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Preston and South Ribble Flood Risk Management Scheme

Landscape and visual impact assessment (LVIA)

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Environment Agency

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In partnership with:

Lancashire County Council

North West Regional Flood & Coastal Committee

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In partnership with:

Preston and South Ribble Flood Risk Management Scheme

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Contents

1. Introduction

For the purposes of this landscape and visual impact assessment (LVIA) the study area includes the proposed scheme and an area that extends up to the practical visual extent of the proposals, assessed on site, this is known as the Zone of Visual Influence (ZVI). The ZVI encompasses the predominantly urban areas along the north and south bank of the River Ribble. On the river's north bank, the ZVI extends from west to east along Strand Road, Broadgate, and Riverside, encompassing Preston Sports Club and Miller Park to the far east. On the south bank, the ZVI extends from west to east along Holme Road, B5254 Leyland Road and adjacent recreation areas and allotments; Riverside and residential properties adjacent to Ribble Sidings open space. Further east beyond the West Coast Railway embankment the ZVI extends across open farmland edged with woodland belts.

The extent of the study area is considered to be wide enough to enable a good understanding of the contextual landscape character and potential visual receptors and has been agreed in consultation with the Environment Agency.

The location and extent of the Site are shown on Figure 1.1 - 'ZVI and Visual Analysis' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0010). A full description of the Site and its surroundings is provided in the Baseline Environment sections below.

The proposed scheme is described in detail in section 3 of the Environmental Report and shown on Figures 1.4 to 1.12 - 'Environmental Masterplans' (drawing no's ENV0000009C-JAC-ZZ-ZZ-DR-L-0002 TO 0010).

2. LVIA methodology

2.1 Scope of assessment

In accordance with best practice, the scope for this non-statutory assessment is based on a methodology developed in line with the guidance set out in the Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA3) and supplemented where required by guidance in the Highways England, 2019, DMRB, Volume 11, Section 3, Part 5, LA107 Landscape and visual effects, Revision 1 (formerly DMRB Volume 11 Section 3 Part 5 Landscape Effects and IAN 135/10), which is standard good practice for assessing linear developments.

This assessment considers the potential effects on landscape and townscape character and visual receptors that may arise because of the proposed scheme and comprises the following:

- Landscape assessment – An assessment of the anticipated change the proposed scheme will have on the baseline landscape and townscape resource including Landscape Character Types (LCTs), Landscape Character Areas (LCA) and Local Landscape Character Areas (LLCAs), in additional to designated landscapes.

- Visual assessment – An assessment of the anticipated change the proposed scheme will have on a range of visual receptors, including residential, recreational and commercial receptors.

2.2 Approach

The desk study included a detailed review of the information collated from earlier appraisal work. A search for published landscape character assessments and landscape designations on a national, regional and local basis was made using both the MAGIC website and relevant planning policy documents (details of which are contained within section 3).

A field survey was undertaken by a Chartered Landscape Architect to verify and supplement the desk study including representative photographs taken in and around the proposed scheme. An assessment of landscape character and visual amenity was undertaken on 16th August 2020 (when visual screening was at its height, in mostly clear and sunny conditions with good visibility – when deciduous trees were in leaf). Due to the timing of the project a site visit during the winter months when visual screening was at its least effective has not been possible. Professional judgement, winter site photos, drone footage and knowledge of the area have been used to assess the visual effects of the proposed scheme during the winter months.

2.3 Landscape and visual impact assessment methodology

The landscape and visual impact assessment follows the principles of the EIA methodology outlined above, but the criteria and methods used to determine and describe the sensitivity of receptors, magnitude of impact and significance of effects have been adapted in line with the Guidelines for Landscape and Visual Impact Assessment (GLVIA3), Third Edition (Landscape Institute/ Institute of Environmental Management and Assessment 2013). The LVIA is a tool used to identify and assess the significance of and the effects of change resulting from the project development on both the landscape, as an environmental resource in its own right, and on people's views and visual amenity. It comprises:

- Landscape assessment - considers the potential effects of change as a result of the Scheme on the baseline landscape and townscape resource.
- Visual assessment - considers the potential effects of change as a result of the Scheme on specific views and on the general visual amenity experienced by people.

The area of consideration for the LVIA comprises the proposed scheme working area, the wider landscape around the working area, which the proposed scheme may influence in a significant manner and the areas from

which the works will be potentially visible. The sources of relevant landscape and visual information used to inform the assessment and a summary of the main receptors are included in Section 3.2. The nature of possible landscape and visual effects on the baseline resources are summarised in 4.1 and 4.2.

2.3.1 Assessment methodology for impacts on landscape character

The assessment of impacts on landscape character is undertaken in four stages.

The **first stage** involves the collection of information about the characteristic features of the landscape, its topography, vegetation patterns, settlements, watercourses, land use, cultural aspects, landscape designations and existing pressures likely to lead to change. This provides a baseline against which changes resulting from the proposal can be measured.

Existing vegetation and other relevant important landscape features are shown on Figure 1.1 - 'ZVI and Visual Analysis' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DE-L-0010), and Figures 1.4 to 1.12 - 'Environmental Masterplans' (drawing no's ENV0000009C-JAC-ZZ-ZZ-DR-L-0002 TO 0010).

The **second stage** evaluates this information, breaking the landscape down into broadly homogenous character types. In this case, this comprises both townscape and landscape character areas of mainly residential, greenspace or agricultural types. The landscape character areas are illustrated on Figure 1.2 - 'Landscape and Townscape Character Areas' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0011).

In the **third stage** of the landscape assessment, judgements are made of (a) the sensitivity of each receptor (landscape character type) and (b) the magnitude of the effect on each receptor. Sensitivity is judged by considering the susceptibility of the receptor to the type of change arising from the proposed scheme and the value attached to the receptor by society. Each character type is ranked for sensitivity in accordance with the criteria set out in Table 1.

Table 1: Landscape sensitivity criteria

Sensitivity	Criteria
Very High	Areas and/or features which have a particularly high value, by nature of their condition, high scenic qualities, strong characteristics such as pattern and land cover, cultural associations, and/or relative position and amenity including level of tranquillity. These are likely to be, but not necessarily, within a National Park, Area of Outstanding Natural Beauty, Registered Park and Garden or within a World Heritage Site..
High	Areas and/or features which are considered to be of high value by virtue of their positive characteristics such as pattern and land cover, sense of place or local or cultural associations and level of tranquillity. These areas are of regional or local importance and are likely to be, but not necessarily, designated by the planning authority as being of landscape value. These may include Areas of Great Landscape Value, Conservation Areas, World Heritage Site buffer zones and urban and rural parks.
Medium	Landscapes and/or features which retain a positive character such as pattern or land cover and a sense of place or local or cultural associations and a degree of tranquillity. These areas are unlikely to be designated for their landscape value.
Low	Landscapes in fair to poor condition which have undergone change to the extent that they no longer have a distinctive local character such as pattern and/or land cover, or particular aesthetic quality, or they lack cultural associations or tranquillity.
Very Low	Degraded landscapes and/or features in poor condition whose distinctive character and aesthetic quality has been seriously damaged.

The magnitude of landscape effect is assessed by considering the size and scale of the effect, the geographical extent of the area that would be influenced, its duration and reversibility. This assessment considers whether the

proposal fits into the landscape and to what extent it affects the landscape's distinctive quality, local diversity and character, whether it integrates with the natural landform or cuts through it against the grain, whether it removes or avoids features of landscape value, and whether it appears out of scale or inappropriate in its design. The magnitude of the effects are ranked in accordance with the criteria in Table 2.

Table 2: Magnitude of Landscape Effects

Magnitude	Criteria
Major	Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements Large scale improvement of character by the restoration of features and elements, and/or the removal of uncharacteristic and conspicuous features and elements, or by the addition of new distinctive features
Moderate	Partial loss or noticeable damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic noticeable features and elements Partial or noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic and noticeable features and elements, or by the addition of new characteristic features
Minor	Slight loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements Slight improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements
Negligible	Barely noticeable loss or damage to existing character or features and elements, and/or the addition of new but uncharacteristic features and elements Barely noticeable improvement of character by the restoration of existing features and elements, and/or the removal of uncharacteristic features and elements, or by the addition of new characteristic elements
No change	No noticeable loss, damage or alteration to character or features or elements.

The **fourth stage** considers the potential landscape effects during construction and during operation. A judgement is made as to the significance of the effects, which is determined by combining the judgements about the value/sensitivity of the landscape receptors and the magnitude of the effects in accordance with Table 3. During operation, the significance of effects are reported in Year 1 following completion of construction and, where applicable, in Year 15 following completion of construction when any proposed mitigation planting will have established effectively and will have reduced any residual landscape effects reported in Year 1.

Table 3: Criteria to assess the significance of environmental effects and residual effects

Magnitude	Value / Sensitivity			
	Very High	**High**	**Medium**	**Low/Negligible**
Major	Major	Moderate or Major	Moderate	Minor or Moderate
Moderate	Moderate or Major	Moderate	Minor or Moderate	Minor
Minor	Moderate or minor	Minor or Moderate	Minor	Minor
Negligible	Neutral	Neutral	Neutral	Neutral

LVIA guidance does not define the level of effect which should be considered significant. Significance will vary from project to project and limited impacts when considered cumulatively can potentially become significant. For the purposes of the assessment of the Scheme, an effect of moderate and above is considered to be significant. Any cumulative impacts which together could be considered significant will also be identified.

2.3.2 Assessment methodology for impacts on visual amenity

The assessment of impacts on visual amenity is undertaken in three stages.

The **first stage** is to establish the area in which the development may be visible, the different groups of people who may experience views of the proposed scheme, the viewpoints where they will be affected and the nature of the views at those points. A preliminary, desk-based identification is made of the potential visual receptors (i.e. people, either as individuals or as groups) that are likely to experience a change in view as a result of the proposals, both during construction and on completion of the works. The visual baseline against which the potential impacts of the proposals are assessed is the site as it is at present. Potential visual receptors are defined as: residents, users of recreational areas, public rights of way (PRoW) and other areas of public access such as public open space and public sports grounds, users of public roads and railways, workers and public views from within valued landscapes. These receptors are then checked on site to ensure that they lie within the areas from where the site can be seen, known as the zone of visual influence (ZVI).

The **second stage** of the visual assessment is to systematically identify the likely effects on the potential visual receptors. This is undertaken by assessing the extent of the difference between the existing view (i.e. prior to the proposed scheme) and the view with the proposed scheme in place, taking into account a number of factors: whether the scheme is central or peripheral to the view, what proportion of the view alters, the distance between the receptor and the site, the sensitivity of the receptor to visual changes and how well the scheme fits into the existing landscape character.

In this stage, judgements are made of (a) the sensitivity of each receptor and (b) the magnitude of the effect on each receptor. Sensitivity is judged by considering the susceptibility of the receptor to the type of change arising from the proposed scheme and the value attached to the particular view by people. Each visual receptor is ranked for sensitivity in accordance with the criteria set out in Table 4.

Table 4: Sensitivity criteria for visual receptors

Sensitivity	Criteria
High	Private dwellings where viewers are familiar with the overall scene. Public views within areas of protected landscapes such as National Parks and Areas of Outstanding Natural Beauty.
High/Medium	Public rights of way (PRoW) and public access areas outside protected landscape where the viewers gain a long view due to slower speed or are likely to experience the views frequently or for long periods.
Medium	Commercial premises, public facilities and roadside footways where the viewer may be familiar with the scene but holds it in less regard than viewers from residential properties or recreational public rights of way.
Low	Surrounding road and rail networks where the viewer gains brief glimpses of the view at speed.

The magnitude of the effect on each receptor is judged by considering the size and scale of the effect, the geographical extent of the area influenced and the duration of the effect and its reversibility. The magnitudes of the effects are ranked in accordance with the criteria set out in Table 5.

Table 5: Magnitude of visual effects

Magnitude	Criteria
Major	The scheme, or a part of it, would become the dominant feature or focal point of the view. Total loss or substantial alteration to key characteristics of the view e.g. the proposals dominate the view and fundamentally change its character and components. Introduction of uncharacteristic features across a large proportion of the view.
Moderate	The scheme, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor e.g. the proposals are noticeable in the view, affecting its character and altering some of its components and features. Partial loss or noticeable alteration to key characteristics of the view. Introduction of uncharacteristic features across part of the view.
Minor	The scheme, or a part of it, would be perceptible but not alter the overall balance of features and elements that comprise the existing view. Slight loss or alteration to key characteristics of the view or the introduction of uncharacteristic features across a small part of the view.
Negligible	Only a very small part of the scheme would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view e.g. the changes are only a minor element of the overall view that are likely to be missed by the casual observer. Introduction of features largely characteristic of the view.
No change	No part of the scheme or activity associated with is discernible.

The final **third stage** of the visual assessment considers the significance of the potential visual effects during construction and during operation. The significance of the effect is determined by combining judgements about the value/sensitivity of the visual receptors and the magnitude of the effects in accordance with Table 3. During operation, the significance of effects are reported in Year 1 following completion of construction and, where applicable, in Year 15 following completion of construction where any proposed mitigation planting will have established effectively and will have reduced any residual landscape effects reported in Year 1.

3. Baseline environment

The study area for the landscape and visual assessment has been defined by the extent of the proposed scheme and the surrounding area from which the proposed scheme will be visible or where effects of the proposed scheme will be experienced.

The proposed scheme comprises the first two phases of the flood defence improvement work, known as Area 1 and Area 2.

- Area 1: Riversway and Broadgate is located on the right (north) bank of the River Ribble, to the south of the city centre, this area is approximately 1.3km long, extending from the West Coast Main Line (WCML), downstream to Liverpool Road Bridge.
- Area 2: Lower Penwortham is located on the left (south) bank of the River Ribble, to the south of the city centre. This area is approximately 0.8km long, extending from the West Coast Main Line, downstream to Penwortham Old Bridge, and turning inland to tie into the abandoned railway embankment.

The study area is located to the south of Preston city centre and extends eastwards along the River Ribble corridor from Portway Park and Ride and the A59 Liverpool Road bridge to the railway viaduct carrying the WCML (grade II listed). The river defines the southern edge of Preston. The area is predominantly urban with housing, offices, commercial units, carparks, recreational areas, formal parks and allotments adjacent to the riverside. The areas of Broadgate and Lower Penwortham extend to the north and south of the river corridor respectively. These well-defined residential neighbourhoods have a similar density and built character.

To the east of Broadgate, on the right (north) bank of the river, the area is more open in character, there are playing fields, open space and Miller and Avenham Parks. To the east of Lower Penwortham, on the left bank (south) of the river, open fields are bisected north to south by a number of abandoned railway lines. Mature trees and woodland define the railway embankments and field boundaries. To the west of Lower Penwortham, there are large areas of allotments, recreation areas and transport corridors lined by mature trees and hedgerows adjacent to the river. These areas provide a green urban network of spaces along the river corridor.

The River Ribble and adjacent mature trees and recreational areas are important historically, ecologically and recreationally and include features such as the Ribble Way long distance footpath, The Preston Guild Wheel (National Cycle Route 622) cycle/footpath, National Cycle Route (NCR) 55 and 62, and local footpath and trails. Figure 1.1 shows the road and Public Rights of Way (PRoW) network, including the Ribble Way, NCRs and The Preston Guild Wheel. The railway and river corridor, recreation areas, allotments and some fields contain many mature trees and shrubs which provide a predominantly green setting to the river corridor and adjacent urban areas.

An existing concrete flood wall extends eastwards along both sides of the river, changing to a grass embankment between Miller Gardens Apartments and Ribble Cottage on the right bank (north), and to the east of Riverside Road on the left bank (south).

The West Coast Main Line (WCML) extends north to south along the eastern edge of the study area. Main accesses to and through the study area are via the major transport routes of A59, Liverpool Road and A582 Golden Way and the B5254 Leyland Road. More locally a network of minor roads link existing residential neighbourhoods and Preston city centre.

Landmarks include the Penwortham Old Bridge (Scheduled Monument, Grade II listed), a pedestrian bridge connecting Broadgate on the right bank (north) to Riverside Road on the left bank (south); Liverpool Road bridge, the railway viaduct (Grade II Listed) carrying the WCML; and mature trees and ornamental features within Miller Park and Avenham Park which are both grade II* listed and form part of Avenham Conservation Area.

3.1 Legislative and planning framework

Key policies relevant to the proposed scheme are outlined in the Planning Statement submitted as part of the planning application package for the proposed scheme. European, national and local policies of relevance to the proposed scheme with respect to landscape and visual amenity are described and a brief summary in terms of how the scheme relates with the policy is provided.

3.2 Landscape designations

3.2.1 Statutory landscape designations

There are no statutory landscape designations within 5km of the study area. The Forest of Bowland Area of Outstanding Natural Beauty (AONB) is 13km to the north-east and the Yorkshire Dales National Park is 23km to the far north-east of the study area . No impacts on these designations are anticipated.

Other relevant statutory designations include the following. Refer to Figure 1.3 – 'Environmental Designations' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0012).

- Penwortham Old Bridge is a Scheduled Monument
- The River Ribble is located within the Ribble Estuary Marine Conservation Zone.
- There are a number of listed buildings and features within the study area. These include a number of residences along Broadgate (Grade II), Penwortham Old Bridge (Grade II), railway viaduct (Grade II). Avenham Park and Miller Park are both Registered Historic Parks and Gardens (grade II*) which contain a number of grade II listed features.

3.2.2 Non-statutory landscape designations

The scheme is located within the Avenham Conservation Area adjacent to the railway viaduct. There are several other Conservation Areas nearby, which will not be affected by the scheme.

There are a number of Biological Heritage Sites located within the study area, these include, River Ribble Upper Tidal Section Biological Heritage Site; Preston Junction Local Nature Reserve (LNR) and Adjacent Habitats Biological Heritage Site; and Cop Lane Cutting Biological Heritage Site. Refer to Figure 1.3 – 'Environmental Designations' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0012).

3.3 Landscape and Townscape Character

3.3.1 National character

The study area is located within National Character Area (NCA) 32 Lancashire and Amounderness Plain. The NCA is described as "a series of low-lying landscape types: in the east, undulating lowland farmland on the highly productive coastal plain, and in the west, the former mosslands and the remnant sites, and the coastal marshes and dunes"[1].

The proposed scheme sits within Preston and adjacent urban fringe areas, and therefore many of the defining rural characteristics of the NCA are not prevalent in the landscape within the study area.

3.3.2 Regional character

As shown on Figure 1.2 Landscape and townscape character, at a county level, the study area is located within the Coastal Plain Landscape Character Type (LCT) and the four Lancashire's Urban Landscape Types as identified in A landscape Strategy for Lancashire – Landscape Character Assessment (Lancashire County Council, 2000)[2].

[1] NCA 32. Lancashire and Amounderness Plain Area Profile, Natural England www.gov.uk/natural-england
[2] https://www.lancashire.gov.uk/council/strategies-policies-plans/environmental/landscape-strategy/

The key characteristics of each landscape character type (LCT) are described below.

Historic Core (1100-1800):

- *"A relatively small, characterful area at the heart of Lancashire's larger settlements. A historic church and market place are often sited at the convergence point of the principal radial routes. Most historic urban cores have a denser urban fabric that other parts of the town, with tall red brick or stone buildings and angular streets. There is a general lack of open space and vegetation…Often the historic core is only visibly represented by the street pattern and property boundaries. Apart from churches and castles the earlies fabric are rare 16th and 17 century buildings, but typically the oldest buildings of the historic core are 18th or 19th century. Overall, the most enduring feature of the historic urban core is the organic, winding arrangement of streets and alleys and the distinctive character of historic public buildings."*[3]

Industrial Age (1800-1930):

- *"The planned development typically Victorian and Edwardian residential areas characterised by a unity of architectural character, with small red brick or stone built terraces in working class districts and larger brick or stone semi-detached villas in broad tree-lined streets in areas dominated by middle class residents. The street pattern is rectilinear, on a regular grid. Prominent stone public buildings, built by wealthy patrons, large public parks, promenades and urban squares are landmarks in central districts…… Within this urban landscape type, squares, parks and to a certain degree urban cemeteries, contribute significantly to the quality of life enjoyed by residents and workers."*[4]

Suburban (1930 onwards):

- *"A wide variety of architectural styles and layouts. The majority of urban areas are characterised by a spacious pattern of street, low buildings, garages… Early suburban (1930-40) is typically semi-detached, built of brick and arranged in crescents and wide streets with larger front and rear gardens. This type of older suburban development forms ribbon development along principal routes, with access to more recent housing estates behind. 1950s to 1960s estates tend to have predominantly straight streets with some cul-de-sacs and with garages and gardens. Since the 1970s, housing development has been concentrated in relatively dense estates with cul-de-sac layouts, curved streets, small gardens and garages and are often a mixture of many different styles, frequently pastiches of old styles."*[5]

15b Longton-Bretherton:

- *"The Longton Bretherton LCA lies close to the south-western urban fringes of Preston. The Proximity to a large urban centre has influenced landscape character. The network of minor lines is dominated by dense ribbon development and the A59. …Red brick is the dominant built material in these areas. The agricultural landscape is influenced by urban fringe elements such as schools, colleges, nurseries, glass houses, hotels, horse paddocks, communication masts and electricity pylons; the network of hedgerows and hedgerow oaks is gradually being eroded by these uses."*[6]

Refer to Figure 1.2 – 'Landscape and Townscape Character Areas' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0011).

3.3.3 Local Landscape and Townscape Character

The baseline landscape and townscape character areas of the study area has been assessed and divided into the following distinct Local Landscape Character Areas (LLCA):

- Broadgate LLCA

[3] Landscape Strategy, page111
[4] Landscape Strategy, page113
[5] Landscape Strategy, page115
[6] Landscape Strategy, page 91

- Avenham and Miller Parks LLCA
- Lower Penwortham LLCA
- The Holme LLCA

No baseline information has been provided for Preston Historic Core LLCA, Upper Penwortham LLCA and Middleforth Green LLCA (shown on Figure 1.2) as the LLCAs and their setting will be unaffected by the proposed scheme due to the distance of the LLCAs from the proposed scheme and the presence of intervening landform and vegetation.

Refer to Figure 1.2 – 'Landscape and Townscape Character Areas' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0011).

A. Broadgate LLCA

Broadgate LLCA comprises the residential suburbs of Broadgate located to the south-west of Preston city centre along the right bank (north) of the River Ribble. The LLCA is bound by Preston city centre to the north, the West Coast Main Line (WCML) to the east, and an existing flood defence wall adjacent to the River Ribble to the south and west. The area has a generally flat topography adjacent to the river (6m AOD) gently rising to 25m AOD to the north-west.

The LLCA comprises a suburban residential area of predominantly Victorian red brick terraced houses with slate roofs of varying styles on a uniform layout; with smaller areas of Georgian terraces and1930s semi-detached houses. Georgian red brick terraces with bay windows and front gardens with low brick walls of varying styles extend along the north side of Broadgate. Further east, red brick and rendered 1930s semi-detached houses extend along Broadgate, Maresfield Road and Kilruddery Road.

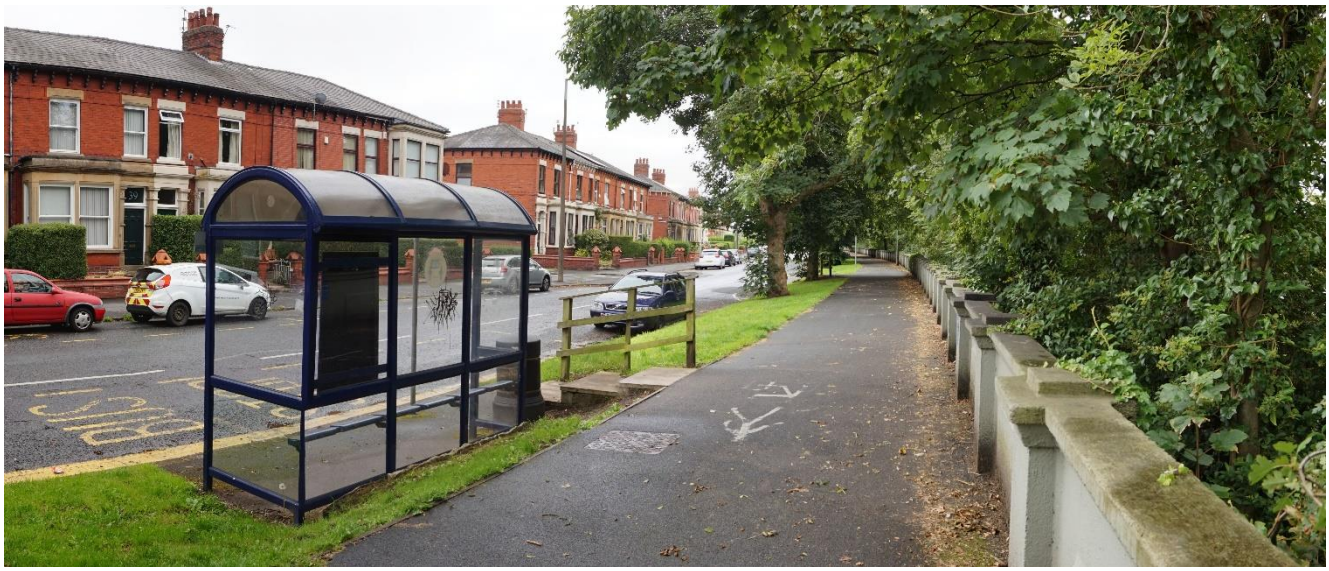

Photo 1 from approximately mid-way along Broadgate looking east along the existing concrete flood wall and Preston Guild Wheel cycle path. Mature avenue trees within grass verges line the route. Trees along the wet-side of the existing flood wall filter views of the adjacent River Ribble corridor.

The LLCA is bisected by a number of residential streets. The WCML extends from north to south along the east boundary of the LLCA. To the north, the A59 and Liverpool Road bisect the area and form one of the major routes into Preston city centre from the south of the river.

Recreation areas are associated with St Stephen's Primary School, Preston Cricket Club and BAC/EE Preston Social and Sports Association along South Meadow Lane. The Preston Guild Wheel, a 21 mile cycling and walking

route that circles Preston, and the Ribble Way long distance path extend along the south side of Broadgate adjacent to the existing concrete flood wall.

Vegetation cover is limited to mature trees and woodland within areas of public open space, along the edge of recreation areas and within the gardens of residential properties. Mature trees within the slightly elevated wide grass verge along the south side of Broadgate, and self-sown trees along the wet-side of the existing concrete flood wall that extends along the south side of Broadgate and Riverside provide a green setting to this part of the LLCA. There are few street trees along adjacent streets to the north where the terraced housing opens directly onto the street.

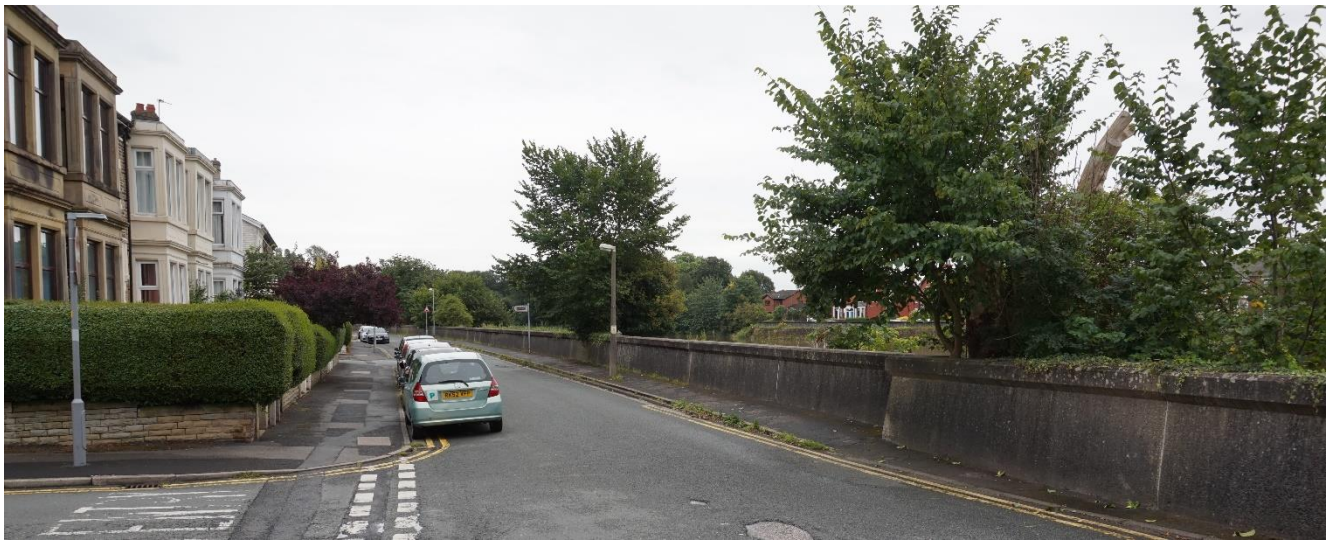

Photo 2 from Riverside looking south-east, the existing concrete flood wall extends along the south side of the road. Properties have views above the existing flood wall across the River Ribble towards Riverside Road on the left bank (south) of the river filtered by occasional self-sown trees along the wet-side of the existing flood wall during the summer months.

The LLCA is generally relatively enclosed and inward looking except for filtered views south from Broadgate and Riverside towards the existing flood wall with some views across the river visible between self-sown vegetation along the wet-side of the existing flood wall. The area has few heritage assets except for 3-8 Broadgate and 9 to 18 Broadgate (grade II).

Photo 3 from Miller Gardens apartments looking eastwards. To the east the LLCA is more open with views towards Ribble Sidings on the south (left bank) of the River Ribble. The existing flood wall ends at Miller Gardens apartments where a split level footpath and cycle way extends along a grass embankment adjacent to BAC/EE Preston Social and Sports Association.

Features, such as listed buildings and mature trees are more susceptible to change arising from the proposed scheme as they cannot be replaced in the medium or short term. Residential areas are also susceptible to loss or erosion of character. The susceptibility of the LLCA to the proposed scheme is considered low as the construction and operation of the replacement flood wall will not introduce any uncharacteristic new features into the landscape. Overall given the above, the main landscape resource in this character area is of **medium sensitivity**.

B. Avenham and Miller Parks LLCA

The LLCA comprises Avenham and Miller Parks and is located 1km to the south of Preston city centre on land which slopes southwards down to the River Ribble (from 25m to 6m AOD). The river forms the LLCA's southern boundary. The LLCA is bound to the north by the garden walls of houses along Ribblesdale Place and East Cliff; to the east by mature trees and vegetation within private gardens along Bank Parade, to the west by mature trees along the WCML railway embankment, and by the River Ribble to the south.

The LLCA comprises the grade II* listed Avenham and Miller Parks and forms part of Avenham Conservation Area. Both parks take the form of traditional Victorian parkland designed and created by Edward Milner during the 1860s. The parks are separated by the East Lancashire Railway embankment. The railway line closed in the 1970s although the viaduct across the river remains. The bridge over riverside walk, linking the railway viaduct with the railway embankment is grade II listed.

Miller Park lies to the west of the LLCA, and is smaller and more formal in character than Avenham Park. The northern side of the park has three terraces which gently slope southwards down towards the River Ribble. The park has a formal layout with a number of features including Derby Walk, an Italianate terrace and a listed fountain together with the Derby memorial statue, grotto and ornate floral displays. To the north, the former Park Hotel along East Cliff overlooks the park. Avenham Park lies to the east of Miller Park. The park was created from a natural amphitheatre and contains Avenham Walk, the Belvedere and Swiss Chalet, Japanese Garden, Avenham Pavilion and the Boer War Memorial. Both parks have distinctive Victoriana style cast iron benches, streetlamps and railings. A £5 million Heritage Lottery Fund, five year refurbishment programme for both parks was completed in 2014.

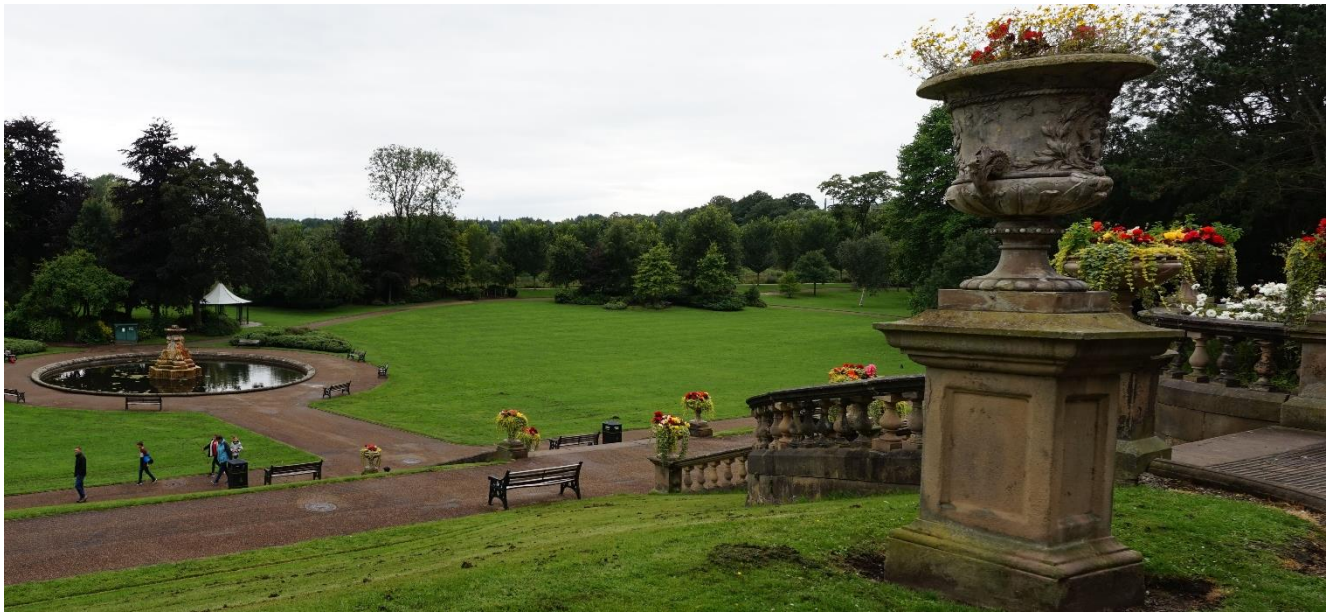

Photo 4 looking southwards from the Miller Park's terraces, mature trees within the grade II* listed park filter and obscure views of the River Ribble in the summer months.

To the south, the tree lined riverside walk extends along the southern edge of the parks following the contours of the River Ribble and continues further east towards Frenchwood Knoll and a recreation ground. The route forms part of the Preston Guild Wheel, and the Ribble Way long distance path.

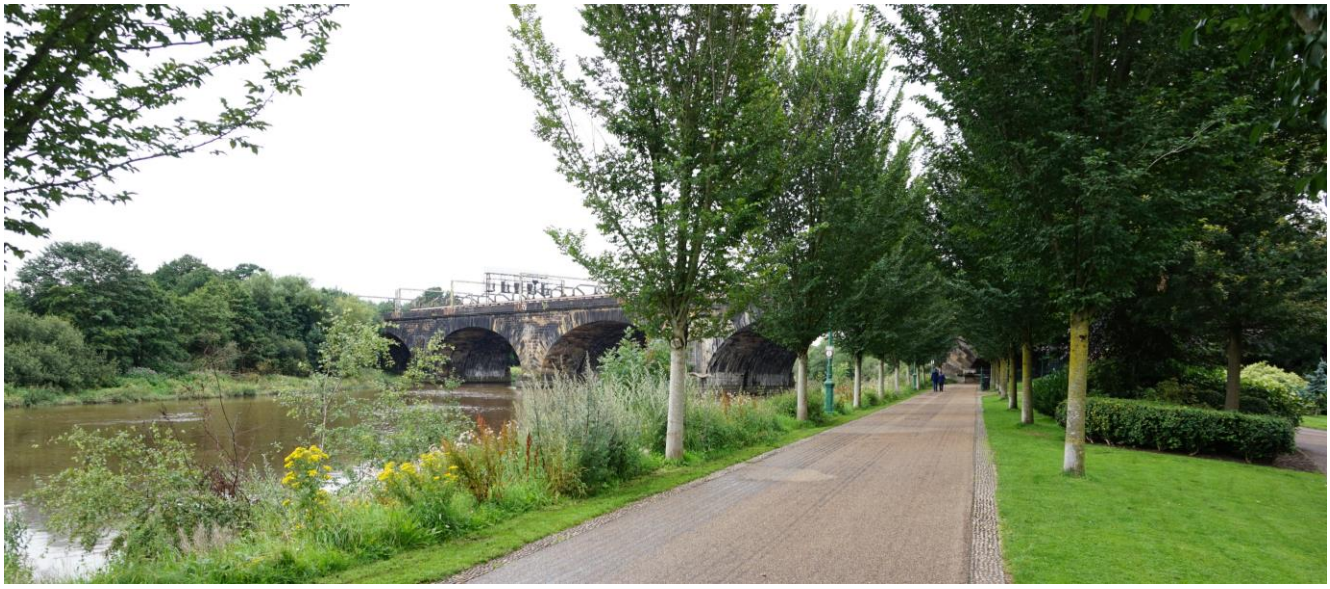

Photo 5 looking east along Riverside Walk towards the railway viaduct (grade II listed). Avenue trees define the relatively scenic riverside route along the southern edge of Miller Park

Both parks contain a large number of mature trees and areas of mature ornamental shrub planting which provide some screening of adjacent railway embankments and housing to the north. There are open views along the River Ribble corridor and of more open agricultural and recreational land on the left bank (south) of the river from riverside walk and from the more open areas within the parks. The open agricultural and recreation land forms part of the setting of the riverside walk and the adjacent historic parks.

Miller and Avenham Parks LLCA has a number of important landscape features that cannot be replaced in the short to medium term. The LLCA contains a number of heritage features, is located within the Avenham conservation area and both parks are Grade II* listed Registered Park and Gardens. The adjacent railway viaduct is Grade II listed, and the parks mature trees and woodland are highly susceptible to loss or damage from the proposed scheme. However, the LLCA is influenced by the presence of the WCML to the west. Overall, given the above, the landscape resource in this character area is of **very high sensitivity**.

C. Lower Penwortham LLCA

Lower Penwortham LLCA lies on generally flat topography gently rising to 12m AOD to the south. The LLCA is bound by the River Ribble to the north, the WCML to the east, the residential area of Middleforth Green to the south, and the abandoned West Lancashire railway line and the A59 to the west.

The LLCA comprises a medium density, suburban residential area of Lower Penwortham. The area contains a mix of housing styles on a predominantly rectilinear layout except for the sinuous alignment of the B5254 Leyland Road. There are Victorian, red brick houses with slate roofs along Leyland Road and Riverside Road; 1930s semi-detached houses of varying styles along Talbot Road and surrounding streets; and semi-detached bungalows along Margaret Road and adjacent streets. The houses have small front and rear gardens. Penwortham Residential Park lies to the south-west of the B5254 Leyland Road. The residential park is enclosed on all sides by mature vegetation on the embankments of abandoned railway lines. An existing concrete flood wall extends along the north side of Riverside Road.

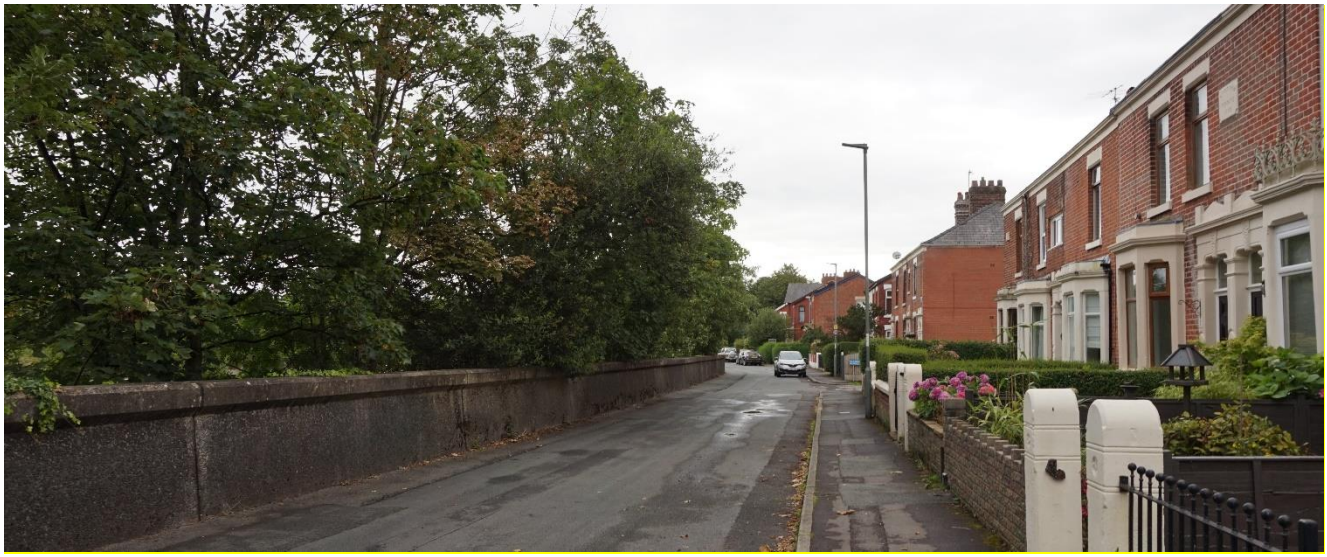

Photo 6 Riverside Road looking east along the existing flood wall, self-sown trees on the wet-side of the existing concrete flood wall create a feeling of enclosure, and filter and screen views of the river during the summer months.

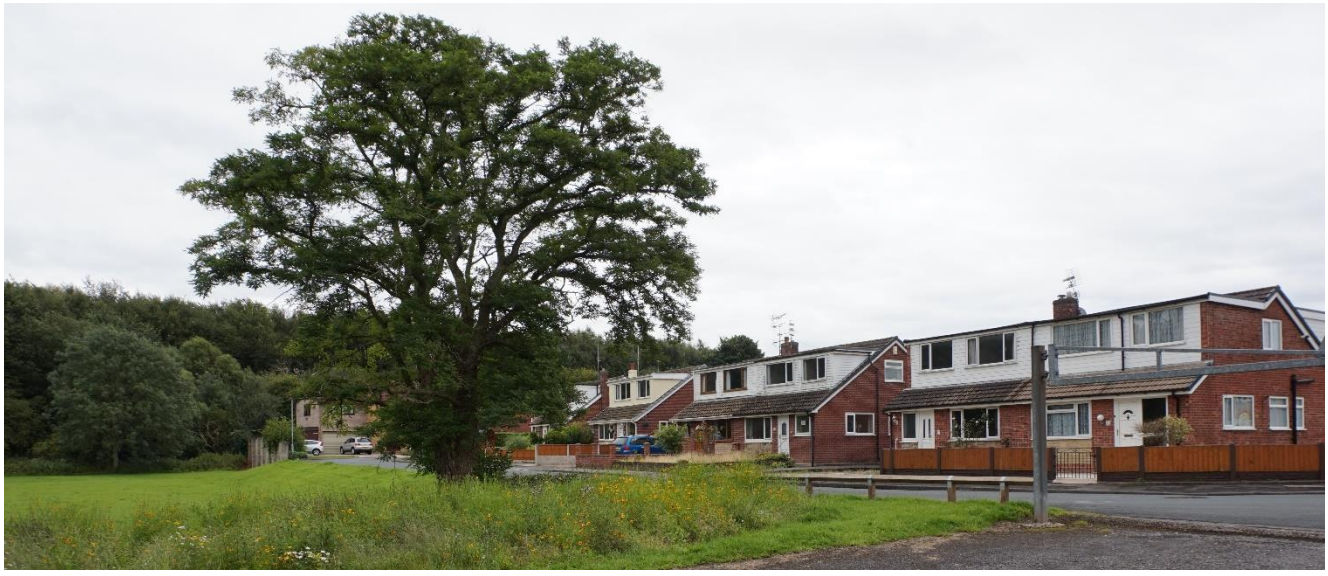

Photo 7 Ribble Sidings looking south-east from the car park towards more modern residential properties on Margaret Road. In the background, mature trees screen the WCML embankment from view during the summer months.

The LLCA is bisected by a number of residential streets. The WCML extends from north to south along the eastern boundary of the LLCA. The B5254 Leyland Road extends north to south along the western side of the LLCA and is the main commercial street in the area. The LLCA has three small areas of public open space, these are Ribble Sidings located to the north of Margaret Road, a small open space at the end of Hawkhurst Road, and an area to the west of Havelock Road. Penwortham Cricket Club is located to the far south of the LLCA.

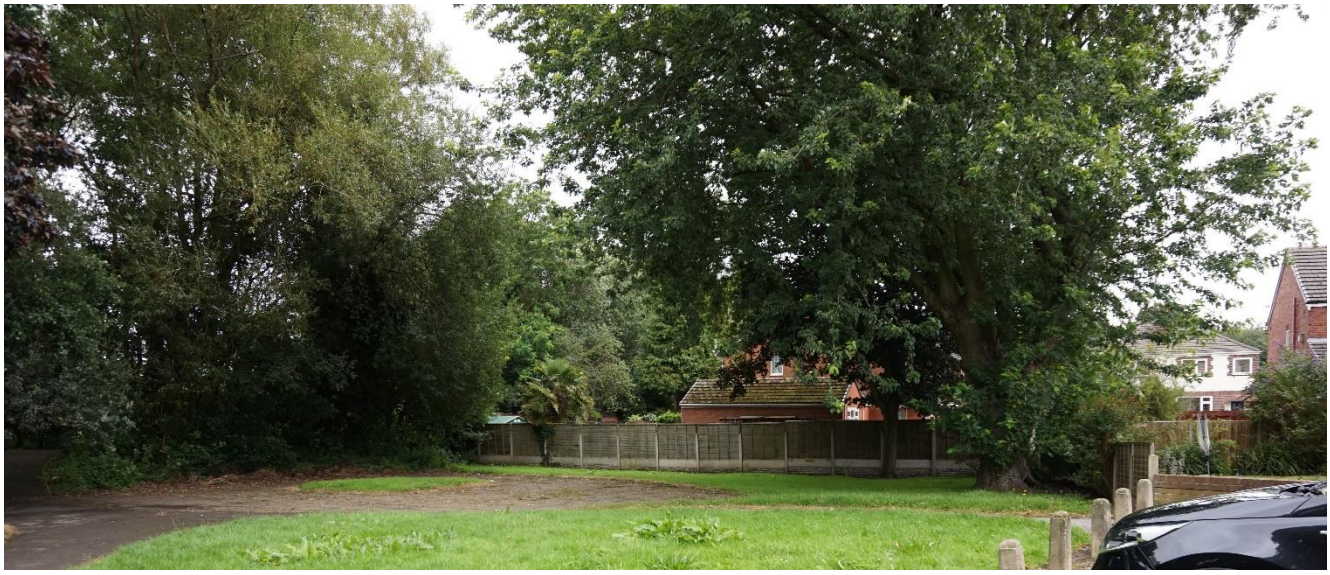

Photo 8 Open space at the end of Hawkhurst Road, mature trees filter and screen the River Ribble corridor from view during the summer months.

Vegetation cover comprises mature trees and woodland strips along the WCML and a number of abandoned railway lines that bisect the LLCA, within recreation areas and on the existing flood embankment that extends along the north side of Ribble Sidings. There are few street trees with some trees, hedgerow and shrubs in front gardens.

The area contains a number of PRoW and bridleways along abandoned railway lines and the left bank (south) of the River Ribble. The LLCA is relatively enclosed and inward looking except for residential properties along Riverside where there are open views of the River Ribble above the existing flood wall. The area contains no heritage assets.

The landscape of this LLCA has a number of features that are susceptible to the proposed scheme, namely mature trees and shrubs along the river corridor and adjacent to the WCML. The presence of the existing concrete flood wall and embankments along the south side of the River Ribble means the proposed scheme will not be an uncharacteristic feature within the landscape.

Overall given the above, the main landscape resource in this character area is of **medium sensitivity.**

D. The Holme LLCA

The Holme LLCA lies on the south bank of the River Ribble to the north-west of Lower Penwortham. The LLCA is bound by the River Ribble to the north and east, and the residential areas of Lower Penwortham and Upper Penwortham to the south-east and west. The area has a generally flat, low-lying topography that gently rises towards Upper Penwortham and the A582 Golden Way to the west.

The LLCA comprises extensive areas of allotments, formal recreational areas at Penwortham Holme Recreation Centre, and Penwortham Cemetery. The area is bisected and separated from adjacent suburban areas by major transport routes and a number of abandoned railway lines all edged with mature woodland and trees.

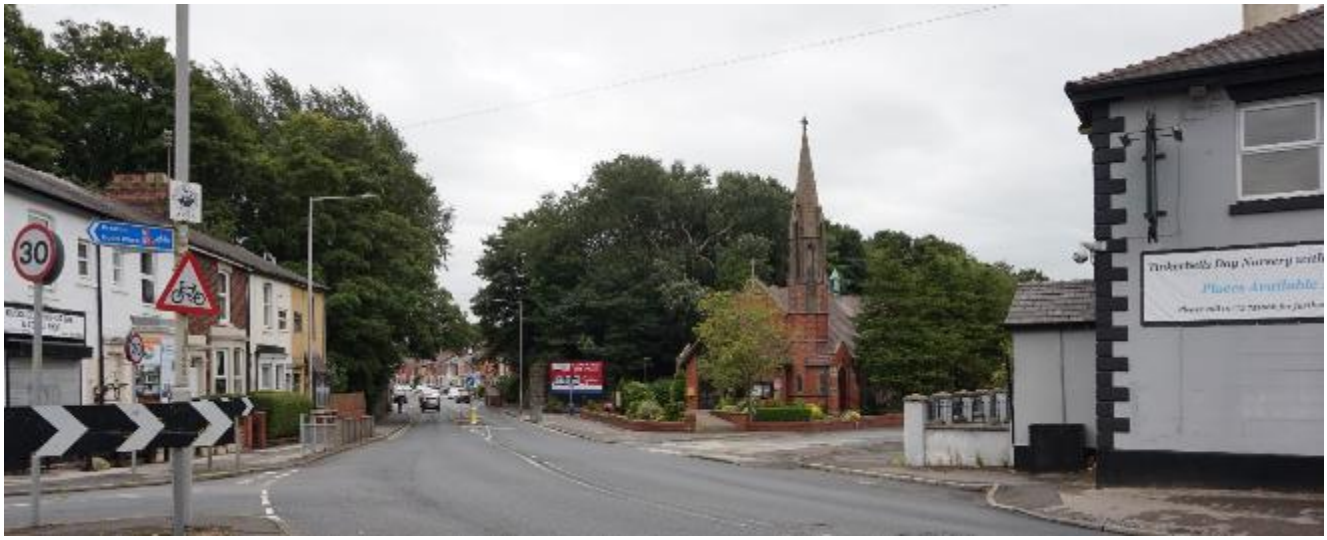

Photo 9 looking south-east along the B2524 Leyland Road, a small area of terraced housing and shops, Penwortham Methodist Church and a day nursery are located within the LLCA. In the background, mature trees define the route of the abandoned railway line and embankment.

The A582 Golden Way extends from north to south along a sinuous route through the centre of the LLCA. The route leads to a double roundabout junction with the A59 to the north and the B5254 Leyland Road to the east. Extensive belts of mature trees, woodland and hedgerows adjacent to transport corridors, allotment and recreation areas generally screen these areas from view from adjacent residential areas (located outside the LLCA).

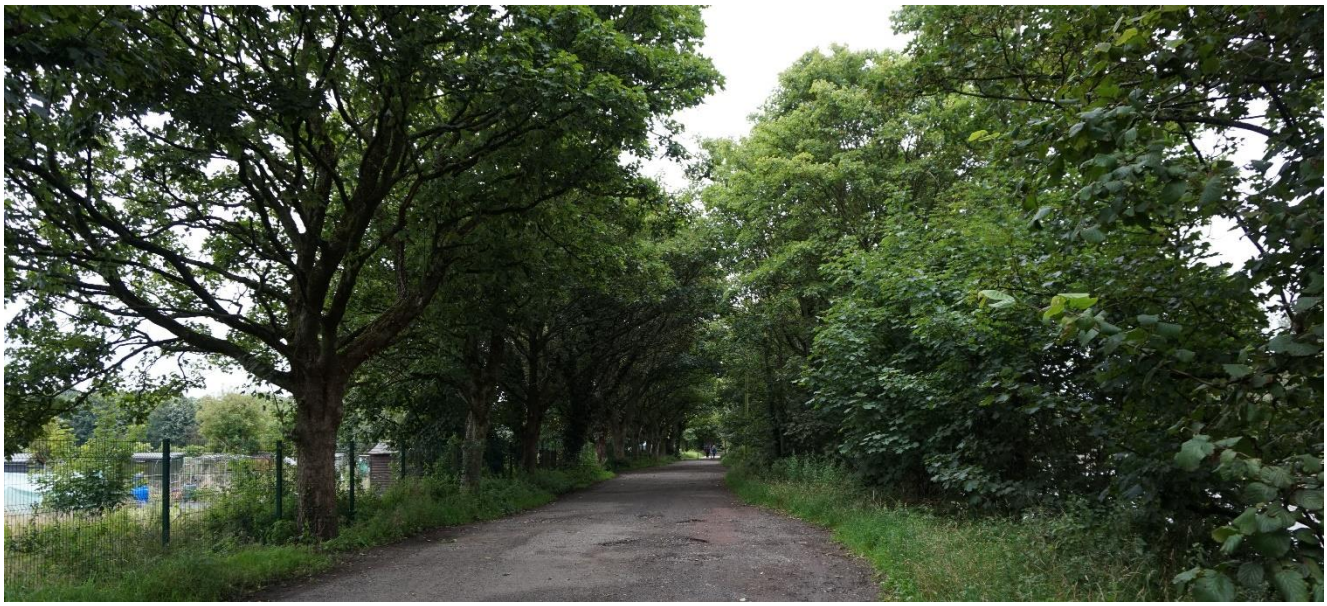

Photo 10 north along Holme Road (PRoW 7-9-FP1), mature trees filter views of adjacent allotments and recreation areas to the west. Mature trees extend along the east side of the road filtering views of the adjacent River Ribble corridor.

There are few minor public roads within the LLCA, and it is relatively peaceful away from the transport corridors. Penwortham Methodist Church and a small number of commercial and residential properties are located along B2354 Leyland Road.

The LLCA has a number of PRoWs that provide recreational routes along the riverside and to adjacent residential areas. Notable landmarks include Castle Hill motte (Scheduled Monument) and the Church of St Mary (Grade II* listed) along the western edge of the LLCA, to the west of the A59. The area contains Church Wood and Cop Lane Cutting biological heritage sites located to the west of the A59 and the A582 Golden Way respectively.

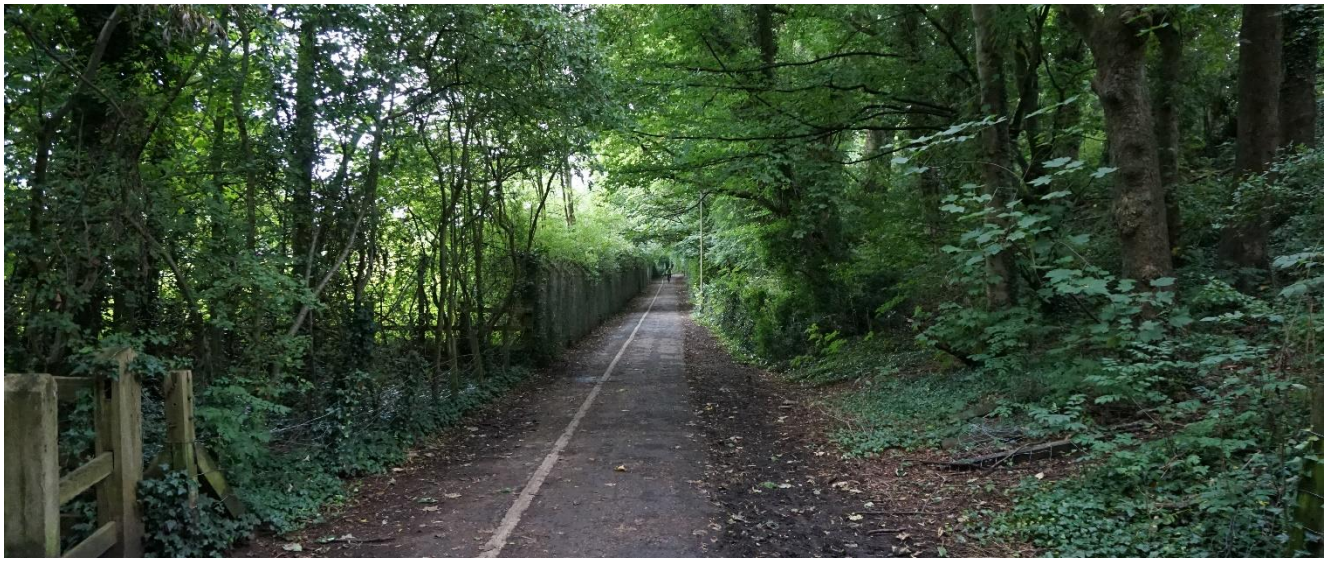

Photo 11 NCR 62 and PRoW 7-9-FP22 extend along the north-west side of the abandoned railway embankment from the B5254 Leyland Road in the north-east to the A582 Golden Way in the south-west. The route is edged with mature trees and shrubs which filter and screen views of adjacent allotment areas to the north-west.

Views within the LLCA are generally contained by woodland, tree belts and hedgerow adjacent to transport corridors and recreational sites. To the north, views from Leyland Road across the River Ribble corridor are filtered by mature trees and scrub located along the left bank (south) of the river.

The landscape of this LLCA has a number of features which are susceptible to the proposed scheme, these include areas of open space; a small network of PRoWs; mature woodland, and mature vegetation along transport corridors and within large areas of open space. Overall given the above, the landscape is considered to have a **medium sensitivity** to change arising from the proposed scheme.

3.4 Historic landscape

The identification of heritage assets and assessment of impacts upon them by the proposed scheme are outlined in the heritage statement submitted as part of the planning application package.

3.5 Visual amenity

A range of visual receptor types have been identified which comprise the people within the study area who will potentially be affected by changes in views and visual amenity. These include private residents, people at places of work, visitors to local attractions or amenities, people passing through on rail or road, and recreational users and users of associated footpaths, cycleways, bridleway and water bodies. A summary description of the distribution and type of receptors most likely to be affected by the proposed scheme is provided below.

Residential developments within the study area are generally low-rise terrace and semi-detached housing estates, with a small number of high-rise three storey residential buildings located within Broadgate, near Preston Sports Club. Residents views are generally near to middle distance, urban views depending on location and intervening development. The River Ribble is a component of residential receptor views for properties located along the right and left bank of the river.

A range of recreational receptors' views are available along the River Ribble. The Preston Guild Wheel, NCR 62 and the Ribble Way long distance footpath extend along the right (north) bank of the river. NCR 55 extends along the left (south) bank of the river. Ribble Sidings, allotment areas along the south-west side of B5254 Leyland Road and Holme Road, and Penwortham Holme Recreation Centre are located along the left bank of the River Ribble. Receptors' views of the River Ribble corridor are filtered by groups of self-sown mature trees that extend along the wet-side of existing flood walls.

Road users travelling on urban streets generally have views contained by buildings, bridges, mature trees and an existing concrete flood wall that extends along the south side of Broadgate and Riverside, and the north side of Riverside Road.

Pedestrians and cyclist on Penwortham Old Bridge (Scheduled Monument and Grade II) will have direct views of the proposed scheme Visitors to Miller Park (Grade II* listed) will have direct views of the proposed scheme to the west of the WCML railway viaduct from the park's south-west entrance. Views from within the park will be limited. There are no views of the proposed scheme from other areas designated for landscape value.

3.5.1 Visual receptors

The study area has been assessed and divided into the Local Landscape Character Areas (LLCA), as described in the previous Local Landscape and Townscape Character section, and visual receptors identified within each LLCA. Each group of visual receptors within the character areas has been given a reference number (R1, R2 etc.) so they can be identified on Figure 1.1 'ZVI and Visual Analysis' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0010).

The visual receptors, their sensitivity to landscape change and the details of their existing view are described in the visual impact table (Table 6 in Section 4.2).

A. Broadgate LLCA

The visual receptors have been grouped by location from east to west along the LLCAs southern boundary.

R1 - Residents on Talbot Road

Residences on Talbot Road have rear, filtered views south and west from upper floor windows of adjacent car parks, car showroom, and moving traffic on Portway and the A5072 Strand Road towards Portway Park and Ride. Mature trees extending along the east side of the A59 fly over and Portway screen more long distance views.

R2 - Residents on Old Milestones, A5072 Stand Road users, Preston Sea Cadets visitors, and Nissan Garage and Fishergate Hill shops visitors and staff

Residences on the south-west side of Old Milestones have rear, filtered views south-east from upper floor windows of moving traffic on the A5072 Strand Road towards the Preston Sea Cadets Building and car park, located on the south-west side of the road. Mature trees extend along the west side of the A5072 Strand Road beyond the embankment of the Preston Riverside Heritage Railway line filtering views of the River Ribble. Views are filtered by garden vegetation. Motorists, passengers and pedestrian users of the A5072 Strand Road have more transient views to the south-west

Visitors to Preston Sea Cadets have close-range, open views south-west from the Preston Sea Cadet's car park of River Ribble corridor. An existing concrete flood wall extends along the right bank (north) of the river. Occasional groups of self-sown trees and shrubs on the wet-side of the wall filter views south across the river. To the north there are long distance views channelled by mature vegetation along both banks of the river of the A59 road bridge to the north, and the Liverpool Road Bridge to the south.

Workers and visitors at the Nissan Garage on the A5072 Strand Road have close range, open views south and south-west of moving traffic on the A5072 Strand Road and its junction with Liverpool Road. In the middle distance, there are views south and south-west of mature trees within small areas of open space to the north and south of the Liverpool Road Bridge. An existing concrete flood wall is visible beneath the trees. In the background, there are glimpsed views of the River Ribble corridor and Liverpool Road bridge crossing through gaps in the trees.

Visitors and staff to Fishergate Hill shops have close range, open views north and west across a side road that runs adjacent to Fishergate Hill. In the middle distance, there are views of moving traffic on the busy Fishergate

Hill/Liverpool Road junction with the A5072 Strand Road and Broadgate. In the background, mature trees within small areas of open space to the north and south of the Liverpool Road bridge filter and screen the River Ribble from view. An existing concrete flood wall is visible beneath the mature tree canopies.

R3 – Broadgate residents, Broadgate Garden, Andy's Bee Meadow, Preston Guild Wheel and Ribble Way long distance path

In the foreground residents along **Broadgate** (71 properties) have views west of moving traffic on Broadgate Road. The west side of the road is edged by a gently rising grass verge lined with mature trees. In the middle distance, a footpath extends north to south along the top of the grass verge. The footpath forms part of the Preston Guild Wheel cycle/footpath and Ribble Way long distance path. An existing concrete flood wall extends along the west side of the footpath screening the adjacent River Ribble from view. In the background, groups of self-sown mature vegetation along the wet-side of the existing concrete flood wall filter views of the adjacent River Ribble corridor. There are occasional views through gaps in the vegetation, and filtered views of mature trees that extend along the left bank (south) of the river. Ground floor views are filtered and screened by garden vegetation. Broadgate road users have more transient views.

Residential properties between Taylor Street and Bird Street have views of Broadgate Gardens, a small area of public open space bounded by a low clipped hedgerow extending along the west side of Broadgate. Mature trees and an existing concrete flood wall are visible on higher ground along the western edge of the open space. Self-sown mature trees extend along the wet-side of the existing concrete flood wall. This vegetation together with the mature trees within the open space filter more long distance views of the adjacent River Ribble corridor. There are occasional views through gaps in the vegetation of mature trees that extend along the left bank (south) of the river, and of the Liverpool Road bridge and adjacent road junction to the north-west.

Visitors to **Broadgate Gardens** have open views east across the small area of grassland within the gardens towards the houses along Broadgate Road. To the west, there are filtered views across a small area of grassland towards the existing flood wall that extends along the western edge of the open space. In the middle distance, there are views above the existing flood wall of the River Ribble corridor. The Liverpool Road bridge crossing is a notable feature within the view to the north-west. Views west are filtered by self-sown mature trees that extend along the wet-side of the existing flood wall.

Visitors to **Andy's Bee Meadow** from the south end of the open space have views south across Broadgate Road/Riverside Road of the existing concrete floodwall and stone wall of Penwortham Old Bridge. In the middle distance, there are views over the existing flood wall of the River Ribble corridor. In the background, on the right bank (south) of the river, houses along Riverside Road are visible above an existing concrete flood wall. The properties are partially obscured by self-sown vegetation on the right bank (south) of the river.

The **Preston Guild Wheel** and the **Ribble Way long distance path** extend eastwards along the north side of the existing concrete flood wall from Preston Sea Cadets to Miller Park. Views along the route are contained to the north by residential properties along Broadgate and Riverside. There are views south over the existing concrete flood wall of the River Ribble corridor towards Penwortham Bridge. In the summer, these views are filtered and obscured by self-sown, mature trees along the wet-side of the existing concrete flood wall along Broadgate, and along parts of Riverside. At Millers Garden apartments the route extends along a grass embankment affording more open views south across the river corridor towards Riverside Road and Ribble Sidings.

R4 - Residents along Riverside and road users

Residents along Riverside (20 properties) have close range views south across moving traffic on Riverside of the existing concrete flood wall that extends along the south side of the road. In the middle distance, there are views over the existing concrete flood wall towards the right bank (south) of the River Ribble. In the background, houses along Riverside Road are visible above an existing concrete flood wall that extends along the right bank (south) of the river. Groups of self-sown trees along both sides of the river filter and screen views of the river corridor. Views from ground floor windows are filtered and screened by garden vegetation. Road users have more transient views.

R5 Miller Gardens apartments and NCR 62

Residents at **Miller Gardens apartments** have elevated, open views south from upper floor windows across a footpath that extends from the south-west to south-east along the front of the property. Ground floor views are partly obscured by the apartments existing boundary wall and railings. In the middle distance, a grass verge slopes down to the Preston Guild Wheel cycle/footpath that extends on lower ground along right (north) bank of the River Ribble. The route is edged by a grass verge and occasional scrub and trees along right (north) bank of the river. In the background, on the right (south) bank of the river, mature trees filter views of Ribble Sidings public open space to the south. To the south-west, houses along Riverside Road are visible above an existing concrete flood wall.

NCR 62 extends north-east from the A582 Golden Way along the west side of an abandoned wooded railway embankment and the south-east side of Penwortham Methodist Church to the B5254 Leyland Road. Transient views are channelled by mature trees on both side of the route. The cycleway crosses the B5254 Leyland Road and proceeds north-east across Penwortham Old Bridge (Scheduled Monument and Grade II listed) where there are open, panoramic views of the River Ribble corridor. NCR 62 then follows the route of the Preston Guild Wheel along Riverside. In the summer views are filtered and obscured by mature self-sown trees along the wet-side of the existing concrete flood wall that extends along parts of Riverside. At Miller Gardens apartments there are open views across the river as the route extends eastwards along a grass embankment.

R6 - Residents at Riverside, The Continental pub and restaurant, The Mini Centre and BACC/EE Preston Social and Sports Association

Residents at Riverside (2 properties including Ribble Cottage) have close range views south across the Preston Guild Wheel cycle/footpath and a riverside footpath and grass verge of an existing concrete flood wall that extends along the south side of Riverside. In the middle distance, there are views over the existing concrete flood wall of the River Ribble corridor. Views are filtered by occasional groups of self-sown trees along the wet-side of the existing floodwall. To the east, the railway viaduct (Grade II listed) river crossing forms a dominant feature in the view. To the south, mature trees within Ribble Sidings are visible on the left bank (south) of the river.

Visitors and workers to **The Continental** pub and restaurant and **The Mini Centre** have similar views. The public house and garage overlook moving traffic on Riverside rather than a footpath. An evergreen hedge extends along the south-east boundary of the pub beer garden filtering and screening receptors' views of the adjacent road, existing concrete flood wall and River Ribble corridor.

A tall evergreen hedgerow extends along the south and east side of the **BACC/EE Preston Social and Sports Association** recreation ground screening the adjacent riverside walk and river corridor from view for users of the recreation areas.

R7 - Meadow Crescent, South Meadow Lane and Preston Sports Club

Residents at Meadow Crescent (3 storey blocks of flats) have rear, close views south-east of tree planting along the north-west boundary of Preston Sports Club. The trees filter views of Preston Sport Club grounds and car park visible in the middle distance. In the background, there are filtered views of a council depot car park bounded to the east by the wooded railway embankment of the WCML and Railway Viaduct (Grade II listed). The embankment and viaduct obscure more long distance views. An evergreen privet hedge and occasional mature trees lines the south-west side of the Preston Sports Club.

Residents along the south-west side of **South Meadow Lane** have front elevation views across South Meadow Lane towards an evergreen hedgerow that extends along the south-west boundary of Preston Sports Club. From the rear, the properties have rear elevation views from upper floor windows across BACC/EE Preston Social and Sports Association grounds.

From **Preston Sports Club**, there are foreground views south-east of the adjacent council depot car park. In the middle distance, there are views of the steeply wooded railway embankment and Railway Viaduct which obscure more long distance views. A privet hedge with mature trees lines the south-west side of the Preston Sports Club.

B. Miller and Avenham Parks LLCA

R8 - Miller Park and the WCML

Visitors to **Miller Park,** generally from within the park have foreground views south across grassland and areas of ornamental trees and shrubs that gently slope down towards the banks of River Ribble. In the middle distance, there are views of a tree lined riverside walk that extends from east to west along the right bank (north) of the river. In the background, mature trees and scrub are visible on the left bank (south) of the river filtering views of adjacent farmland. The railway viaduct (Grade II listed) river crossing is visible to the south-west and a viaduct river crossing for the now abandoned East Lancashire Railway is visible to the south-east.

Passengers on the **WCML** have elevated, transient views east and west along the River Ribble corridor from the railway viaduct crossing and associated embankments. Mature tree planting on the viaduct embankments filter and screen views of the river corridor and adjacent urban areas.

C. Lower Penwortham LLCA

R9 - Margaret Road and Ribble Sidings Open Space

Residents on the south side of Margaret Road (14 properties including properties on the north-east and north-west end of the road with more oblique views), have foreground views north across moving traffic on Margaret Road across open grassland with a few incidental trees that form Ribble Sidings open space. The WCML extends north to south on embankments along the eastern edge of the open space screening more long distance views. Moving trains are filtered and screened from view by mature vegetation on the railway embankment. A small play area and some individual trees are visible to the north west with the rear garden fences and housing of Frazer Avenue visible beyond the play park. Existing trees filter views of the housing. To the north, mature trees and shrubs extend east to west on an existing grass flood embankment filtering and screening more long distance views of the adjacent River Ribble corridor. Visitors to Ribble Sidings open space have filtered views through mature trees and shrubs on the existing embankment of the River Ribble corridor. Margaret Road users have more transient views.

R10 - Fraser Avenue

Residents (12 properties) at the northern end of Fraser Avenue have rear elevation views of garden vegetation and garden fencing. In the middle distance, mature trees are visible above garden boundary walls and fences within the open space at the end of Hawkhurst Road to the west, adjacent to the River Ribble to the north and within Ribble Sidings to the east. The mature trees filter distant views to the north of the River Ribble Corridor, and to the east of Ribble Sidings.

R11 - Hawkhurst Road and Stanley Avenue

Residents along the north end of Hawkhurst Road (12 properties) and Stanley Avenue (2 properties) have front elevation, oblique views north. The foreground comprises garden vegetation and garden fencing. In the middle distance, mature trees are visible above garden boundary walls and fences within the open space at the end of the road. In the background, mature trees and scrub on a shallow embankment filter and screen more long distance views of the adjacent River Ribble corridor.

R12 - Riverside Road, NCR 55 and PRoW 7-9-BW36C

Residents along Riverside Road (22 properties) have close range, open views north across moving traffic on Riverside Road and an existing concrete flood wall that extends from east to west along the north side of the road. In the middle distance, there are views over the existing concrete flood wall of the River Ribble and its northern grassy bank lined with occasional trees and scrub. Views for residents in house numbers 1 to 14 Riverside Road, are filtered by self-sown trees along the wet-side of the existing concrete flood defence wall. In the background, houses along Riverside and Miller Gardens apartments are visible on slightly elevated ground.

Occasional trees along the right bank (north) of the river filter and screen views. Riverside Road users have more transient views north.

From the railway viaduct on the left bank (south) side of the River Ribble travelling west, users of **PRoW 7-9-BW36C** have panoramic views north of the River Ribble corridor towards the hedge boundary of BACC/EE Preston Social and Sports Association grounds and Miller Gardens apartments visible on slightly higher ground. To the east, the railway viaduct crossing and associated vegetated embankments obscure more long distance views. To the south, mature trees on an existing flood embankment filter views south of Ribble Sidings. Further west along Riverside Road, there are views north of the river corridor over an existing concrete flood wall that extends along the north side of the road. Properties along Riverside are visible above an existing concrete flood wall on the right bank (north) of the river. Penwortham Old Bridge is visible to the north-west. Groups of self-sown trees on the wet-side of the existing flood wall filter some views. Cyclists on NCR 55 have more transient views.

R13 – B5254 Leyland Road and Penwortham Methodist Church

Residents along the north side of the B5254 Leyland Road (3 properties) have oblique, rear elevation views north-east of moving traffic on Riverside. Garden boundaries and vegetation screen ground floor views. In the middle distance, there are oblique views north-east of an existing concrete flood wall that extends along the north side of Riverside with the River Ribble corridor visible beyond. To the east and south-east, mature vegetation on an abandoned railway embankment and a stone pipe bridge river crossing obscure more long distance views.

Residents and visitors to the coffee shop have open, front elevation views west of moving traffic on the B5254 Leyland Road. In the middle distance, there are views of Penwortham Methodist Church, the wide tarmac entrance to Leyland Road Allotments and Tinkerbells Day Nursery and car park. In the background, mature trees on the abandoned railway embankment and within adjacent allotments are visible. B5254 Leyland road users views are more transient.

Visitors to **Penwortham Methodist Church** have views north-east of moving traffic on the B5254 Leyland Road. Housing on the north-east side of the road screens more long distance views. To the north, there are oblique views of the stone wall to Penwortham Old Bridge and River Ribble corridor.

R14 - Park Close, PRoW 7-7-FP21, PRoW 7-9-FP22 and PRoW 7-9-FP23, NCR 62

Residents along the north-west side of **Park Close** have rear views of mature trees along the steep embankments of the abandoned railway line which obscures mid and long distance views.

Walkers on PRoW 7-7-FP21, PRoW 7-9-FP22 and the junction with PRoW 7-9-FP23 have views east and west along the route of the footpath. Mature trees along the north-west side of the route filter views of the adjacent Leyland Road and Valley Road allotments to the north. To the south-east, views are enclosed by the steep wooded embankment of an abandoned railway line that extends along the south-east side of the PRoW.

R15 - Valley Road Allotment and Leyland Road Allotment

Allotment users have views south west of vegetation and sheds within the allotment gardens. In the middle distance, mature trees and boundary vegetation between the two allotment sites filter views of Penwortham Methodist Church to the north-east. In the background, mature trees along the steep, abandoned railway embankment that extends from the north-east to south west, screens more long distance views. For road users the views are more transient.

R16 - B5254 Leyland Road

In the foreground, the residents (2 properties) and workers and visitors to commercial properties along the B5254 Leyland Road have views north-east of mature trees and vegetation with properties boundaries. In the

middle distance, there are filtered views of moving traffic on the B5254 Leyland Road and an existing flood wall that extends along the north-east side of the road. In the background mature trees and vegetation along the left bank (south) of the River Ribble filter and screen more long distance views of the adjacent river corridor. There are mature trees on both banks of the river. Mature trees and glimpsed views of houses along Broadgate are visible along the right bank (north) of the river. B5254 Leyland road users have more transient views.

R17 PRoW 7-9-FP1, Penwortham Holme East Allotments and Penwortham Holme Recreation Centre

In the foreground, there are views east of mature trees along the left bank (south) of the River Ribble, recreation ground boundary, and PRoW. In the middle distance, there are filtered views of the River Ribble corridor. There are mature trees on both banks of the river. In the background, mature trees and glimpsed views of houses along Broadgate are visible along the right bank (north) of the river.

R18 Penwortham Holme West Allotment

In the foreground, allotment users have views north-east of mature trees that extend along the allotment boundary and the left bank (south) of the River Ribble. In the middle distance, there are filtered views of the River Ribble corridor through the riverside trees. In the background, mature trees and glimpsed views of Preston Sea Cadets building and moving traffic on the A5072 Strand Road are visible on the right bank (north) of the river.

R19 – Buller Avenue, St Mary Magdalen's Catholic Primary School and Crossley House Industrial Estate.

Residents on **Buller Avenue** (6 properties) have views south across Buller Avenue and St Mary Magdalen's Catholic Primary School playground, located on the south side of the road. In the middle distance, tree planting along the south side of the school playground filters views of the industrial estate access road and yard. The industrial estate screens more long distance views.

St Mary Magdalen's Catholic Primary School staff and children have views south-east across the school playing field. To the east mature trees along the WCML railway embankment screen more long distance views. To the south-east mature trees along the playing field boundary filter views of warehouses along the north side of the industrial estate.

Crossley House Industrial Estate workers and visitors have views south and west across the industrial estate yard. Warehouses within the estate and mature trees along the site's boundary filter more long distance views.

4. Assessment of impacts

4.1 Landscape

The expected changes to the landscape character of the study area as a result of the proposed scheme construction works are described below and indicated on Figure 1.2 - 'Landscape and Townscape Character Areas' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-011). In addition to loss of existing resources, further adverse effects on landscape character will result from the work activities and associated infrastructure during the construction period. These are not specifically reported below but will apply to all works to varying degrees depending on the intensity, duration and nature of the construction works.

4.1.1 Broadgate LLCA

Construction

The construction works within the Broadgate LLCA area include:

- Replacement of existing concrete flood wall with a new pre-cast concrete flood wall (1.40 to 1.50m high) between Liverpool Road bridge and Penwortham Old Bridge;
- Replacement of the existing concrete flood wall, with a new pre-cast concrete flood wall (0.58m to 1.01m high) with glass panels positioned on top (0.8m high), along Riverside between Penwortham Old Bridge and Miller Gardens Apartments;
- A new flood gate (1.35m high) to be located in front of Miller Gardens Apartments;
- A new pre-cast concrete flood wall (0.53m high) with glass panels positioned on top (0.8m high) along the boundary of Miller Gardens Apartments;
- A new pre-cast concrete flood wall (1.4m high) along the boundary of the BAC/EE Preston Social and Sports Association cricket ground between Miller Gardens Apartments and Ribble Cottage;
- A new flood gate (1.45m high) located close to Ribble Cottage;
- Replacement of the existing concrete flood wall, with a new pre-cast concrete wall (1.34m to 1.48m high) with glass panels on top (0.8m high), running on the river side of the road in front of The Continental Public House restaurant;
- Lengths of the river bank between Old Penwortham Bridge and the WCML stabilised with blockwork revetment (0.52m to 6.94m); and
- Main compound at Portway Park and Ride and satellite compounds within Broadgate Gardens and within the council depot next to South Meadow Lane.

During construction the works are likely to result in the following loss of landscape resources to allow for the works:

- Removal of 15no. mature trees within Broadgate Gardens;
- Removal of self-sown trees on the wet-side of the existing concrete flood wall, approximately 500 trees at Broadgate;
- Removal of 5no. self-sown trees on the wet-side of the existing concrete flood wall at Riverside;
- Removal of 10no. self-sown trees on the wet-side of the existing concrete flood wall at The Continental;
- Removal of existing hedge along BAC/EE Preston Social and Sports Association cricket pitch, approximately 83m;
- Removal of garden vegetation from within Miller Gardens apartment grounds;
- Temporary closure of the Preston Guild Wheel, NCR 62 and the Ribble Way;
- Temporary closure of footpath along Broadgate along the line of the existing concrete flood wall;

- Temporary loss of amenity grass areas along the length of the new replacement flood wall; and
- Construction traffic, heavy machinery and activity will significantly affect the southern and western edge of the LLCA during construction.

The south and west side of the LLCA will be directly affected by the construction activities mentioned above. These activities will increase visual disturbance within the LLCA. The removal of mature vegetation along the wet-side of the existing flood wall at Broadgate and within Broadgate Gardens will open up views of construction activity from the wider area south of the river. The construction zone impacts upon the existing footpath along the north side of the existing concrete flood wall which forms part of the Preston Guild Wheel cycle route, the Ribble Way long distance path and NCR 62.

The construction activity will be an uncharacteristic feature within the LLCA . The construction of the proposed scheme will therefore result in a moderate magnitude of change on a landscape of medium sensitivity and **moderate adverse effect.**

Operation year 1

During operation year 1, the compound areas and any disturbed ground will be seeded to establish amenity grass or species-rich grassland where appropriate. All lost habitat will be replanted, including trees on a 5 to 1 basis. Due to limited space for mitigation tree planting a nearby location has been identified through discussions with Preston City Council at Fishwick Bottoms.

Broadgate Gardens will be reinstated with shrub planting, wildflower meadows and a seating area. The layout of the existing viewing platform will be incorporated into the new pre-cast concrete flood wall layout. The replacement flood wall will be in keeping with the scale, height and character of the LLCA. A maximum wall height of 1.48m with glass panels positioned on top adjacent to residential properties combined with the removal of self-sown trees along the wet-side of the existing flood wall will retain some views of the adjacent river corridor.

The route of the Preston Guild Wheel cycle/footpath will be widened along sections of bank stabilisation works from Old Penwortham Bridge to Miller Gardens apartments, and from Ribble Cottage to The Continental. The new tree planters to be located on the wider areas will enhance the existing streetscene and complement existing landscape character.

The scheme will result in a slight alteration to the key characteristics of the LLCA affecting a small proportion of the area. The magnitude of change will be minor. Effects will be **minor adverse**

Operation year 15

The magnitude of change will continue to be minor. Effects will be **minor adverse**

4.1.2 Avenham and Miller Parks LLCA

Construction

The construction works within Avenham and Miller Parks LLCA include:

- A new pre-cast concrete flood wall (1.3m to 1.9m high) offset 6.0m to the west of the WCML viaduct to form the revised eastern boundary of the existing council depot;
- A new 11.0m wide, 1.8m high double leaf flood gate located to the south-west of the existing council depot, between the new flood wall and the flood wall tie in with the existing railway viaduct;
- A new 3.0m wide, 1.40m high single leaf flood gate located at the northern end of the new flood wall to retain the existing pedestrian route to the west of the railway viaduct and embankment;

- Existing vehicular entrance to the existing council depot south-eastern corner relocated to be within the car park for Miller Park and Preston Sport Centre' and
- Satellite compound within South Meadow Lane council depot.

During construction the works are likely to result in the following loss of landscape resources to allow for the construction activities:

- Removal of vegetation from within the council depot;
- Temporary closure of the Preston Guild Wheel, NCR 62 and the Ribble Way; and
- Construction traffic, heavy machinery and activity will have an effect on the LLCA setting at the periphery of the park.

Most of the LLCA will be unaffected by construction activity associated with the proposed scheme. The exception is the south-west corner of the LLCA to the west of the railway viaduct. The presence of construction activity will directly impact the south-west entrance to Miller Park (grade II* listed) with consequent effects on the park's character and scenic quality. These impacts will however be very localised and will not affect the wider LLCA. The magnitude of change will therefore be low. Construction of the proposed scheme will therefore result in a minor magnitude of change on a landscape of very high sensitivity and a **minor adverse** effect.

Operation year 1

During operation, the compound areas will be reinstated, any disturbed ground will be seeded to establish amenity grass and all lost habitat will be replanted. The works will include enhancements to the area beneath railway viaduct with an opportunity to provide safer designated routes for cyclist and pedestrians, and enhancements to the entrance to Miller Park.

The operational scheme will not result in a physical disturbance on the LLCA. The operational scheme will therefore result in a minor magnitude of change. Effects will be **negligible.**

Operation year 15

The magnitude of change will remain **negligible.**

4.1.3 The Holme LLCA

Construction

The construction works include:

- A new pre-cast concrete flood wall (maximum 2.2m high) along the western and southern boundary fence lines of Penwortham Methodist Church;
- A new road ramp to raise existing road levels at the entrance to the Penwortham Methodist Church. The private access into the church and the adjacent allotments will be raised by approximately 1.0m; and
- A new footpath ramp along the Golden Way Footpath (PRoW and NCR) adjacent to Penwortham Methodist Church, and a footpath ramp further south within the gap in the abandoned railway embankment at the entrance to Penwortham Residential Park .

During construction the works are likely to result in the loss of the following landscape resources:

- Loss of 1 mature tree, and ornamental tree and shrub planting within the grounds of Penwortham Methodist Church to allow for the works;

- Loss of allotment vegetation and sheds within the contractors working area along the northern and western boundary of Penwortham Methodist Church;
- Loss of trees and scrub along construction access routes along the east side of Golden Way and at the footpath ramp tie in to the abandoned railway embankment near Penwortham Methodist Church. The route will be planned to ensure as little vegetation loss as possible; and
- Temporary closure of NCR 62 and PRoW 7-9-FP20, 7-9-FP21 and 7-9-FP22.

Most of the LLCA will be unaffected by construction activity associated with the proposed scheme. The exception is the south eastern side of the LLCA around Penwortham Methodist Church and adjacent allotment areas and PRoWs. These impacts will however be very localised and will not affect the wider landscape of the LLCA. The magnitude of change will therefore be low. Construction of the proposed scheme will therefore result in a minor magnitude of change on a landscape of medium sensitivity and a **minor adverse** effect**.**

Operation year 1

During operation, any disturbed ground will be seeded to establish amenity grass or species-rich grassland where appropriate. All lost habitat will be replanted and the disturbed areas of allotments will be reinstated. Mitigation and replacement tree and shrub planting within the Church grounds will complement the existing retained vegetation. . The new flood wall and railings will complement the existing brick type and colour of the church building and will be in keeping with scale, height and character of the LLCA.

The presence of the operational scheme will not result in a physical disturbance on the LLCA. The magnitude of change will therefore be minor. Effects will be **negligible.**

Operation year 15

The magnitude of change will remain minor. Effects will be **negligible.**

4.1.4 Lower Penwortham LLCA

Construction

The construction works within Lower Penwortham LLCA include:

- Replacement of existing concrete flood defence wall, with a new pre-cast concrete flood defence wall (1.4m high) with glass panels (0.8m high) running along Riverside Road from the Cadent Gas pipe bridge to Stanley Avenue;
- A new pre-cast concrete flood defence wall along the river bank extending from Riverside Road to Ribble Sidings. Due to limited space in this location (70m length) and poor river bank condition the new flood defences will be constructed on a new river bank extended into the river. A Redi-Rock blockwork revetment will be used to retain the front face of the new bank;
- Removal of the existing flood defence embankment at Ribble Sidings and construction of a new 3.5m high flood defence embankment with a 3m crest width and 1 in 3 side slopes. The existing riverside footpath (NCR 55 and PRoW 7-9-BW34) route will be maintained with an access ramp over the proposed flood defence embankment; and
- Partial infill of the Network Rail dis-used underpass with mass concrete to the east of Crossley Road Industrial Estate.

During construction the works are likely to result in the loss of the following landscape resources:

- Approximately 169 trees including 34 mature trees to allow for the new flood wall and embankment; and
- Temporary closure and diversion of NCR 55 and PRoW 7-9-BW34.

The north side of the LLCA will be directly affected by construction activities for the new flood wall and replacement flood embankment. These activities will increase visual disturbance within the LLCA and will be noticeable across the northern edge of the LLCA, but the majority of the LLCA to the south will be relatively unaffected. The removal of mature vegetation will adversely affect landscape pattern and result in a more open landscape adjacent to the Ribble Sidings and at the end of Hawkhurst Road opening up views of construction activity from the wider area.

The construction activity will be noticeable within the LLCA . The construction of the proposed scheme will therefore result in a moderate magnitude of change on a landscape of medium sensitivity and **moderate adverse effect.**

Operation year 1

During operation, the compound areas and any disturbed ground will be seeded to establish amenity grass or species-rich grassland where appropriate. All lost habitat will be replanted where possible. Due to limited space for mitigation tree planting a nearby location has been identified through discussions with the local authority at Fishwick Bottoms where trees will be planted at a 5:1 ratio.

The replacement pre-cast concrete flood wall will be in keeping with scale, height and the character of the LLCA. A maximum wall height of 1.4 to 1.5m with glass panels adjacent to residential properties and the removal of self-sown trees along the wet-side of the existing flood walls will retain some views of the river corridor.

The replacement flood embankment will be a noticeable feature within a small part of the LLCA, however the new earthworks will not be dissimilar to the numerous existing and dismantled railway embankments that bisect the LLCA. A new wetland area on the dry side of the new flood defence embankment within the adjacent area of Ribble Sidings together with mitigation tree planting adjacent, will provide new habitat and enhance the character of the area. The new flood embankment will be sown with species-rich grassland.

The operational scheme and associated mitigation planting will create a similar environment as currently exists. The magnitude of change will therefore be minor. Effects will be **minor adverse**.

Operation year 15

Establishing mitigation planting and the adjacent habitat area within Ribble Sidings will provide further integration of the operational scheme into the surrounding landscape. The magnitude of change will continue to be minor. Effects will be **minor adverse**

4.2 Visual amenity

The works that would affect the visual amenity of the identified receptors during operation are identified as:

- Introduction of a replacement flood embankment with ramps, replacement pre-cast concrete flood walls, and replacement pre-cast concrete flood walls with glass panels;
- Existing riverbank stabilised with Redi-Rock blockwork revetment;
- Clearance of trees, scrub, ornamental shrubs, hedgerows and amenity grass;
- Planting of trees, shrubs and other plants as mitigation for lost vegetation or for visual and landscape purposes. The removal of trees and other vegetation during construction will be mitigated by new planting but it will potentially take many years for new planting to establish, and then to grow to similar maturity, particularly with regard to trees. In certain locations there may be a medium to longer term visual impact as a result. However in some areas it is not possible to replace lost vegetation due to location of underground services and/or proximity to the flood walls; and
- Introduction of new grassland and wetland mitigation areas.

As identified in Table 6 below, a number of categories of potential visual receptors have been identified, from which existing views are likely to be affected as a result of the proposed scheme. The ZVI of the scheme (the approximate area within which the scheme will be visible) is illustrated in Figure 1.1 - 'ZVI and Visual Analysis' (drawing no. ENV0000009C-JAC-ZZ-ZZ-DR-L-0010

Table 6: Potential visual effects during construction and operation

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
BROADGATE LLCA					
R1	Talbot Road residents (4 properties) High sensitivity	87m	**Construction** Limited rear views of main compound within Portway Park and Ride. Views will be similar to existing. **Operation year 1 and year 15** No change to view upon completion of works	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
R2	Old Milestones Road residents (18 properties) High sensitivity	67m	**Construction** Limited upper floor, rear views across A5072 Strand Road of construction activities for the footpath works and vehicle laydown area to the west of Preston Sea Cadets. Loss of trees to allow for the works will open up views of the River Ribble corridor. **Operation year 1 and year 15** Upon completion of works the view will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Preston Sea Cadets users and visitors Medium sensitivity	10m	**Construction** Visitors to Preston Sea Cadets will have views of construction activities for the replacement concrete slipway, new vehicle laydown area and realigned cycle path and boundary fencing works. Loss of vegetation will open up views of the adjacent river corridor. **Operation year 1 and year 15** Upon completion of the works the view will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Fishergate Hill Shops visitors and workers Medium sensitivity	38m-67m	**Construction** Oblique filtered views west across busy road junction towards contractor's satellite compound and construction activities within Broadgate Gardens. Views filtered by mature trees along the north and east boundary of Broadgate Gardens. The works will form a small part of the overall view. **Operation year 1 and 15** Upon completion of works the view will be similar to the existing view, existing mature trees and hedgerow along the north and east boundary to Broadgate Gardens will filter views of the open space and replacement flood wall.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Nissan Garage, A5072 Strand Road, workers and visitors	76m-100m	**Construction** Filtered views south across busy road junction towards contractor's satellite compound and construction activities within Broadgate Gardens. Views of construction activities and	Minor negative magnitude	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	Medium sensitivity		replacement flood wall will be filtered by existing mature trees along north and east boundary to Broadgate Gardens. **Operation year 1 and 15** Upon completion of works the view will be similar to the existing view.	Minor adverse effect	
	A5072 Strand Road users Low sensitivity	50-164m	**Construction** Transient, filtered views across busy road junction towards contractor's satellite compound and construction activities within Broadgate Gardens. Views of construction activities and completed replacement flood wall will be filtered by existing mature trees along north and east boundary to Broadgate Gardens. The works will form a small part of the overall view. **Operation year 1 and 15** View of replacement flood wall will be similar to existing view.	Minor negative magnitude Minor adverse effect	No change **Neutral effect**
R3	Broadgate residents (17 properties) High sensitivity	18m-40m	**Construction** Open views south of construction activities for the replacement pre-cast concrete flood wall and contractor's satellite compound within Broadgate Gardens. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of vegetation on the left bank (south) of the River Ribble. Existing mature, avenue trees along west side of Broadgate will filter some views of the satellite compound and working area. The works will result in a substantial change to the existing view. **Operation year 1 and year 15**. Open views, south of the completed replacement flood wall (1.4m to 1.5m high). The replacement pre-cast concrete flood wall though not uncharacteristic of the existing view will be higher by approximately 0.17m to 0.75m Removal of vegetation along the wet-side of the existing flood wall will open up views of vegetation on the left bank (south) of the river. Existing mature, avenue trees along the west side of Broadgate and along the eastern boundary of Broadgate Gardens will continue to filter views west. The flood wall will form a small part of the overall view. By year 15, mitigation shrub planting within Broadgate Gardens will be established and the completed flood wall will continue to form a small part of the overall view.	Major negative magnitude **Major adverse effect**	Minor negative magnitude Minor adverse effect
	Broadgate Gardens visitors	0m	**Construction** Broadgate garden will be closed during construction. **Operation year 1 and year 15**.	N/A	Minor negative magnitude

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	High/medium sensitivity		Broadgate gardens will be reinstated with the addition of seating areas and ornamental shrub planting. Visitors to the garden will have open views of the replacement pre-cast concrete flood wall (1.4 to 1.5m high). The removal of the wet-side vegetation during construction to allow for the works and the height of the replacement flood wall will retain some views of the adjacent River Ribble corridor. By year 15 replacement shrub planting will be established and will integrate the replacement flood wall into the surrounding landscape. The flood wall will form a small part of the overall view.		Minor adverse effect
	Broadgate Road users Low sensitivity	4m-5m	**Construction** Open transient views west and along the length of the road of construction activities for the replacement pre-cast concrete flood wall and contractor's satellite compound within Broadgate Gardens. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of River Ribble corridor enhancing the setting and visual amenity. Existing mature avenue trees within the grass verge along the south side of Broadgate will filter some views of construction activity. The construction activities will result in a slight change to the transient view. **Operation year 1 and year 15** Open transient views west and along the length of the road of the replacement flood wall (1.4m to 1.5m high). Existing mature avenue trees within the grass verge along the south side of Broadgate will filter some views of the replacement flood wall. Views will be similar to existing.	Minor negative magnitude Minor adverse effect	No change **Neutral effect**
	Preston Guild Wheel, Ribble Way long distance path and High/medium sensitivity		**Construction** The routes will be diverted during construction **Operation year 1 and year 15** The replacement flood wall will be 1.4m to 1.5m high along Broadgate and will enable some views over the wall of the adjacent River Ribble corridor. The replacement flood wall will obstruct lower level views. The route will be widened along the areas of blockwork revetment with tree planters to enhance the streetscene. At Riverside, the replacement flood wall will have glass panels to retain some views across the river. And at Miller Gardens, the views will be the same as existing. The proposals will result in a slight change to the existing view for year 1 and year 15.	N/A	Minor negative magnitude Minor adverse effect
	Andy's Bee Meadow visitors	12m-26m	**Construction**	Moderate	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	Hight/medium sensitivity		The southern edge of the open space is located within the working area. Visitors to the remainder of the park will have open views from the south end of the meadow towards construction activities for the replacement pre-cast concrete flood wall either side of the existing Cadent Gas pipe bridge on Broadgate/Riverside. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of the river and Penwortham Old Bridge to the south-west, enhancing the setting of the open space. However, the construction activities will be a noticeable part of the view. **Operation year 1 and year 15** Disturbed ground will be reinstated. Views of the replacement flood wall will be similar to existing for year 1 and 15.	negative magnitude **Moderate adverse**	
R4	Riverside residents (20 properties) High sensitivity	10m	**Construction** Open and direct views across the road of construction activities for the replacement pre-cast concrete flood wall with glass panels and Redi-Rock blockwork revetment works to the adjacent river bank. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of construction activities on the opposite side of the river at Riverside Road. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Open and direct views across the road of the replacement pre-cast concrete flood wall (0.8m to 1.2m high) with glass panels (0.8m high) positioned on top. The replacement pre-cast concrete flood wall will be located on the Redi-Rock blockwork revetment approximately 3.0m to 4.5m south of the original flood wall. The replacement pre-cast concrete flood wall though not uncharacteristic of the existing view will be -0.02m to 0.23m higher than the existing flood wall in with 0.8m high glass panels positioned on top of the new pre-cast concrete flood wall. The scheme design and use of materials will help integrate the flood defences into their surrounding visual context. The works will result in a noticeable change to the existing view from lower floors, views from upper floors over the replacement flood wall with glass panels will be the same as existing. No mitigation tree planting is possible due to location of underground services and the flood defences, therefore the completed flood wall with glass panels will continue to result in a noticeable change to the existing view by year 15.	Major negative magnitude **Major adverse effect**	Moderate negative magnitude **Moderate adverse effect**
	Riverside road users	0m	**Construction**	Minor negative magnitude	No change Neutral effect

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	Low sensitivity		Transient views of construction activities for the replacement pre-cast concrete flood wall with glass panels and Redi-Rock blockwork revetment. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of construction activities on the opposite side of the river. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Transient views of the replacement pre-cast concrete flood wall (0.58m to 1.01m high) with glass panels (0.8m high) positioned on top. The replacement flood wall will be located on the blockwork revetment approximately 3.0m to 4.5m south of the original flood wall. The replacement pre-cast concrete flood wall though not uncharacteristic of the existing view will be -0.02m to 0.23m higher than the existing flood wall with 0.8m high glass panels positioned on top of the new pre-cast concrete flood wall and therefore result in a slight change to the existing view. The scheme design and use of materials will help to integrate the flood defences into their surrounding visual context.	Minor adverse effect	
R5	Miller Gardens apartments residents High sensitivity	0m	**Construction** Open and direct views of construction activities for the new 0.53m pre-cast concrete flood wall with 0.8m high glass panels positioned on top, and flood gate (1.35m high) along the apartment site boundary replacing the apartments existing boundary brick wall and railings. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Open and direct views of the replacement pre-cast concrete flood wall with glass panels on top. The flood gate and flood wall will be 0.37m shorter than the existing boundary wall and railings. The top of the glass panels will be 0.37m lower than the existing railings and will retain some views of the river for residents in ground floor apartments. However, the flood gate and adjacent flood wall will obstruct some views of the river for ground floor apartments. The operational scheme will therefore result in a noticeable change to the existing view. Residents views from upper floor apartments will be similar to existing as they will have open views over the new flood wall. By year 15, replacement garden planting will be establishing and will soften views of the flood wall for residents in ground floor apartments.	Major negative magnitude **Major adverse effect**	Year 1 Moderate negative magnitude Moderate adverse effect Year 15 Moderate negative magnitude **Moderate adverse effect**
	National Cycle Route 55	0m	**Construction** The routes will be diverted during construction **Operation year 1 and year 15**	N/A	Minor negative magnitude

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
			The route will be widened along the areas of blockwork revetment with tree planters to enhance the streetscene. At Riverside the replacement pre-cast concrete flood wall 0.58m to 1.01m high) with glass panels (0.8m high) positioned on top will retain some views across the river. The replacement flood wall will obstruct lower level views. At Miller Gardens apartments the views will be the same as existing. The proposals will result in a slight change to the existing transient view along Riverside and no discernible change to the existing view along the dismantled railway embankment for operation year 1 and 15.		Minor adverse effect
R6	Riverside residents (2 properties including Ribble Cottage)	0m	**Construction** Open and direct views across the footpath/cycleway of construction activities for the replacement pre-cast concrete flood wall with glass panels, and Redi-Rock blockwork revetment works to the adjacent river bank. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Open and direct views across the footpath/cycleway of the replacement pre-cast concrete flood wall (1.3m to 1.48m high) with glass panels (0.8m high) positioned on top. The replacement pre-cast concrete flood wall will be located on the Redi-Rock blockwork revetment approximately 3.0m south-east of the original flood wall. The replacement pre-cast concrete flood wall though not uncharacteristic of the existing view will be 0.21m to 0.39m higher than the existing flood wall with 0.8m high glass panels positioned on top of the new flood wall. The scheme design and use of materials will help integrate the flood defences into their surrounding visual context. The works will result in a noticeable change to the residents' existing view from lower floors, views from upper floors over the replacement flood wall with glass panels will be the same as existing. No mitigation tree planting is possible due to location of underground services and the flood defences, therefore the flood wall with glass panels will continue to result in a noticeable change to the existing view by year 15.	Major negative magnitude **Major adverse effect**	Moderate negative magnitude **Moderate adverse effect**
	The Mini Centre staff and customers The Continental Pub and restaurant		**Construction** Filtered views across the road of construction activities for the replacement pre-cast concrete flood wall with glass panels, and Redi-Rock blockwork revetment works to the adjacent river bank. The works will result in a substantial change to the existing view. **Operation year 1 and year 15**	Moderate negative magnitude **Moderate adverse effect**	Minor negative magnitude **Minor adverse effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	staff and customers Medium sensitivity		Filtered views across the road of the replacement pre-cast concrete flood wall (1.3m to 1.48m high) with glass panels (0.8m high). The replacement pre-cast concrete flood wall will be located on the Redi-Rock blockwork revetment approximately 3.0m south-east of the existing flood wall. The replacement pre-cast concrete flood wall though not uncharacteristic of the existing view will be 0.21m to 0.39m higher than the existing flood wall with 0.8m high glass panels positioned on top of the new flood wall. The scheme design and use of materials will help integrate the flood defences into their surrounding visual context. The works will form a small part of the overall view. No mitigation tree planting is possible due to location of underground services and flood defences, therefore the flood wall with glass panels will continue to result in a small change to the overall view by year 15.		
	BACC/EE Preston Social and Sports Association Medium sensitivity	0m	**Construction** Open and direct views south of construction activities for the new flood wall (1.4m high) along the southern boundary of the sports pitches. Removal of the existing tall, evergreen boundary hedge to allow for the works will open up views of the River Ribble corridor and enhance the setting of the sports pitches. The working area will also extend along the eastern boundary of the site. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Open and direct views south of the new flood wall. Mitigation tree and shrub planting will soften views of the flood wall once established. For year 1 and 15 the view will be similar to the existing view.	Moderate negative magnitude **Moderate adverse effect**	Minor negative magnitude **Minor adverse effect**
R7	Meadow Crescent residents (3 storey blocks of flats) High sensitivity	202m	**Construction** Residents will have long distance filtered views south-east of the satellite compound located within the council depot on South Meadow Lane. The compound will form a small part of the overall view. **Operation year 1 and year 15** Upon completion of the works the residents' views will be the same as their existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	South Meadow Lane residents (21 properties)		**Construction** Residents will have rear elevation, upper floor views of construction activities for the new pre-cast concrete flood wall along the south boundary of the BACC/EE Preston Social and	Moderate adverse	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	High sensitivity		Sports Association grounds. Also oblique, front elevation views north-east of the contractor's satellite compound within the council depot. The works will form a noticeable change to the overall view. **Operation year 1 and year 15** Upon completion of the works the residents' views will be the same as their existing view.	negative magnitude **Moderate adverse effect**	
	Preston Sports Club High/medium sensitivity	1m	**Construction** Users of the sports club will have views south-east of the satellite compound located within the council depot. The compound will form a small part of the existing view and will be similar to the existing view. **Operation year 1 and year 15** Upon completion of the works the views will be the same as the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	West Coast Mainline passengers Low sensitivity	20m - 300m	**Construction** WCML passengers will have fleeting transient views west of construction activities for the replacement flood walls to be constructed along Riverside and Riverside Road, and the flood embankment within Ribble Sidings from the railway viaduct. The works will form a small part of the overall transient view. **Operation year 1 and 15** Upon completion of the works views will be similar to the existing view.	No change **Neutral effect**	No change **Neutral effect**
AVENHAM AND MILLER PARK LLCA					
R8	Miller Park visitors High sensitivity	0	**Construction** Visitors will have direct views from the park's south-west entrance of construction activities for the new flood wall and flood gates located to the west of the WCML railway viaduct (outside the park boundary). The parks south-west entrance will be temporarily closed during the construction period. Views from within the park will be limited. Operation year 1 and year 15 Upon completion of the works views will be similar to the existing views.	Moderate negative magnitude **Moderate adverse effect**	No change **Neutral effect**
LOWER PENWORTHAM LLCA					
R9	NCR 55 and PRoW 7-9-BS36C	0m	**Construction** The PRoW and NCR 55 will be diverted during the construction period. **Operation year 1 and Operation year 15** The PRoW and NCR 55 will extend west along a new footpath ramp over the new 3.5m high flood embankment. Walkers and cyclists will have views of the River Ribble corridor to the	N/A	Minor negative magnitude **Minor adverse effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	High/medium sensitivity		north, and once on top of the new embankment, views south over Ribble Sidings habitat creation area. The route will then continue along the south side of the new flood wall with views of mitigation tree planting within the open space at the end of Hawkhurst Road. A 2.2m high replacement flood wall (1.4m high wall with 0.8m high glass panels) extends along the north side of Riverside Road channelling views for pedestrians along the road. By year 15 the established mitigation tree and shrub planting will enhance the visual amenity of the route and soften views of the flood wall and embankment..		
	Margaret Road residents (14 properties) High sensitivity	95m	**Construction** Direct views north of clearance and earthworks which comprise the removal of existing flood defence embankment and mature trees along the north side of Ribble Sidings and the construction of a new 3.5m high flood defence embankment, and 1.5m flood wall to the north of Fraser Avenue. **Operation year 1 and year 15** Direct views of tree, shrub, meadow and wetland areas within the Ribble sidings habitat creation area will provide visual interest to views in operation year 1 and soften views of the replacement flood embankment once established in year 15.	Major negative magnitude **Major adverse effect**	Year 1 Moderate negative magnitude **Moderate adverse effect** Year 15 Minor negative magnitude **Minor adverse effect**
	Ribble Sidings open space - visitors High/medium sensitivity	0m	**Construction –** Ribble Sidings will be within the working area during construction. **Operation year 1** Ribble Sidings will be transformed into a habitat creation area with tree, shrub, meadow and wetland areas in association with South Ribble Borough Council. Users will have views north of the new 3.5m embankment which will be a perceptible change to the view. **Operation year 15** The established habitat creation area will be a resource for the local community, will soften views of the replacement flood embankment and enhance the character of the area.	N/A	Year 1 Minor negative magnitude Year 15 No change **Neutral effect**
R10	Fraser Avenue residents (12 properties)	3m – 30m	**Construction** Direct and oblique rear views from upper floor windows of the clearance of mature vegetation and construction of a 1.5m pre-cast concrete flood wall to the north and 3.2m	Major negative magnitude	Year 1

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	High sensitivity		high replacement flood embankment to the north-east. Garden fencing screens low level views. **Operation year 1** Direct and oblique rear views from upper floor windows of the 1.5m pre-cast concrete flood wall to the north and 3.5m high replacement flood embankment to the north-east. To the north-east, pedestrians will be visible on the ramp over the flood embankment above garden fencing. Garden fencing and planting will screen low level views. The flood embankment will result in a noticeable change to residents' upper floor rear elevation views. **Operation year 15** Mitigation tree and shrub planting will soften and filter views of the flood wall and embankment.	**Major adverse effect**	Moderate negative magnitude **Moderate adverse effect** Year 15 Minor negative magnitude **Minor adverse effect**
R11	Hawkhurst Road residents (12 properties) and Stanley Avenue residents (2 properties), northern end High sensitivity	12m-30m	**Construction** Oblique views of vegetation clearance within open space at the end of the Hawkhurst Road and construction activities for the new footpath within the open space and for the replacement 1.5m high flood wall further north. Garden vegetation filters lower views. The works will result in a substantial change to the view. **Operation year 1** Oblique views of replacement 1.5m flood wall that extends along the north side of the open space. The completed works will result in a small change to the overall view. **Operation year 15** Establishing mitigation tree and shrub planting within the open space will filter views of the replacement flood wall. Residents' views will be similar to existing.	Major negative magnitude **Major adverse effect**	Year 1 Minor negative magnitude **Minor adverse effect** Year 15 No change **Neutral effect**
R12	Riverside Road residents (22 properties) High sensitivity	7m	**Construction** Close and direct views across the road of construction activities for the replacement 1.4m high pre-cast concrete flood wall with 0.8m high glass panels positioned on top, and Redi-Rock blockwork revetment. Removal of self-sown trees along the wet-side of the existing flood wall will open up views of construction activities on the opposite side of the river at Riverside. The works will result in a substantial change to the existing view. **Operation year 1 and year 15** Open and direct views across the road of the replacement 1.4m high pre-cast concrete flood wall with 0.8m high glass panels positioned on top of the wall. The replacement	Major negative magnitude **Major adverse effect**	Moderate negative magnitude **Moderate adverse effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
			flood wall though not uncharacteristic of the existing view will be 0.1m to 0.4m higher than the existing flood wall with a 0.8m high glass panel on top of the flood wall and therefore will result in a noticeable change to the existing view. The scheme design and use of materials will help to integrate the flood defences into their surrounding visual context. The works will result in a noticeable change to the existing view from lower floors, views from upper floors over the replacement flood wall will be the same as existing.		
	Riverside Road users Low sensitivity	0	**Construction** Riverside Road will be closed during construction **Operation year 1 and year 15** Transient views of the replacement 1.4m high pre-cast concrete flood wall with 0.8m high glass panels positioned on top of the wall. The replacement flood wall though not uncharacteristic of the existing view will be 0.1 to 0.4m higher than the existing flood wall with a 0.8m high glass panel on top of the flood wall and will therefore result in a slight change to the existing transient view. The scheme design and use of materials will help to integrate the flood defences into their surrounding visual context.	N/A	Minor negative magnitude **Minor adverse effect**
R13	B5254 Leyland Road residents (3 properties) High sensitivity	28m	**Construction** Front elevation views across B5254 Leyland Road towards construction activities for the flood defence wall and road ramp at the entrance to Penwortham Methodist Church. Rear oblique views north-east of construction activities for replacement flood wall to arch within the Cadent Gas Pipe Bridge. The works will result in a small change to the overall view. **Operation year 1 and year 15** Upon completion of the works views across the B5254 Leyland Road and rear views of the Cadent Gas pipe bridge will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Coffee Shop, B5254 Leyland Road customers and staff Medium sensitivity	28m	**Construction** Front elevation views across B5254 Leyland Road towards construction activities for the flood defence wall and road ramp at the entrance to Penwortham Methodist Church. **Operation year 1 and year 15** Upon completion of the works views across the B5254 Leyland Road and rear views of the Cadent Gas pipe bridge will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	Penwortham Methodist Church visitors and staff Medium sensitivity	0m	**Construction** Visitors to the Penwortham Methodist Church will have close range views from the church grounds frontage of construction activities and loss of adjacent ornamental planting for the new entrance ramp and flood wall to the church vehicular entrance. **Operation year 1** Close range views from the church grounds frontage of the new entrance ramp and adjacent flood wall to the church vehicular entrance. Loss of tree and shrub planting along the west side of the church will open up views of the completed flood wall. The flood wall will form a small part of the overall view. **Operation year 15** Establishing replacement tree and shrub planting along the west side of the church will soften views of the new flood wall.	Moderate negative magnitude **Moderate adverse effect**	Year 1 Minor negative magnitude **Minor adverse effect** Year 15 No change **Neutral effect**
R14	Park Close, Penwortham Residential Park residents (4 properties) High sensitivity	0m	**Construction** Direct rear views of vegetation clearance and construction activities for the 1:12 gradient access ramp along the existing footpath through the gap in the abandoned railway embankment. The works will result in a substantial change to the existing view. **Operation year 1** Direct rear views of completed access ramp through the gap in the abandoned railway embankment. The works will be a noticeable change to the existing views. **Operation year 15** Establishing mitigation planting and vegetation cut back to accommodate the work would soften views of the access ramp. The view will be similar to the existing view.	Major negative magnitude **Major adverse effect**	Year 1 Moderate negative magnitude **Moderate adverse effect** Year 15 Minor negative magnitude **Minor adverse effect**
	PRoW 7-9-FP22 and 7-9-FP23 walkers High/medium sensitivity	0m	**Construction** The PRoWs will be diverted during the construction period. **Operation year 1 and year 15** Upon completion of the works the view will be similar to the existing view for years 1 and 15 .	N/A	No change **Neutral effect**
R15	Valley Road Allotment users	0m	**Construction**	Minor negative magnitude	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	High/medium sensitivity		Contractor's access route will extend along the north-west edge of the allotments, existing vegetation will be protected and retained. Users of the allotments will have views of moving construction traffic filtered by intervening allotment vegetation. The works will form a small part of the overall view. **Operation year 1 and year 15** Upon completion of the works the view will be similar to the existing view, site access areas will be reinstated.	Minor adverse effect	
	Leyland Road Allotment users High/medium sensitivity	0m	**Construction** The allotment area adjacent to Penwortham Methodist Church boundary is in the working area. Users of the allotments will have views south-east of construction activities for the flood walls along the west and south boundary fence lines of the church. The works will be a noticeable change to the existing view. **Operation year 1 and year 15** Upon completion of the new flood walls, the allotment areas will be reinstated. Views will be similar to the existing view.	Moderate negative magnitude **Moderate adverse effect**	No change **Neutral effect**
R16	B5254 Leyland Road Residents (2 properties) High sensitivity	107m	**Construction** Front elevation filtered views across B5254 Leyland Road through self-sown mature trees located along the left bank (south) of the River Ribble of construction activities for the new flood wall along Broadgate on the right bank (north) of the river. Filtered rear, oblique views of construction activities for the new flood boundary walls along the west side of Penwortham Methodist Church. Views filtered by garden and adjacent allotment vegetation. The construction activities will form a small part of the overall view. **Operation year 1 and year 15** Views will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Commercial properties along B5254 Leyland Road Medium sensitivity	107m	**Construction** Filtered views across B5254 Leyland Road through self-sown mature trees located along the left bank (south) of the River Ribble of construction activities for the new flood wall along Broadgate on the right bank (north) of the river. The construction activities will form a barely discernible part of the overall view. **Operation year 1 and year 15** Views will be similar to the existing view.	No change **Neutral effect**	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	B5254 Leyland Road users Low sensitivity	105m	**Construction** Transient views west of construction activities for the new ramp and flood wall at the entrance to Penwortham Methodist Church. The construction activities will form a barely discernible part of the overall view. **Operation year 1 and year 15** The view will be similar to the existing view.	No change Neutral effect	No change **Neutral effect**
R17	PRoW 7-9-FP1 walkers High/medium sensitivity	123m	**Construction** Filtered views east through mature riverside vegetation towards construction activities for the replacement flood wall along Broadgate on the right bank (north) of the river. The construction activities will form a small part of the overall view. **Operation year 1 and year 15** The view will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
	Penwortham Holme Recreation Centre users Medium sensitivity	124m	**Construction** Filtered views east through mature riverside vegetation towards construction activities for the replacement flood wall along Broadgate on the right bank (north) of the river. The construction activities will form a small part of the overall view. **Operation year 1 and year 15** The view will be similar to the existing view.	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**
R18	Penwortham Holme East Allotment users High/medium sensitivity	113m	**Construction** Filtered views north-east through mature allotment boundary vegetation and riverside vegetation towards construction activities at Preston Sea Cadets and the main compound within Port Way Park and Ride on the right bank (north) of the river. The activities will form a very small part of the overall view. **Operation year 1 and year 15** The view will be similar to the existing view.	Negligible negative magnitude **Neutral effect**	Negligible negative magnitude **Neutral effect**
R19	Buller Avenue residents (6 properties) High sensitivity	49m 0m	**Construction** Filtered views towards contractor's access route and working area across the industrial estate buildings and access road. The partial infill works to the Network Rail disused underpass working area will be visible from the school playing field and from the back of the industrial estate buildings .The works will result in a small change to the overall view. **Operation year 1 and year 15**	Minor negative magnitude **Minor adverse effect**	No change **Neutral effect**

Reference	Receptor	Distance (m)	Existing view and changes as a result of the works	Effect during construction	Effect during operation yr 1 and yr 15
	St Mary Magdalen's Catholic Primary School Medium sensitivity Crossley House Industrial Estate Medium sensitivity	0m	Upon completion of the works the view will be similar to the existing view.		

5. Mitigation and enhancement

5.1 Mitigation

Mitigation measures will be required in order to avoid, reduce, remedy or compensate for any adverse landscape or visual effects of the proposed scheme. A distinction can be made between primary mitigation and secondary mitigation. Primary mitigation aims to prevent negative impacts and maximise positive impacts through integral design.

Secondary mitigation deals with negative impacts unavoidable by primary mitigation, through mitigation components such as screening. Ideally, the application of mitigation commences early in the design process and is iterative, in that measures are taken throughout the design process, wherever feasible, to adjust the design to minimise adverse effects and maximise beneficial effects.

In terms of primary mitigation, flood defences have been carefully designed to minimise impacts on existing landscape and visual resources and to integrate the proposed scheme as sensitively as possible into the receiving landscape. The proposed works have been developed so as to:

- minimise direct impacts on vegetation of landscape value, in particular specimen trees;
- minimise land-take from and maximise integration into publicly accessible amenity areas;
- restrict works as far as is practicable to areas in which the proposed change will fit the receiving landscape;
- minimise the height of the replacement flood defences and use construction materials to integrate the proposed scheme into its surrounding context; and
- use of glazed panels and earth embankments where appropriate.

Existing vegetation will be retained wherever practicable and the alignments of the defences throughout the Scheme have been adjusted in order to achieve this. Vegetation protection measures will be put in place prior to the commencement of the construction works and will be informed by a Tree Protection and Arboricultural Method Statement. An Environmental Clerk of Works will monitor implementation and compliance with these measures. Trees and other vegetation located very close to the working area or impacted by the unavoidable incursion of plant and machinery within the root zones will be retained where safe to do so and will be monitored during the five-year establishment period. Precautionary measures will be taken in these circumstances to help protect root zones during the works as far as is practicable. For the Ribble Sidings habitat creation area, it has been agreed that South Ribble Borough Council will take on the long term maintenance after an initial one year establishment period.

In addition to the primary landscape mitigation measures outlined above and the measures integrated into the design of the Scheme as outlined in Section 4; the following secondary mitigation measures will be implemented:

- replacement flood wall colour and design to integrate with surrounding areas and complement adjacent housing materials;
- existing viewing platform layout within Broadgate Gardens to be retained and incorporated as part of the Scheme's proposed enhancements to Broadgate Gardens;
- Cadent Gas Pipe Bridge infill to complement existing stonework and replacement flood wall;
- replacement street furniture and hard landscaping to complement existing;
- tree species selection will be sensitive to their location, for example ornamental species will complement pathways; native species for woodland blocks and river banks;
- well considered pathway connections to integrate the new embankment and replacement flood walls with the existing tarmac path network; and

- wild flower species improvement to selected areas of reinstated grass and wild flower areas.

A number of secondary mitigation measures are shown on Figures 1.4 to 1.12 - 'Environmental Masterplan' drawings (drawings: ENV0000009C-JAC-ZZ-ZZ-DR-L-0002 TO 0010)

As a general note, all trees to be retained along the alignment of the defences will be protected during construction. The predominant type of protection barrier proposed will be 2 metre high welded mesh fence panels as recommended in BS5837:2012. Where circumstances dictate, other suitable protection measures may be used as agreed with the Preston City Council and South Ribble Borough Council Tree Officers.

The preference is to mitigate on site but in places there is limited space due to existing underground services and proximity to flood walls. A nearby location at Fishwick Bottoms has been identified through discussions with local authorities, where trees will be at a 5:1 replanting ratio on loss of semi-mature and mature trees and 2:1 for smaller existing trees. Refer to the 'Landscape Masterplan' drawings Figure1.4 to 1.12, - 'Environmental Masterplan' drawings (drawings: ENV0000009C-JAC-ZZ-ZZ-DR-L-0002 TO 0010) for details.

5.2 Enhancement measures

The Environment Agency has discussed and agreed several enhancement measures with Preston City Council and South Ribble Borough Council. They are shown on the 'Landscape Masterplan' drawings Figure1.4 to 1.12, - 'Environmental Masterplan' drawings (drawings: ENV0000009C-JAC-ZZ-ZZ-DR-L-0002 TO 0010) and include:

- Enhancements within Broadgate Gardens open space to include new footpath route to seating areas and pollinator friendly planting, and incorporation of the existing viewing platform layout into the replacement flood wall design;
- Ecological and landscape enhancements at Ribble Sidings;
- Enhancements within open space at the end of Hawkhurst Road to include new footpath routes , tree and shrub planting;
- Interpretation boards relating to the old railway line and the historic Penwortham ferry crossing, and Penwortham Old Bridge;
- Tree planters and seating along Riverside and near Penwortham Old Bridge to enhance the streetscene and Preston Guild Wheel route;
- Signage and route demarcations to the Preston Guild Wheel route;
- Enhancements to the area beneath the WCML railway viaduct to the south-east of Miller Park; and
- Improvements to the public access routes along Riverside

6. Summary of residual effects

Residual effects are assessed on the assumption that mitigation planting measures will be subject to establishment maintenance and management for a period of 5 years following implementation (subject to landowner agreement where located on private land), and will then be handed back to the riparian owner or landowner for future management.

By year 15, mitigation vegetation along the proposed scheme will have established to help screen and filter views, and integrate the proposed scheme into the surrounding landscape.

6.1 Construction phase

There will significant adverse effects on the following LLCA during construction:

Major adverse effects:

- Broadgate LLCA; and
- Lower Penwortham LLCA

There will be significant effects on views from the following visual receptors during construction:

Major adverse visual effects:

- R3 Broadgate residents (71 properties)
- R4 Riverside residents (20 properties)
- R5 Miller Gardens apartments
- R6 Riverside residents (2 properties including Ribble Cottage)
- R9 Margaret Road residents (14 properties)
- R10 Fraser Avenue residents (12 properties)
- R11 Hawkhurst Road residents (12 properties) and Stanley Avenue residents (2 properties)
- R12 Riverside Road residents (22 properties)
- R14 Park Close (4 properties)

Moderate adverse visual effects:

- R3 Andy's Bee Meadow visitors
- R6 The Mini Centre and The Continental Pub
- R6 BACC/EE Preston Social and Sports Association
- R7 South Meadow Lane residents (21 properties)
- R8 Miller Park visitors
- R13 Penwortham Church visitors
- R15 Leyland Road Allotment users

6.2 Operational phase

There will be no significant effects on the LLCAs during operation year 1 and year 15.

6.2.1 Operation year 1

There will be significant effects on views from the following visual receptors in year 1.

Moderate adverse

- R4 Riverside residents (20 properties)
- R5 Miller Gardens apartments
- R6 Riverside residents (2 properties including Ribble Cottage)
- R9 Margaret Road residents (14 properties)
- R10 Fraser Avenue residents (12 properties)
- R12 Riverside Road residents (22 properties)
- R14 Park Close residents (4 properties)

6.3 Residual effects (year 15)

There will be significant effects on views from the following visual receptors in year 15.

Moderate adverse:

- R4 Riverside residents (20 properties)
- R5 Miller Gardens apartments
- R6 Riverside residents (2 properties including Ribble Cottage)
- R12 Riverside Road residents (22 properties)

7. Conclusions

The most apparent changes to character and views during construction will result from the temporary presence of construction plant, the removal of existing landscape elements such as trees and other vegetation, the construction of a replacement flood embankment, and the construction and replacement of existing flood walls. Tree, hedgerow and scrub removal will be minimised through careful and considerate design followed by adequate protection during the works.

The construction works will be clearly apparent in locations close to the works along Broadgate, Riverside, Riverside Road and Ribble Sidings and will have significant effects upon visual and landscape receptors. The existing built form bordering the river will contain the effects of most low-level construction activity from the wider landscape and views. The existing self-sown tree and scrub vegetation lining the river along the wet-side of the existing flood walls currently filters and screens views of the river; and consequently any loss of this vegetation will open up views of construction.

The likely effects on landscape character and views in operation will arise from the presence of the linear flood defences in the study area. Effects will also arise due to loss of self-sown trees and scrub along the river banks and an increase in height of the replacement flood walls and embankment. Due to the location of underground services and proximity to the flood wall, mitigation planting to soften views will not be possible along Broadgate, Riverside and Riverside Road. Where the replacement flood wall is located on the new blockwork revetment, tree planters are proposed where the area is wide enough not to conflict with pedestrian and cycle access along the Preston Guild Wheel. Sections of the Preston Guild Wheel cycle/footpath will be widened at the locations of the new blockwork revetment between Old Penwortham Bridge and the WCML providing more usable space for pedestrians and cyclists. The proposed scheme will have no discernible effect on LLCAs during operation.

The new and replacement flood defences will be clearly visible in close views for residents along Riverside, Riverside Road, and Miller Gardens apartments. Upper floor views will be the same as existing. Glass panels on top of the replacement pre-cast concrete flood wall will retain some views of the River Ribble corridor. The 3.5m high flood embankment at Ribble Sidings will be clearly visible in rear, upper floor views for residents at the end of Fraser Avenue. The height of the flood embankment with a ramped pedestrian and cycle route access over the crest will impact on the privacy of adjacent residents. Tree and shrub mitigation planting adjacent to property boundaries and at the base of the embankment will reduce the effects once established. There will be few distant views of the proposed scheme due to the screening effect of intervening buildings and vegetation.

8. References

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