

Gad Brook viaduct and Rudheath embankment (see Volume 2: MA02 Map Book, map CT-06-314, B5 to E4);

- a balancing pond for highway drainage, within an area of woodland habitat creation, 20m east of the A530 King Street and Gadbrook Distribution Centre roundabout. Access will be provided from the diverted B5082 Penny's Lane (see Volume 2: MA02 Map Book, map CT-06-314, C5); and
- diversion of a section of the B5082 Penny's Lane, up to 420m southwest of its current alignment at existing ground level. The diverted B5082 Penny's Lane will cross the route of the Proposed Scheme beneath Gad Brook viaduct, increasing the journey length by 468m. The existing B5082 Penny's Lane will be closed where it crosses the route of the Proposed Scheme. It will be retained as access to both sides of the route. Turning heads will be provided to facilitate vehicle access on the retained section of the road on both sides of the route for access to fields on both sides and to Melvin Holme to the east (see Volume 2: MA02 Map Book, map CT-06-314, C5 to E9).

Rudheath embankment to Smoker Brook viaduct

2.2.23 The route of the Proposed Scheme will continue northwards on Rudheath embankment, Wade Brook viaduct, Lostock Gralam South embankment, Lostock Gralam viaduct, Lostock Gralam North embankment and Smoker Brook viaduct.

2.2.24 This section of route is illustrated on maps CT-06-314 to CT-06-316a in the Volume 2: MA02 Map Book.

2.2.25 Key features of this 4km section will include:

- Rudheath embankment, 1.9km in length and up to 11m in height, with landscape mitigation planting on both sides to help integrate the Proposed Scheme into the surrounding landscape (and incorporating an area of woodland habitat creation) (see Volume 2: MA02 Map Book, map CT-06-314, D5 to map CT-06-315, D6);
- permanent diversion and decommissioning of minor utilities to accommodate Rudheath embankment, including Scottish Power, INOYVN and Tata Chemicals Europe underground cables, Cadent and National Grid gas mains, United Utilities potable water mains and wastewater sewer (see Volume 2: MA02 Map Book, map CT-06-314, D5 to J6 and map CT-06-315, A6 to D5);
- landscape earthworks along Rudheath embankment as follows:
 - landscape earthworks, 4m in height, and landscape mitigation planting to the eastern side of the embankment, extending from 250m north of the B5082 Penny's Lane telecommunications site to the existing Birches Lane, to help integrate the Proposed Scheme into the surrounding landscape (see Volume 2: MA02 Map Book, map CT-06-314, I6 to map CT-06-315, C6); and
 - landscape earthworks, 2m in height, and landscape mitigation planting to the eastern side of the embankment, between the existing and the realigned Birches Lane to help

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integrate the Proposed Scheme into the surrounding landscape (see Volume 2: MA02 Map Book, map CT-06-315, C6 to D6).

- noise fence barriers along Rudheath embankment as follows:
 - a noise fence barrier, 1.4km in length (of which 930m will be on Rudheath embankment) and 4m in height located along the western side of the embankment continuing from Gad Brook viaduct, to provide acoustic screening to properties on the eastern edge of Broken Cross (see Volume 2: MA02 Map Book, map CT-06-314, D5 to H5); and
 - a noise fence barrier, 1.3km in length and 4m in height, located along the eastern side of the embankment, between the B5082 Penny's Lane telecommunications site and extending on to Wade Brook viaduct, to provide acoustic screening for properties in Lostock Green (see Volume 2: MA02 Map Book, map CT-06-314, G6 to map CT-06-315, E6).
- diversion of an underground National Grid gas transmission 900mm high pressure gas pipeline, east of Rudheath for 2.7km in length, to be diverted in two sections away from the route of the Proposed Scheme. The first section, 1.1km in length, will run from north-east from A530 King Street, crossing the current alignment of B5082 Penny's Lane, before turning north past Melvin Holme. The second section, 1.6km in length, runs north-east from Lostock Green to Long Wood (see Volume 2: MA02 Map Book, map CT-06-314 B7 to G7 and map CT-06-315, C8 to J7 to map CT-06-316a, A5 to A6);
- diversion of a Scottish Power 33kV overhead power line for 2.6km, west of the route of the Proposed Scheme to be undergrounded into A530 King Street and A530 Griffiths Road, before following turning east to follow the alignment of Wade Brook (see Volume 2: MA02 Map Book, map CT-06-314, C7 to G1, map CT-06-314-L1, E10 to J7 and map CT-06-315-L1, A7 to D10 and E10 and map CT-06-315, C1 and D1 to D4);
- three ecological mitigation ponds with surrounding grassland habitat to the east of Rudheath embankment and north of the B5082 Penny's Lane diversion to provide replacement habitat for great crested newt (see Volume 2: MA02 Map Book, map CT-06-314, E6 and E7);
- closure of Footpath Rudheath 3/4, Footpath Rudheath 3/3, Footpath Lach Dennis 3X/2 and Footpath Lach Dennis 3X/1 where they cross the route of the Proposed Scheme. Users will be diverted along the proposed maintenance access for the B5082 Penny's Lane telecommunications site to Cookes Lane/A556 Shurlach Road, increasing the length of the journey by 1.7km (see Volume 2: MA02 Map Book, map CT-06-314, G5 to G6);
- realignment of a section of the A556 Shurlach Road up to 90m to the north-west of its current alignment for 2.3km, including improvement of the junction with Birches Lane/Lostock Hollow (and incorporating landscape mitigation planting), with negligible change in journey length (see Volume 2: MA02 Map Book, map CT-06-314, E3 to map CT-06-315, H5);
- four ecological mitigation ponds within an area of grassland habitat creation adjacent to the A566 Shurlach Road realignment, east of Cookes Lane to provide replacement

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habitat for great crested newt and other species (see Volume 2: MA02 Map Book, map CT-06-314, G4 to H5);

- B5082 Penny's Lane telecommunications site, 49m by 24m in area, to the east of the route of the Proposed Scheme, including a railway telecommunications mast up to 15m in height. Access will be provided from a maintenance access from the retained section of the B5082 Penny's Lane (see Volume 2: MA02 Map Book, map CT-06-314, G6 to H6);
- diversion of an underground United Utilities 300mm potable water trunk main, for 196m in length, to be diverted to pass under the route of the Proposed Scheme 20m north of the B5082 Penny's Lane (see Volume 2: MA02 Map Book, map CT-06-314, D6 to F5);
- A556 Shurlach Road culvert, 100m north of B5082 Penny's Lane telecommunications site, to convey Broken Cross Drains under Rudheath embankment and the realigned A556 Shurlach Road (see Volume 2: MA02 Map Book, map CT-06-314, H5 to H6);
- a balancing pond for railway drainage, 15m north of B5082 Penny's Lane telecommunications site. Access will be provided from the retained section of the B5082 Penny's Lane (see Volume 2: MA02 Map Book, map CT-06-314, H6);
- diversion of a Scottish Power Energy Networks 132kV overhead line for 1.6km to the east of the route of the Proposed Scheme and the A556 Shurlach Road. The diverted power line will be carried on a new overhead line for 530m near Melvin Holme and Clay Bank Farm, crossing the B5082 Penny's Lane between three towers. It will then transfer to underground cables for 1.1km, crossing the A556 Shurlach Road and the route of the Proposed Scheme west of Lostock Green. It will then join an existing overhead route via a new tower. Steel baskets attached to the rear of two of the new towers will allow the overhead line to transition to underground cables (see Volume 2: MA02 Map Book, map CT-06-314, D8 to map CT-06-315, B5);
- closure of Cookes Lane where it crosses the route of the realigned A556 Shurlach Road. Cookes Lane will be closed to the public but modified to retain access of the left-turn into the Tata waste lime beds (see Volume 2: MA02 Map Book, map CT-06-314, H5);
- diversion of an underground Cadent Gas local distribution 300mm high pressure gas pipeline, for 3.8km in length, to pass under the route of the Proposed Scheme 200m west of Melvin Holme and 170m south of Lostock Gralam North embankment (see Volume 2: MA02 Map Book, map CT-06-314 F5 to J9, map CT-06-314-R1, H1 to J4, map CT-06-315, A10 and H10 to J9, map CT-06-315-R1, A2 to J1 and map CT-06-316a, A7 to C4);
- an area of landscape mitigation planting to the west of the route of the Proposed Scheme and to the west of Cookes Lane to help integrate the Proposed Scheme into the landscape and provide visual screening for users of the A556 Shurlach Road (see Volume 2: MA02 Map Book, map CT-06-314, H5 to I5);
- a balancing pond for highway drainage, within an area of planting and grassland habitat creation, 370m north-west of B5082 Penny's Lane telecommunication site. Access will be provided from the modified section of Cookes Lane (see Volume 2: MA02 Map Book, map CT-06-314, I4 to J4);
- a balancing pond for railway drainage, partially within an area of woodland habitat creation, 340m north-west of B5082 Penny's Lane telecommunication site. Access will be

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provided from the modified section of Cookes Lane (see Volume 2: MA02 Map Book, map CT-06-314, I5 to J5);

- diversion of an underground Sabic Pipelines 8-inch high pressure ethylene pipeline, for 428m in length, to pass under the route of the Proposed Scheme between Cookes Lane and the A556 Shurlach Road (see Volume 2: MA02 Map Book, map CT-06-314, I5 to I6);
- six ecological mitigation ponds within an area of grassland habitat creation to the west of Rudheath embankment 430m north-west of B5082 Penny's Lane telecommunication site to provide replacement habitat for great crested newt (see Volume 2: MA02 Map Book, map CT-06-314, J3 to I4);
- an area of landscape mitigation planting to the west of the route of the Proposed Scheme and to the west of the realigned A556 Shurlach Road to help integrate the Proposed Scheme into the landscape and provide visual screening for users of the A556 Shurlach Road and residents on Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, A5 to C5);
- diversion of a Scottish Power 11kV overhead power line for 1.3km, to pass under the route of the Proposed Scheme and the A556 Shurlach Road realignment 95m north of Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, A6 to D3);
- an area of landscape mitigation planting to the west of the route of the Proposed Scheme between Birches Lane and Wade Brook to help integrate the Proposed Scheme into the landscape and provide visual screening for residents on Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, C5 to E5);
- an area of landscape mitigation planting to the east of the route of the Proposed Scheme along the realigned Birches Lane to help integrate the Proposed Scheme into the landscape and provide visual screening for residents of Lostock Green and receptors to the east (see Volume 2: MA02 Map Book, map CT-06-315, C6 to D6);
- diversion of a section of Birches Lane (east of the route of the Proposed Scheme), 300m north-east of the current alignment for 494m, crossing the route of the Proposed Scheme beneath Wade Brook viaduct with a height clearance of 6m. This will increase the length of the journey by 395m (see Volume 2: MA02 Map Book, map CT-06-315, C6 to E5);
- realignment of a section of Birches Lane (west of the route of the Proposed Scheme), where it meets the route of the realigned A556 Shurlach Road, resulting in a negligible change in journey length (see Volume 2: MA02 Map Book, map CT-06-315, C5 to E6);
- realignment of a section of footway that runs along the eastern side of Birches Lane (west of the route of the Proposed Scheme). It will follow the realigned Birches Lane beneath Wade Brook viaduct, then turn north to pass beneath Wade Brook offline overbridge, before turning south as a new PRoW to re-join Birches Lane to the west of the route of the Proposed Scheme and the realigned A556 Shurlach Road, increasing journey length by 881m (see Volume 2: MA02 Map Book, map CT-06-315, C5 to E6);
- permanent diversion and decommissioning of minor utilities to accommodate the diversion of a section of Birches Lane, including INOYVN and Scottish Power underground cables, a United Utilities and a INOYVN potable water main (see Volume 2: MA02 Map Book, map CT-06-315, C6 to E5);

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- Wade Brook viaduct, 285m in length and up to 20m in height (see Volume 2: MA02 Map Book, map CT-06-315, D5 to F5);
- permanent diversion of minor utilities to accommodate the Wade Brook viaduct, including INOYVN underground cable and potable water mains (see Volume 2: MA02 Map Book, map CT-06-315, E5);
- Wade Brook offline overbridge carrying a section of the realigned A556 Shurlach Road over Wade Brook, 106m in length, up to 11m above ground level (see Volume 2: MA02 Map Book, map CT-06-315, E5 to F5);
- accommodation access for Fieldhouse Farm, located to the east of the route of the Proposed Scheme, from the realigned Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, D6 to F7);
- three ecological mitigation ponds to the east of Wade Brook viaduct to provide replacement habitat for great crested newt, within an area of grassland habitat creation (see Volume 2: MA02 Map Book, map CT-06-315, E6);
- an area of wetland habitat creation either side of the route of the Proposed Scheme extending under Wade Brook viaduct to maintain habitat connectivity (see Volume 2: MA02 Map Book, map CT-06-315, E6 to D3);
- replacement floodplain storage area on the west of the route of the Proposed Scheme in the Wade Brook valley, between Lostock Green and Lostock Gralam (see Volume 2: MA02 Map Book, map CT-06-315, E4);
- a balancing pond for highway drainage, 90m west of Wade Brook viaduct. Access will be provided from Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, E5);
- two balancing ponds, one for highways drainage and one for railway drainage, east of Wade Brook viaduct. Access will be provided from the Fieldhouse Farm accommodation access from the realigned section of Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, D6 to E6 and E6);
- diversion of an underground Cadent Gas local distribution 600mm high pressure gas pipeline, for 1.6km in length, to cross the route of the Proposed Scheme near the junction between A556 Chester Road, A556 Shurlach Road and A559 Manchester Road (see Volume 2: MA02 Map Book, map CT-06-315, E7 to map CT-06-316a, A7 to B3 and C4);
- an area of landscape mitigation planting to the west of the route of the Proposed Scheme and to the west of the realigned A556 Shurlach Road between Wade Brook and the Mid-Cheshire Line (see Volume 2: MA02 Map Book, map CT-06-315, F5 to G5);
- Lostock Gralam South embankment, 353m in length and up to 14m in height, with landscape mitigation planting on both sides to help integrate the Proposed Scheme into the surrounding landscape (see Volume 2: MA02 Map Book, map CT-06-315, F5 to H6);
- permanent diversion of minor utilities to accommodate the Lostock Gralam South embankment, including INOYVN and Scottish Power Energy Networks underground cables and a INOYVN potable water main (see Volume 2: MA02 Map Book, map CT-06-315, F5 to H6);

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- a noise fence barrier, 1.2km in length and up to 5m in height, extending from Wade Brook, along the western side of Wade Brook viaduct, Lostock Gralam South embankment, Lostock Gralam viaduct, to the northern end of Lostock Gralam North embankment, to provide acoustic screening for properties in Lostock Gralam (see Volume 2: MA02 Map Book, map CT-06- 315, E5 to map CT-06- 316a, B4);
- a balancing pond for railway drainage, 80m north-east of Wade Brook viaduct. Access will be provided from the Fieldhouse Farm accommodation access from the realigned section of Birches Lane (see Volume 2: MA02 Map Book, map CT-06-315, F6);
- an area of woodland habitat creation to the west of the route of the Proposed Scheme east of the A556 Shurlach Road at Lostock Gralam, to provide connectivity and habitat replacement (see Volume 2: Map Book, map CT-06-315, H5 to map CT-06-316a, B3);
- Lostock Gralam viaduct, 62m in length and up to 9m in height (see Volume 2: MA02 Map Book, map CT-06-315, H6);
- permanent diversion of minor utilities to accommodate Lostock Gralam viaduct, including INOYVN underground cables and potable water mains (see Volume 2: MA02 Map Book, map CT-06-315, H6);
- Lostock Gralam North embankment, 655m in length and up to 14m in height, with landscape mitigation planting on both sides to help integrate the Proposed Scheme into the surrounding landscape (see Volume 2: MA02 Map Book, map CT-06-315, H6 to map CT-06-316a, B4);
- permanent diversion of Cadent Gas mains for 345m in length to accommodate the Lostock Gralam North embankment (see Volume 2: MA02 Map Book, map CT-06-315, F5 to J6 and map CT-06-316a, A3 to B4);
- an area of woodland habitat creation to the east of the route of the Proposed Scheme adjacent to the Mid-Cheshire Line, to provide connectivity and habitat replacement (see Volume 2: Map Book, map CT-06-315, H6 to J10);
- A556 Chester Road auto-transformer station, 75m by 26m in area, to the west of the Proposed Scheme, including a railway telecommunications mast up to 20m in height and signalling equipment. Access will be provided from the A556 Shurlach Road (see Volume 2: MA02 Map Book, map CT-06-315, I5 to J5);
- a balancing pond for railway drainage, 30m east of the northern end of Lostock Gralam North embankment. Access will be provided from the A556 Chester Road (see Volume 2: MA02 Map Book, map CT-06-316a, B4 to B5);
- Smoker Brook viaduct, 806m in length in this area and up to 25m in height (see Volume 2: MA02 Map Book, map CT-06-316a, B4 to F4);
- realignment of Tributary of Peover Eye for 46m and 20m and Peover Eye for 44m in an east-west direction around the piers of Smoker Brook viaduct (see Volume 2: MA02 Map Book, map CT-06-316a, C4 to D4 and D4);
- a noise fence barrier, 430m in length and 3m in height, located along the eastern side of Smoker Brook viaduct, extending from the A559 Manchester Road to Peover Eye, to