

# HyNet North West

## What happens offshore?

The CO<sub>2</sub> will be transported in an existing pipeline under the sea from the foreshore at Talacre, in North Wales, to multiple existing offshore platforms, located in Liverpool Bay. From here, the CO<sub>2</sub> will be injected into the depleted gas reservoirs.

The depleted reservoirs are a safe, secure and natural way to store the captured CO<sub>2</sub>. We are reusing these natural features, which have stored fossil fuels for millions of years.

The offshore CO<sub>2</sub> pipeline does not form part of this consultation. We will consult with the relevant stakeholders on the offshore works, to ensure their views are taken into account and incorporated into the offshore design.



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# HyNet North West

The preferred route represents our current plan of where we estimate the pipeline will be routed. We will continue to refine the route up until we submit our application for development consent.

## The preferred CO<sub>2</sub> pipeline route

The preferred route represents our current estimate, as the route will be refined up until we submit our application for development consent.

The newbuild CO<sub>2</sub> pipelines will be buried underground along their entire length. The minimum depth from the top of the pipe to the ground surface will be in accordance with relevant standards. This is typically 1.2m in open cut sections. It will be deeper for trenchless crossings to avoid existing services and physical obstructions and to take account of the higher ground loading.



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## Above Ground Installations (AGIs)

The four Above Ground Installations ('AGIs') will be located in compounds no greater than 80m x 70m in size (excluding its access track) with secure fencing up to 3m high incorporating a double access gate for vehicles. The compounds would not be permanently lit but would include lighting which would be used when the AGI is undergoing maintenance.

The AGIs will be designed to accommodate the following:

- Pipeline inspection gauge (PIG) launcher facilities.
- Connection point, PIG receiver, and high-integrity pressure protection system (HIPPS).
- Associated infrastructure (control

mechanisms, lighting, parking provisions, access arrangements, and electrical and instrumentation kiosks).

Each AGI compound would be appropriately screened with landscaping and planting, including trees and shrubs.

The four AGIs will be Ince, Stanlow, Northop Hall and Flint.

## Block Valve Stations (BVS)

In some locations along the pipeline, installations called 'Block Valve Stations ('BVSs')' may be installed.

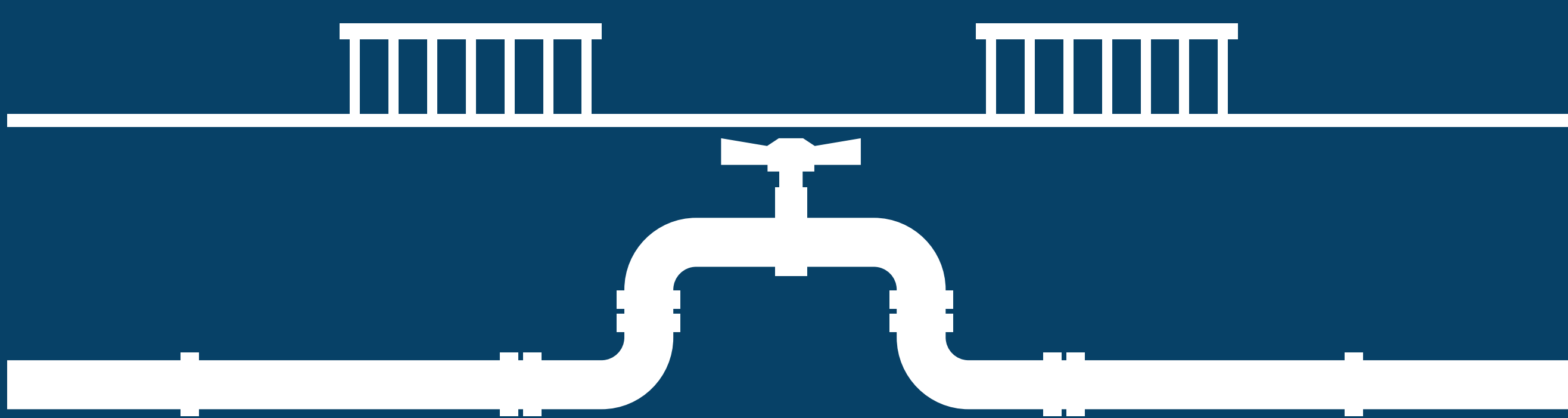
BVSs are used to isolate sections of pipeline to allow maintenance to take place.

Leak detection systems installed along the pipeline would identify if a leak has occurred, and at what location. If a leak occurs, the appropriate BVS would be remotely closed to isolate that section of pipeline. Each BVS would also have a local bypass valve as a backup.

There will be seven BVSs along the CO<sub>2</sub> pipeline. These are shown on the maps and further details are provided below.

BVS Name	Description and dimensions	Access
Stanlow to Flint CO <sub>2</sub> pipeline		
Rock Bank	Rock Bank BVS is located within the Parish of Backford, between the settlements of Chorlton and Caughall. The compound will measure approximately 35m x 30m.	Access to the BVS will be via Chorlton Lane.
Mollington	Mollington BVS is located within the Parish of Mollington, approximately 300m west of the village of Mollington. The compound will measure approximately 35m x 30m.	Access to the BVS will be via Overwood Lane, which connects to the A540 Parkgate Road to the south.
Aston Hill	Aston Hill BVS is located within the Parish of Hawarden in an urban area between the settlements of Mancot, Pentre, Hawarden, Ewloe and Shotton. The compound will measure approximately 35m x 30m.	Access to the BVS will be via Lower Aston Hall Lane.
Flint – PoA Pipeline		
Coed-y-Cra	Coed-y-Cra BVS is located in the Parish of Flint, in a rural area between the settlements of Flint and Pentre Halkyn. The compound will measure approximately 35m x 30m.	Access will be via the unnamed road which links Cornist Lane with Sylfaen Farm.
Cornist Lane	Cornist Lane BVS is located in the Parish of Flint, in a rural area between the settlements of Flint and Pentre Halkyn. The compound will measure approximately 35m x 30m	Access will be via either Cornist Lane or Lleprog Lane.
Pentre Halkyn	Pentre Halkyn BVS is located in the Parish of Brynford, approximately 700m south of the village of Brynford. The compound will measure approximately 35m x 30m.	Access will be via the B5121 Ally Y Chwiler.
Babell	Babell BVS is located in the Parish of Ysceifog, on the outskirts of the settlement of Babell. The compound will measure approximately 35m x 30m.	Access will be via Hollywell Road

The block valves will be installed below ground, with some elements of the Block Valve Station that will be visible above ground. The block valves will be enclosed within a fenced secure site.

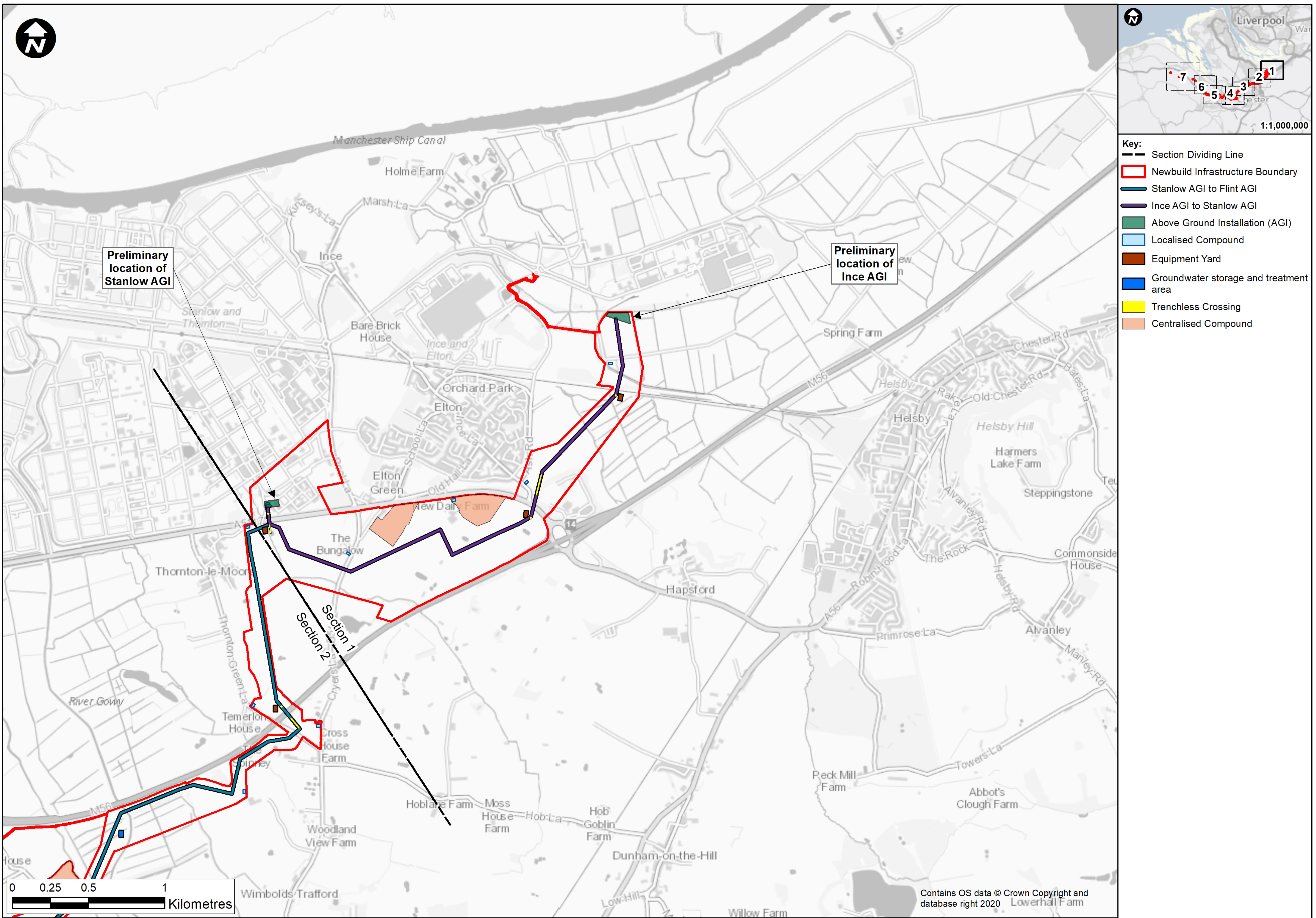


Once we develop the designs for the pipeline in more detail, we will determine the precise location and sizes of these Block Valve Stations.





# HyNet North West



## Section 1

Section 1 is located entirely within the Cheshire West and Chester Local Authority boundary, and spans four Parish boundaries (Ince, Elton, Dunham on the Hill and Hapsford, and the Cheshire West and Chester unparished area).

Section 1 captures the entire Ince to Stanlow CO<sub>2</sub> pipeline route, including the associated AGIs. It includes the Ince AGI, located adjacent to the existing CF Fertiliser Plant off Marsh Lane, and the Stanlow AGI, located within the existing Stanlow Manufacturing Complex which is located north of the A5117 and west of Elton Green.

Starting at the Ince AGI, the 20” pipeline heads approximately south crossing the Hapsford railway line (including a spur to an existing depot which serves the CF Fertiliser Plant). The route continues north of the M56 Chester Services (junction 14) before crossing the A5117 and heading in a south-westerly direction, south of Elton.

The route continues west before heading in a north-westerly direction towards Thornton-le-Moors. The route crosses the B5132 Cryers Lane, before heading northwards to the Stanlow AGI.



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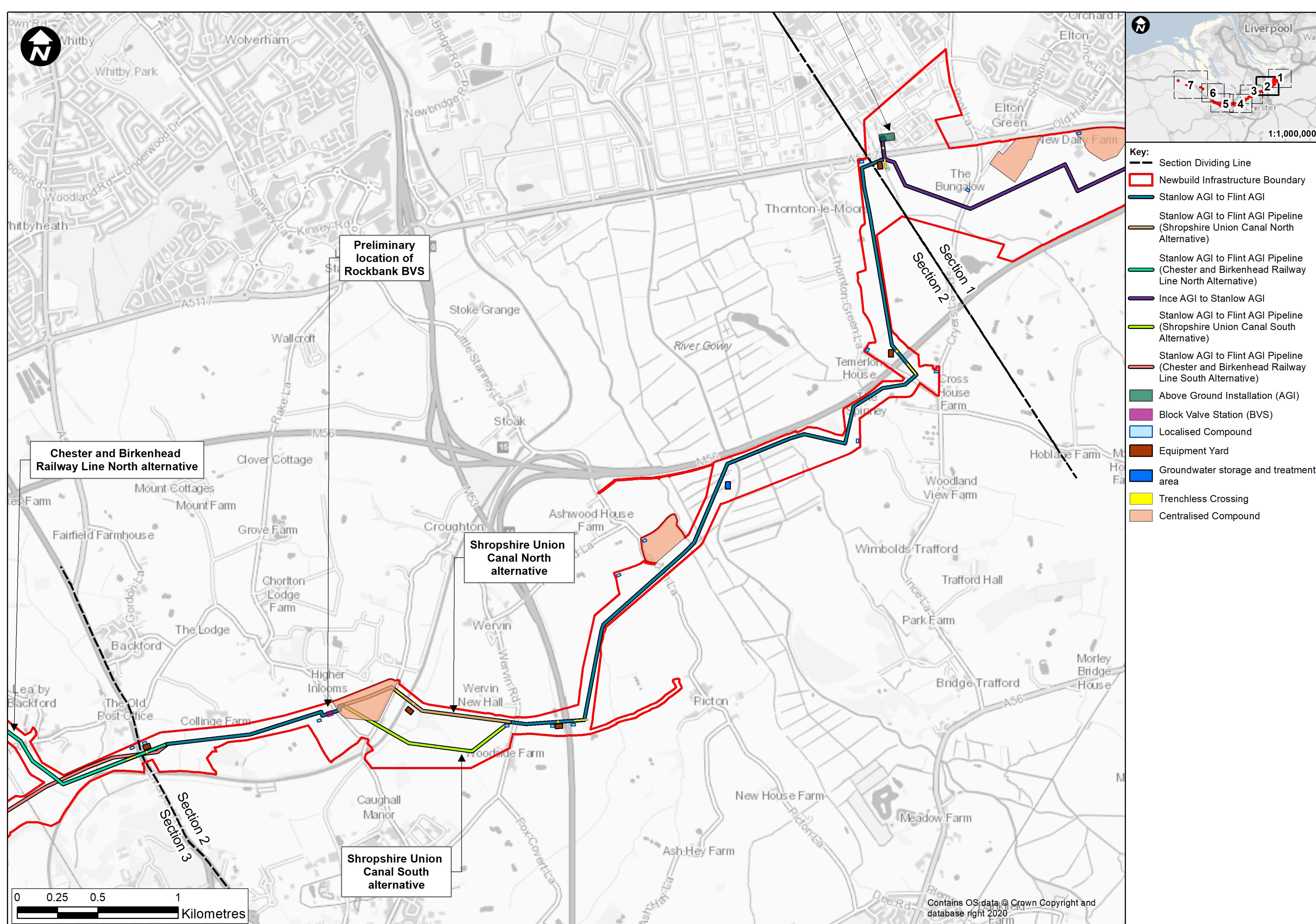
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## Section 2

Section 2 is located entirely within the Cheshire West and Chester Local Authority boundary and spans four Parish boundaries (Thornton-le-Moors, Mickle Trafford & District, Wervin, and Backford). Section 2 signals the start of the Stanlow to Flint CO<sub>2</sub> pipeline and contains the Rock Bank BVS, located between the settlements of Chorlton and Caughall.

From the Stanlow AGI, the route of the Stanlow to Flint CO<sub>2</sub> pipeline heads south, crossing the A5117 School Lane before continuing on a southward trajectory east of Thornton le Moors and the Gowy Meadows Nature Reserve. The route crosses the M56 before heading in a south-westerly direction crossing the River Gowy and North Cheshire Way (long distance footpath). This section also has two offshoots for temporary construction access routes. The route crosses Picton Lane before heading south of Wervin and makes a sharp turn west before crossing the M53. From the M53, the route runs broadly westwards through arable fields to the north of Chester, crossing the Shropshire Union Canal where two options are under consideration.

- Shropshire Union Canal North: The pipeline route continues in a westerly direction and crosses the Shropshire Union Canal approximately 420m west of Wervin New Hall before heading west towards Chorlton Lane.
- Shropshire Union Canal South: The pipeline route continues in a south-westerly direction for 300m before heading west and crossing the Shropshire Union Canal 600m south-west of Wervin New Hall. The pipeline continues in a north-westerly direction towards Chorlton Lane.

The pipeline route then continues in a westerly direction before crossing the A41 Liverpool Road.



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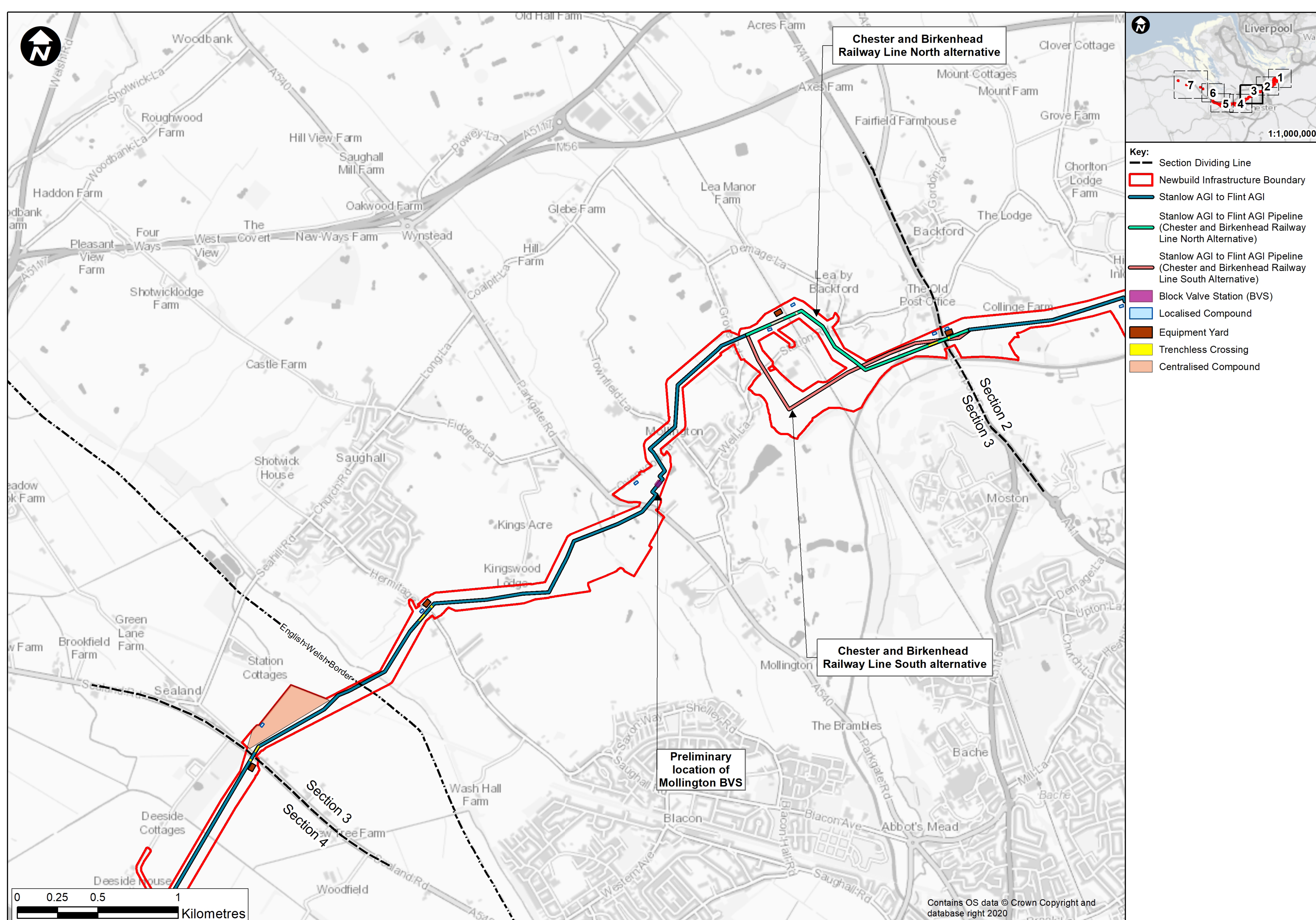
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# HyNet North West



## Section 3

Section 3 is located predominantly within the Cheshire West and Chester Local Authority boundary, but part of the Section is located within Flintshire Local Authority boundary. It spans five parish and community council boundaries (Backford, Lea-by Backford, Mollington, Saughall and Shotwick Park, and Sealand). This section includes the Mollington BVS. Heading west from the A41, the route crosses the Chester and Birkenhead Railway Line, where two crossing options are under consideration.

- Chester and Birkenhead Railway Line North: The pipeline route heads in a north-westerly direction for approximately 500m crossing Station Road before turning back in a westerly direction to cross the Chester and Birkenhead Railway Line and continue towards Mollington.
- Chester and Birkenhead Railway Line South: The pipeline route heads in a south-westerly direction for approximately 500m crossing the Chester and Birkenhead Railway Line before turning back in a north-westerly direction to cross Station Road. The route then take a sharp turn to head in a westerly direction towards Mollington. The route starts to head in a south-westerly direction, avoiding the settlement of Mollington, before crossing the A540 Parkgate Road. At this point, the route exits the Cheshire Plain and crosses the border into Wales. At the border between Wales and England, the route continues to head in a south-westerly direction and crosses the A548 Sealand Road.



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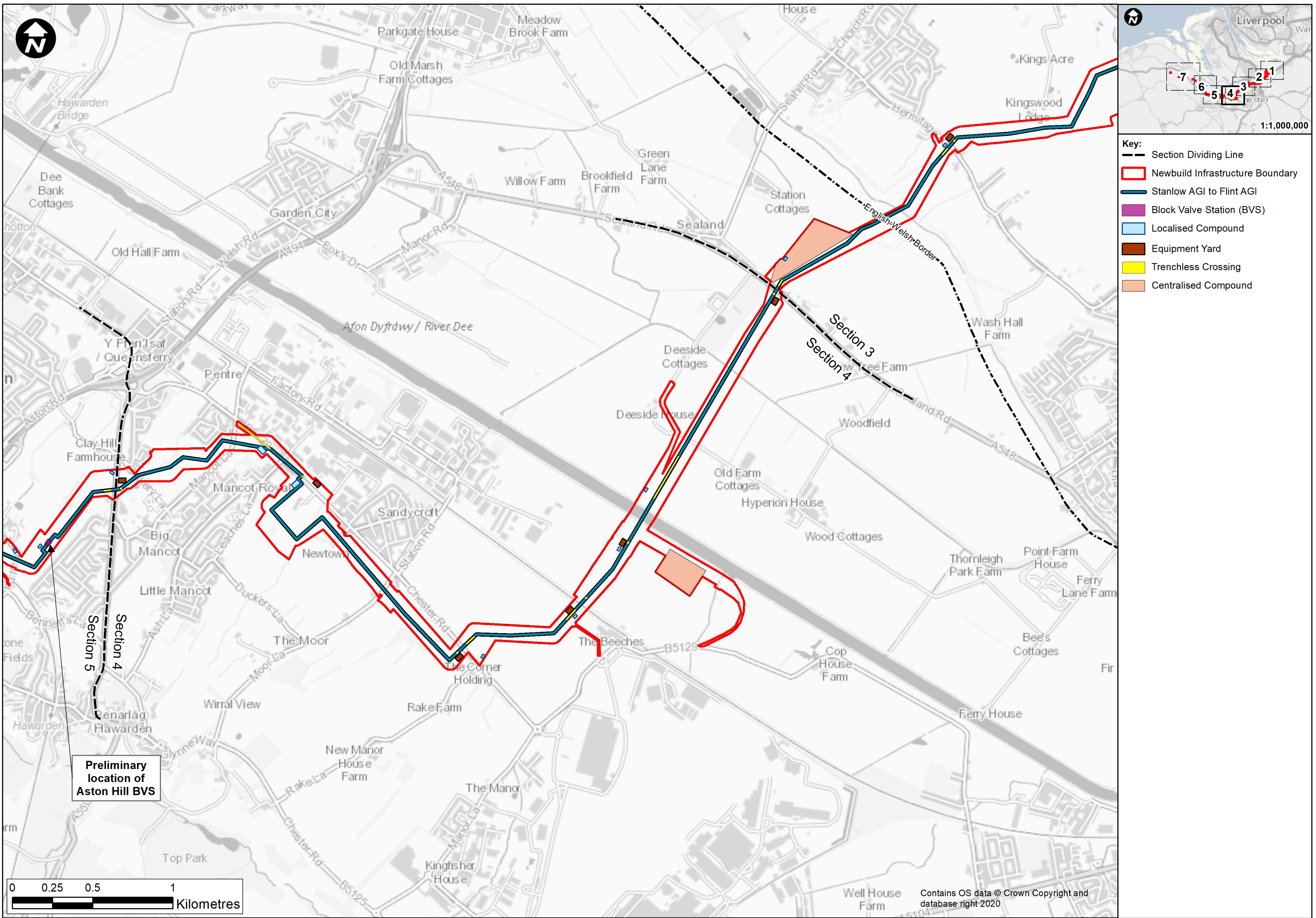
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## Section 4

Section 4 is located entirely within the Flintshire Local Authority boundary, and spans three Community boundaries (Sealand, Queensferry, and Hawarden).

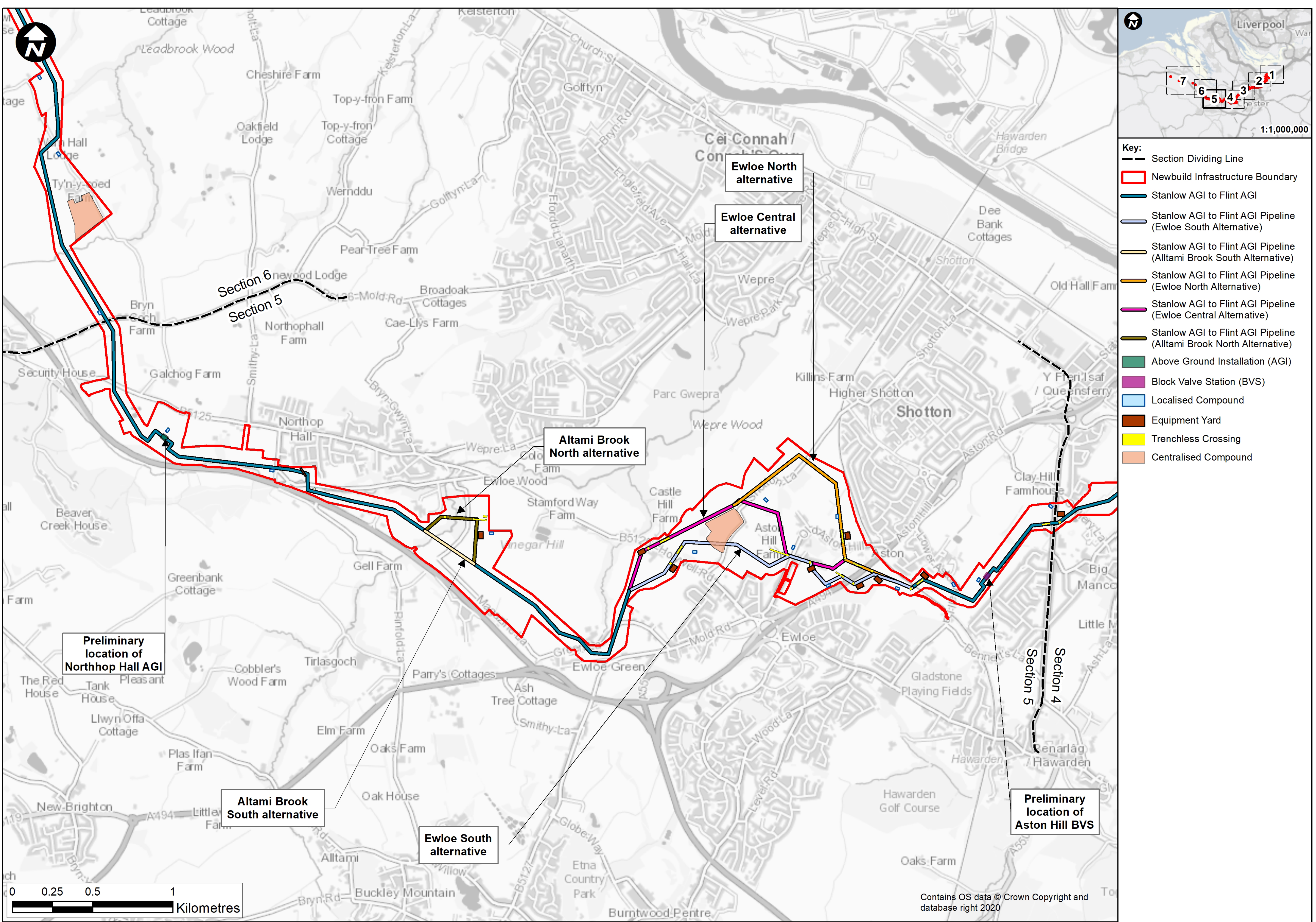
From the A548 Sealand Road, the route crosses the River Dee (Afon Dyfrdwy) and North Wales Coast Line before turning west. There are three offshoots to allow for the construction of temporary access roads in this location. The route crosses the B5129 Chester Road East heading north-west towards the built-up sub-urban edge of Sandycroft, Mancot, and Queensferry.

The route weaves past residential areas and crosses several minor roads before turning westwards and ending at Willow Park. Heading in a westerly direction, the route weaves through the residential areas of Mancot, Pentre, before crossing the A550 Gladstone Way.





# HyNet North West



## Section 5

Section 5 is located entirely within the Flintshire Local Authority boundary, and spans three Community boundaries (Hawarden, Northop Hall, and Northop). It includes the Aston Hill BVS and Northop Hall AGI.

From the A550 Gladstone Way, the route heads west before crossing the Wrexham to Bidston (Borderlands) railway line and A494 Aston Expressway. At this point, the section is wider to account for several route options which are being considered:

- Ewloe North: the route would head north crossing Old Aston Hill and Shotton Lane before heading in a south-westerly direction towards the B5125 Holywell Road.
- Ewloe Central: the route would head west underneath Church Lane before heading north of Aston Hill Farm. The route would cross Shotton Lane before heading in a south-westerly direction towards the B5125 Holywell Road.
- Ewloe South: the route would head west underneath Church Lane before heading south of Aston Hill Farm. The route would cross Shotton Lane before heading in a south-westerly direction towards the B5125 Holywell Road.

These options are being considered to take account of environmental, planning, and technical constraints in the area. All three route options re-convene just south of the

B5125 Holywell Road before heading in a south-westerly directions towards the A55 North Wales Expressway. The route then follows the path of the A55 North Wales Expressway heading in a north-westerly direction towards Northop Hall.

Approximately 600m south east of Northop Hall, the section widens again to account for two route options which are being considered:

- Alltami Brook North: the route would continue in a northerly direction before heading westerly and crossing the crossing Robin Hood Lane followed by the Alltami Brook approximately 200m east of the Chequers Hotel.
- Alltami Brook South: the route would continue along the same trajectory crossing Robin Hood Lane followed by the Alltami Brook approximately 150m south east of the Northop Hall.

These options are being considered to take account of environmental, planning, and technical constraints in the area. Both options reconvene approximately 90m south of the Northop Hall Hotel. The route continues in a north-westerly direction skirting around the south of Northop Hall. The route continues to head west before heading north to cross the B5125 Stamford Way before reaching the B5126 Connah's Quay Road where this section of the route ends.



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