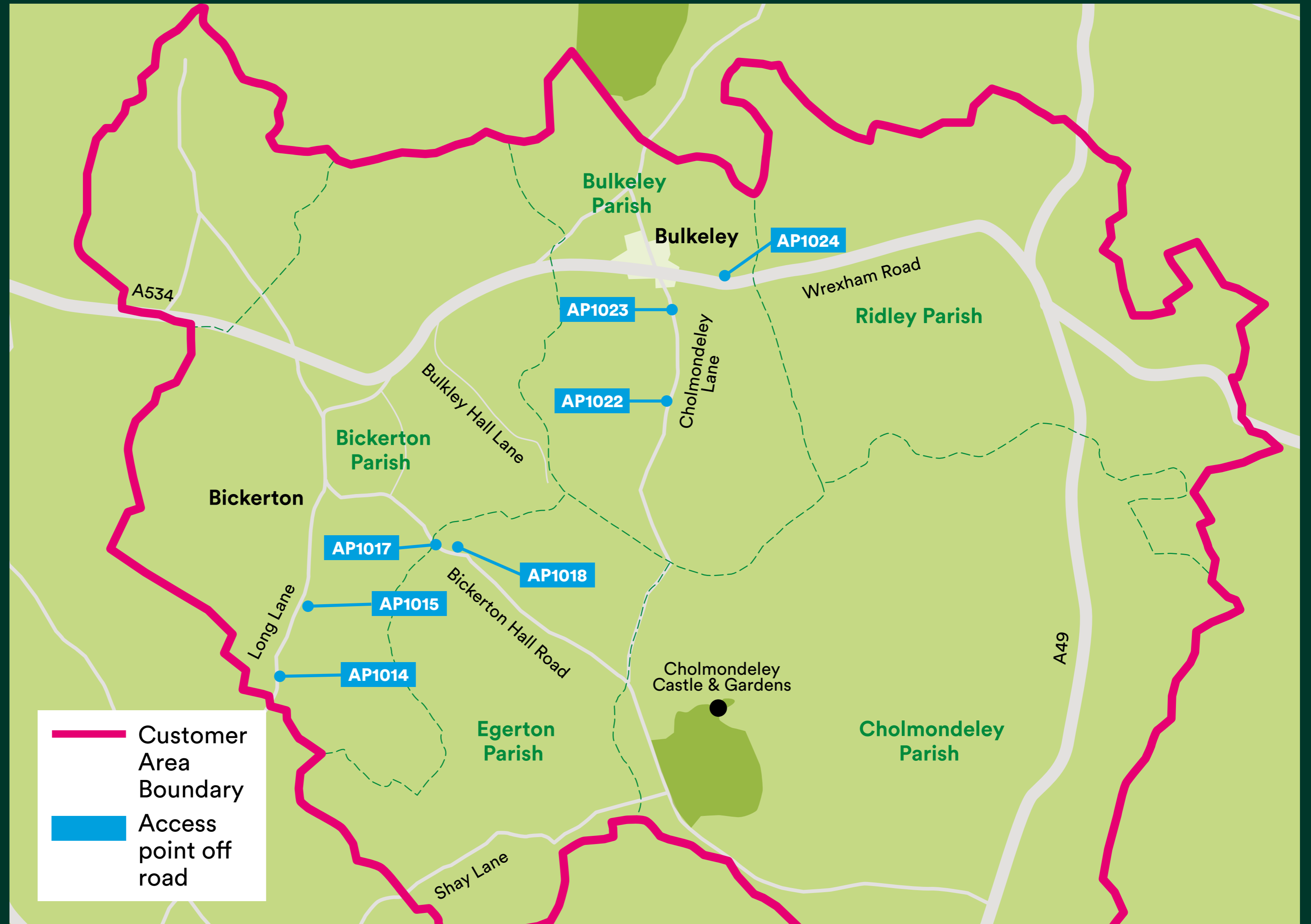
Local authority: Cheshire East

Parliamentary constituency: Eddisbury

Within the map and table, you can find more information on the location and requirements for each access point. These will be the designated points of entry off the road to our working areas.

We welcome your comments and feedback which can be submitted via our [feedback form](#). It would be appreciated if you can indicate the access point reference in your response.

More information on the programme of works in this area can be found on our [live updates page](#).



Access Point	Ward	Parish	Road	Access Requirements
AP1014	Wrenbury	Bickerton	Long Lane	Existing access point widened to facilitate launch and intermediate working areas.
AP1015	Wrenbury	Bickerton	Long Lane	Existing access point widened to facilitate launch and intermediate working areas.
AP1017	Wrenbury	Egerton	Bickerton Hall Road	Use of an existing access for winch working area.
AP1018	Wrenbury	Egerton	Bickerton Hall Road	Existing access point widened to facilitate launch and intermediate working area. Temporary traffic management required during sliplining phases of construction.
AP1022	Wrenbury	Bulkeley	Cholmondeley Lane	Existing access point widened to facilitate launch working areas.
AP1023	Wrenbury	Bulkeley	Cholmondeley Lane	Existing access point widened to facilitate launch working area.
AP1024	Wrenbury	Bulkeley	Wrexham Road (A534)	Existing access point widened to facilitate launch and intermediate working areas.

Area 03

Our work within this area is located within Peckforton Parish in Wrenbury Ward and Beeston Parish in Tattenhall Ward.

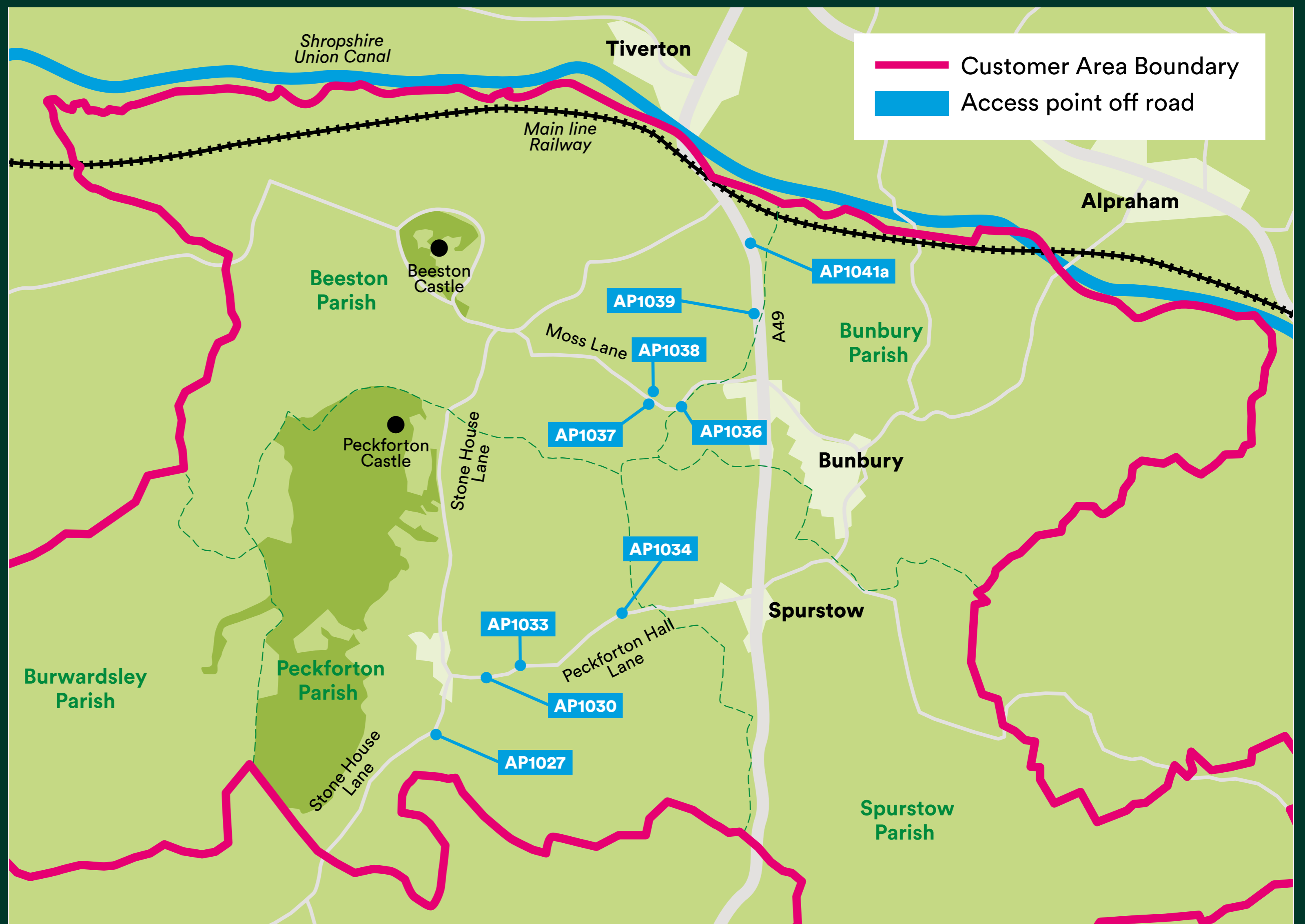
Local authority: Cheshire West and Chester & Cheshire East

Parliamentary constituency: Eddisbury

Within the map and table, you can find more information on the location and requirements for each access point. These will be the designated points of entry off the road to our working areas.

We welcome your comments and feedback which can be submitted via our [feedback form](#). It would be appreciated if you can indicate the access point reference in your response.

More information on the programme of works in this area can be found on our [live updates page](#).



Access Point	Ward	Parish	Road	Access Requirements
AP1027	Wrenbury	Peckforton	Stone House Lane	Existing access point widened to facilitate launch and intermediate working areas.
AP1030	Wrenbury	Peckforton	Peckforton Hall Lane	Existing access point widened to facilitate launch and intermediate working areas. Temporary traffic management required during sliplining phases of construction.
AP1033	Wrenbury	Peckforton	Peckforton Hall Lane	Existing access point widened to facilitate launch and intermediate working areas. Temporary traffic management required during sliplining phases of construction.
AP1034	Wrenbury	Peckforton	Peckforton Hall Lane	New temporary access point installed to facilitate launch working area.
AP1036	Tattenhall	Beeston	Moss Lane	Use of an existing access for intermediate working area.
AP1037	Tattenhall	Beeston	Moss Lane	Existing access point widened to facilitate winch working area. Temporary traffic management required during sliplining phases of construction and public right of way to be diverted around working areas.
AP1038	Tattenhall	Beeston	Moss Lane	Existing access point widened to facilitate winch working area. Temporary traffic management required during sliplining phases of construction.
AP1039	Tattenhall	Beeston	Whitchurch Road (A49)	Use of an existing access for launch and intermediate working areas.
AP1041a	Tattenhall	Beeston	Whitchurch Road (A49)	Use of existing access point for winch working area.

Area 04

Our work within this area is located within Tiverton and Tilstone Parish in Tattenhall Ward and Parishes of Rushton & Tarporley in Tarporley Ward

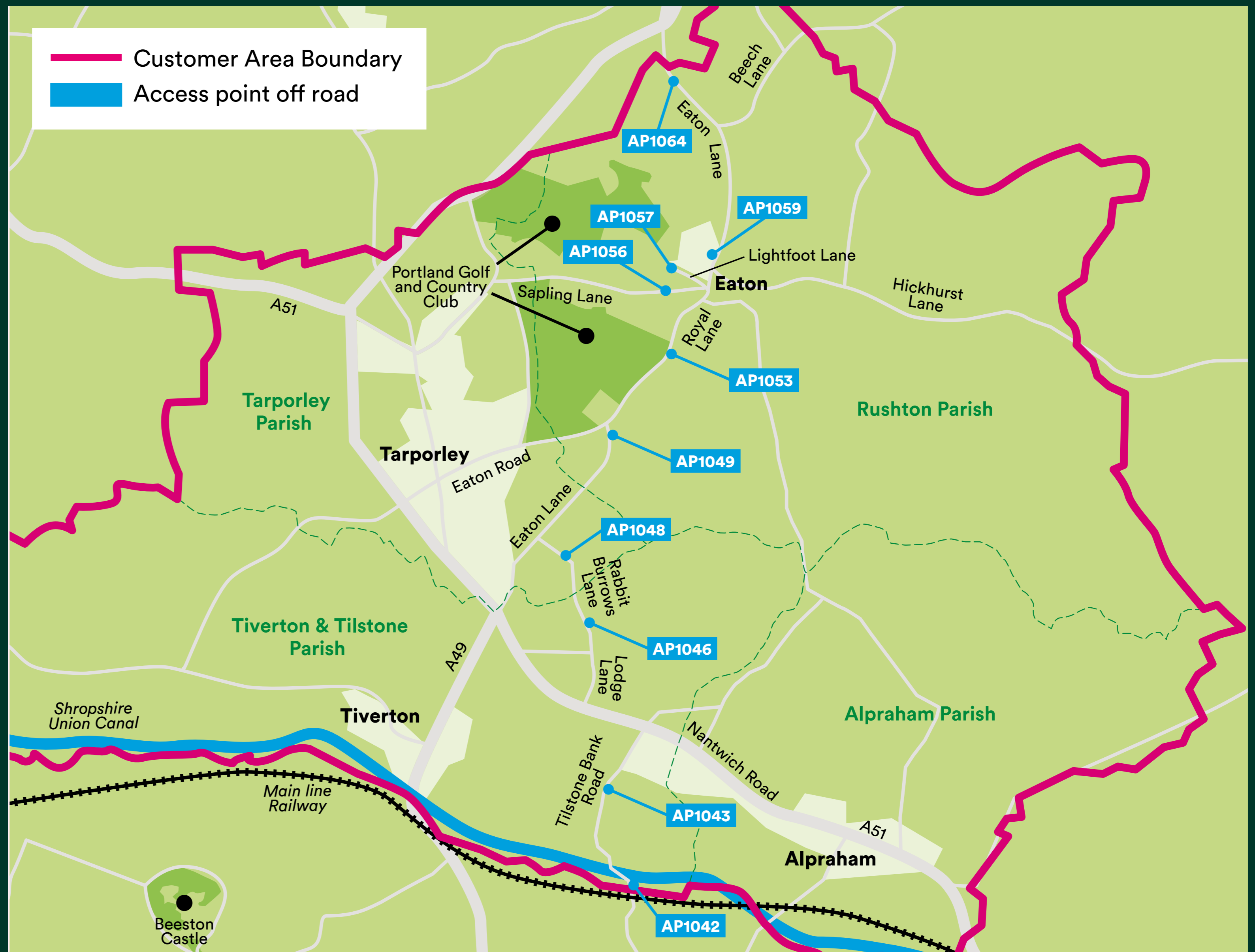
Local authority: Cheshire West and Chester

Parliamentary constituency: Eddisbury

Within the map and table, you can find more information on the location and requirements for each access point. These will be the designated points of entry off the road to our working areas.

We welcome your comments and feedback which can be submitted via our [feedback form](#). It would be appreciated if you can indicate the access point reference in your response.

More information on the programme of works in this area can be found on our [live updates page](#).



Access Point	Ward	Parish	Road	Access Requirements
AP1042	Tattenhall	Tiverton and Tilstone	Tilstone Bank Road	Use of an existing access point for intermediate working area.
AP1043	Tattenhall	Tiverton and Tilstone	Tilstone Bank Road	Use of an existing access for launch and intermediate working areas.
AP1046	Tattenhall	Tiverton and Tilstone	Lodge Lane	Use of an existing access for winch working areas. Temporary road closure and traffic management required during sliplining phases of construction. Public right of way to be diverted around working areas.
AP1048	Tarporley	Tarporley	Rabbit Burrows Lane	Existing access point widened to facilitate intermediate working areas. Public right of way to be diverted around working areas.
AP1049	Tarporley	Rushton	Eaton Lane	Existing access point widened to facilitate launch and intermediate working areas. Public right of way to be diverted around working areas.
AP1053	Tarporley	Rushton	Royal Lane	Existing access point widened to facilitate launch and intermediate working areas.
AP1056	Tarporley	Rushton	Sapling Lane	Temporary road closure required along Sapling Lane during some phases of construction to access existing underground equipment within the road.
AP1057	Tarporley	Rushton	Lightfoot Lane	Access point not required.
AP1059	Tarporley	Rushton	Eaton Lane	Existing access point widened to facilitate launch, intermediate and winch working areas.
AP1064	Tarporley	Rushton	Eaton Lane	Access point not required.

Next Steps

To help us to plan and carry out this important modernisation programme we have already started some initial preparation work.

Stakeholder and customer engagement

Continuous engagement with our customers and other stakeholders including landowners, highways authorities, councillors and other interested groups and organisations to provide valuable feedback on our plans.

Utility surveys

To identify and locate existing utility services (such as gas, water and electricity) in the footprint of the working areas.

Enabling works

We need to carry out some essential upfront work which will involve installing new underground equipment, installing or altering existing access points off the highway, preparing temporary working areas and completing site investigations.

Ecology surveys

To understand ecological constraints local to our working areas.

Programme for Malpas to Tarporley		
2021		Stakeholder early engagement
2022	Early	Launch Virtual Exhibition
		Apply for planning permission for Malpas to Tarporley Section
	Spring / Summer	Begin programme of enabling works
		Continue environmental surveys
	Late	Appoint contractor
Environmental protection measures in place		
2023	January	Continue enabling works
	February	Public drop in sessions in local communities
	March	Start cleaning phase of work
	Summer	Start lining work on Malpas to Tarporley Section
	Autumn	Complete cleaning work on Malpas to Tarporley Section
2025	Early	Complete lining work on Malpas to Tarporley Section
	Late	Reinstate working areas on Malpas to Tarporley Section

More information on work in your area

More information on the programme of works in this area can be found on our live updates page.

We will keep you updated regularly throughout this work as our programme progresses.