

# New Cut Greenway



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## Preface: Place Vision



Bristol is at risk of flooding from the River Avon. The Council, with support from the Environment Agency, has been developing a strategy for managing the tidal flood risk. The preferred option involves constructing flood defences along the New Cut delivered in phases.

The proposals present a once in a generation opportunity along the New Cut to create enhanced public realm incorporating linear walking and cycling routes and a sense of identity to the River Avon. The Greenway proposals will enhance quality of development sites, leveraging the ‘unlocking’ effect of the tidal strategy.

The New Cut Green Way will cascade the benefits of the EZ and EZ+ outwards and will link Temple Meads to Cumberland Basin as well as addressing the severing effect of the New Cut.

This document sets out the Place Concept; the scale of opportunity.

The Place Concept will establish a whole place vision from Netham Lock to Entrance Lock on both sides of the New Cut. This approach delivers on the city’s objectives to make Bristol a fairer, healthier and greener place realising the wider environmental, social and economic benefits.

Bristol has a long history of engineering innovation and investment in its past. Jessopp’s Floating Harbour is an example of the city’s drive to adapt to the changing needs of Bristol as an international port. As a consequence of the past engineered innovation, today the harbour is Bristol’s largest physical asset, a dynamic system of waterways and open spaces that link across the city. Today, the provision of infrastructure to manage the risk from flood presents a vital opportunity to reshape, repair and reconnect the city with its main river. This will maximise development potential, integrate transport and land use opportunities, promote walking and cycling to connect communities to maximise the city’s economic success, resilience, health, social opportunity and quality of life.

# 1

## Introduction



# 1. Introduction

- 1 Proposed flood protection scheme
- 2 Existing aerial view of the Floating Harbour (left) and comparative visualisation of the effect of 1 in 200 year flood (right)

## Background

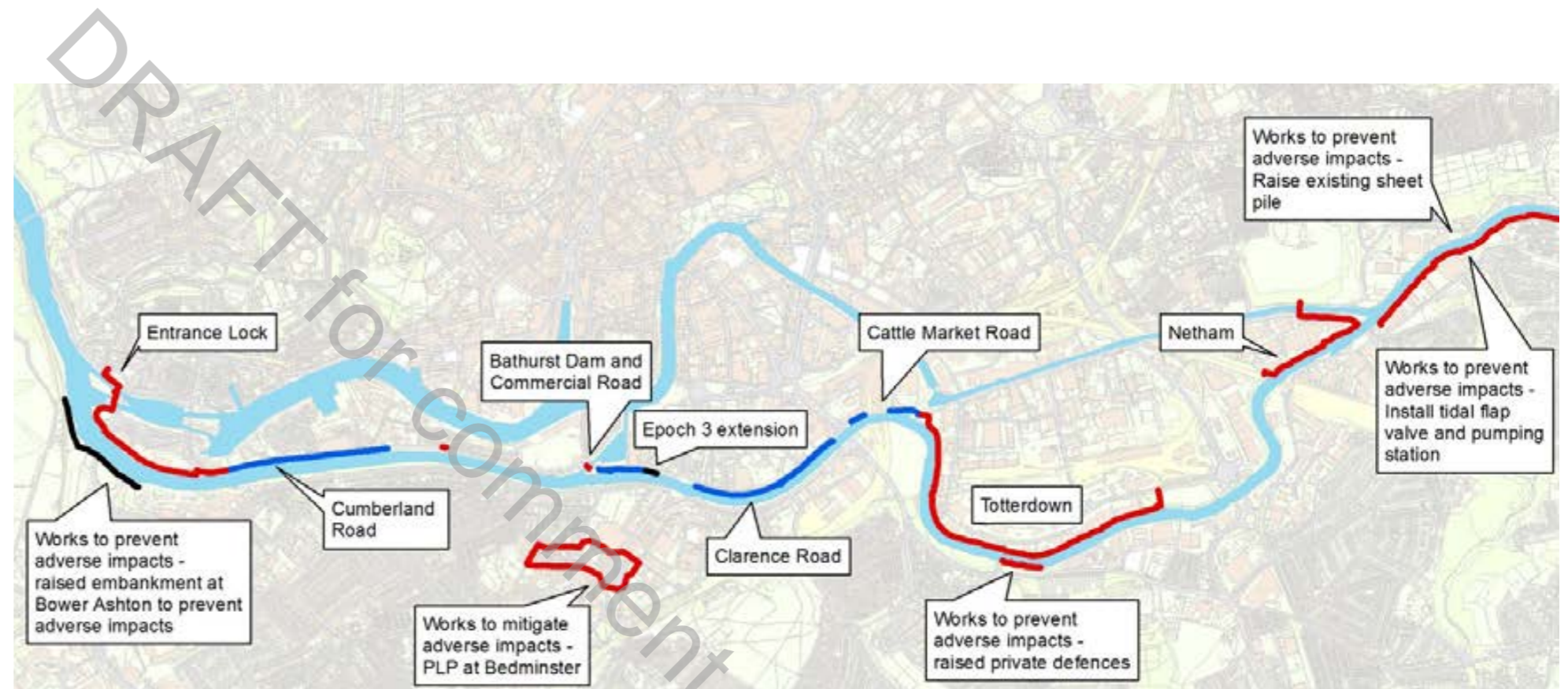
Bristol is at risk of flooding from the River Avon. The predominant risk is high tides and storm surges, causing overtopping of low spots along the New Cut and the Floating Harbour.

A severe tidal event today would result in the flooding of approximately 1,000 homes and businesses. Due to sea level rise the risk is expected to increase significantly over the next 100 years. Without action, in 100 years nearly 3,600 existing properties could be at risk in the event of a severe tidal flood.

The Council, with support from the Environment Agency, has been developing a strategy for managing the tidal flood risk. The main benefit will be resilience and a substantial reduction in current and future flood risk to people, properties, businesses, infrastructure, and heritage assets. The project safeguards the Enterprise Zone and wider central area including the city centre which is of strategic importance to, and an economic driver of, the South West. Other benefits include reducing the constraining effect of future flood predictions on the scale and form of development, and opportunities to integrate new defences within wider regeneration.

The preferred option involves constructing 6.2km of flood defences; delivered in phases:

- Phase 1 works to protect the Floating Harbour from surge with flood walls at low spots along the New Cut and new gates at Entrance Lock and Netham. There is a strong case for the works to be completed as soon as possible – programme for construction between 2023 and 2025.
- Phase 2 consists of further walls along the New Cut in 2030s.
- Phase 3 defences works to heighten when necessary due to sea level rise (estimated 2065).



The Floating Harbour is unique and forms the amenity and cultural heritage at the heart of our City. The operation of the harbour also reduces the risk of tidal flooding to the central area. There are many and varied assets owned and managed by the Council in this area reaching the end of their asset life. Planned asset inspections are anticipated to identify significant maintenance requirements in the short to medium term.



## Scope and Purpose

Place Concept study identifies and assesses the scale of opportunity for the integration of future require dflood risk management infrastructure along the River Avon and New Cut between Netham Lock and Cumberland Basin.

The study takes a context-led, placemaking approach to:

- identify sections of the river corridor of distinct character
- understand how these sections function now, and the additional ways they could function in the future
- understand how change can be successfully accomodated through integrated design to create places of distinctive and coherent identity
- describe a range of spatial options and concepts for each of the distinctive character areas

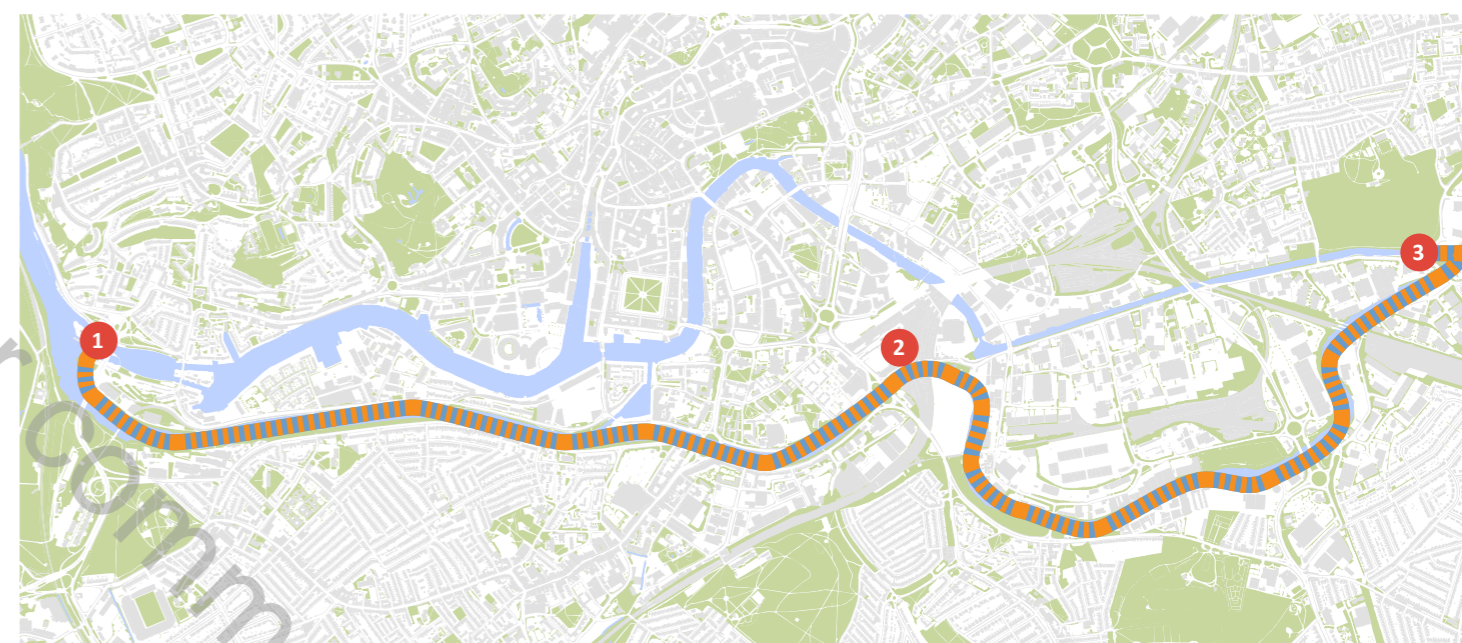
By considering the multifunctional opportunities within the river corridor, the River Avon Tidal Strategy project has the potential to deliver significant additional social, economic and environmental beneficial outcomes for the city including:

- sustainable transport
- health and well being
- biodiversity

The benefits of this combined approach unlocks the potential of the New Cut Greenway for the people living, working and visiting Bristol, contribute to the creation of a sustainable liveable city.

Going forward, the Place Concept study will help to ensure that placemaking, green/blue infrastructure and destinalional opportunities are identified and embedded within the River Avon Tidal Strategy and can form the basis for:

- further discussion and advocacy with stakeholders both internal and external;
- ongoing design development for River Avon Tidal Strategy



- 1 Cumberland Basin
  - 2 Temple Meads Station
  - 3 Netham Lock
- Scope of the New Cut Greenway Place Concept Study

# 1. Introduction

## Place Concept Framework

**Section 1** of this study is prefaced with a Place Vision Preface for the New Cut which recognises and responds to four fundamental needs and opportunities:

- the necessity of implementing new flood protection walls along the River Avon,
- stabilisation and repair of existing historic engineering structures
- the opportunity to improve and enhance a strategic east-west sustainable transport corridor between Netham Lock and Cumberland Basin
- supported by sequential placemaking responses.

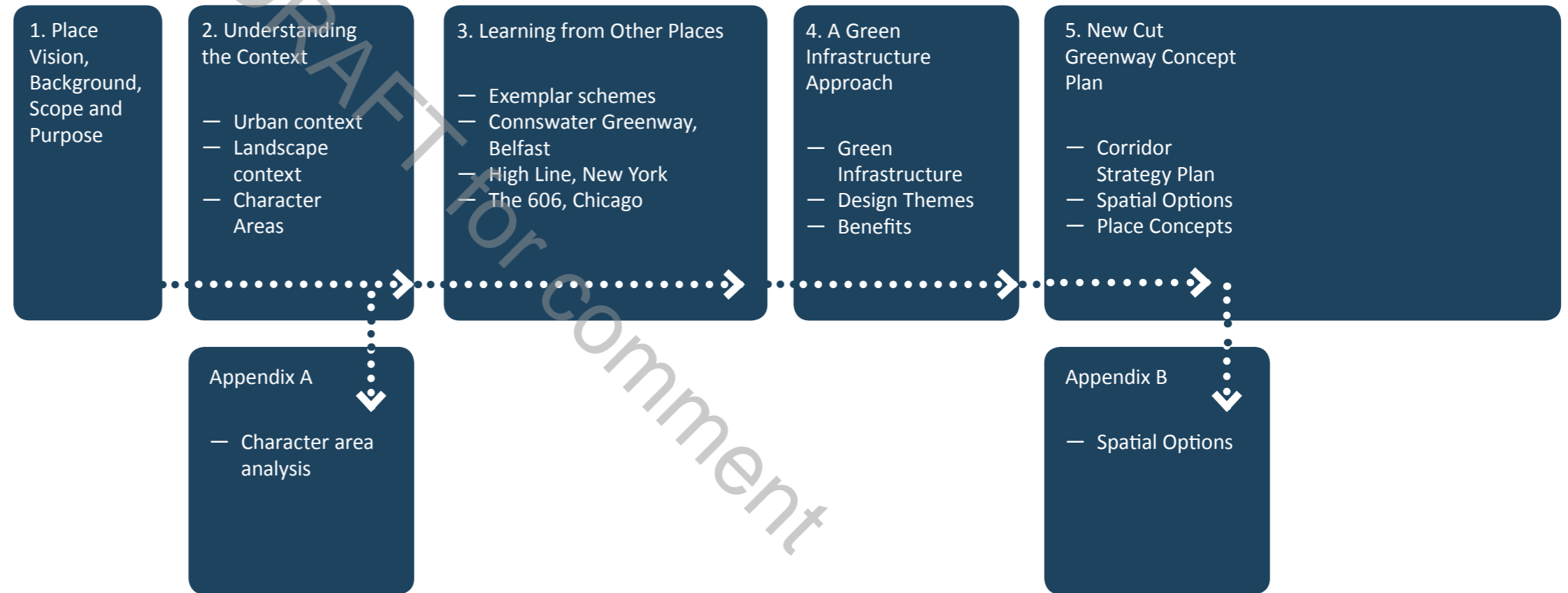
**Section 2** gives a summary analysis of the landscape and urban context within which the New Cut river corridor is sited.

**Section 3** showcases examples from other places where existing city infrastructure has been adapted and integrated to create new multifunctional places.

**Section 4** provides an introduction to green infrastructure which provides the fundamental basis to the design approach for the New Cut.

**Section 5** provides a strategic corridor plan with concept sketches for integrated multifunctional design responses. These sketches have been established through the character area analysis and the spatial options process.

**Section 6** sets out the next steps in the design process for taking these concepts forwards in terms of coordination with existing design projects, phasing and costing.



**Appendix A** gives an overview analysis of each character areas; identifying the key features, the assets, users, opportunities and key links. This analysis provides the baseline from which spatial options have been developed (Appendix B)

**Appendix B** offers different spatial options for integrating the flood wall within each of the none character areas.

# 1. Introduction

## Drivers for Change

Drivers for change are those key issues and trends that necessitate a need for action. Developing an integrated concept for the River Avon is a collaborative, multifunctional response to these drivers which include the following:

### Flood Resilience

Bristol is at risk of flooding from the River Avon. The predominant risk is high tides and storm surges, causing overtopping of low spots along the New Cut and the Floating Harbour. A severe tidal event today would result in the flooding of approximately 1,000 homes and businesses. Due to sea level rise the risk is expected to increase significantly over the next 100 years. Without action, in 100 years nearly 3,600 existing properties could be at risk in the event of a severe tidal flood.

### Health and Well Being

The quality of the environment that people live in has a huge impact on their health and well being, and has the potential to reduce their risk of disease and ill health, and to reduce the financial and operational pressure on already burdened health care systems.

The health and wellbeing of people and their communities can be enhanced through the greater provision of outdoor spaces. Green environments have restorative qualities that can promote recovery from physical and mental stress and have a therapeutic effect on social, emotional and mental functioning. Outdoor green spaces also promote recreation in the form of physical activity that further enhancing long term health and well-being.

### Economic Development

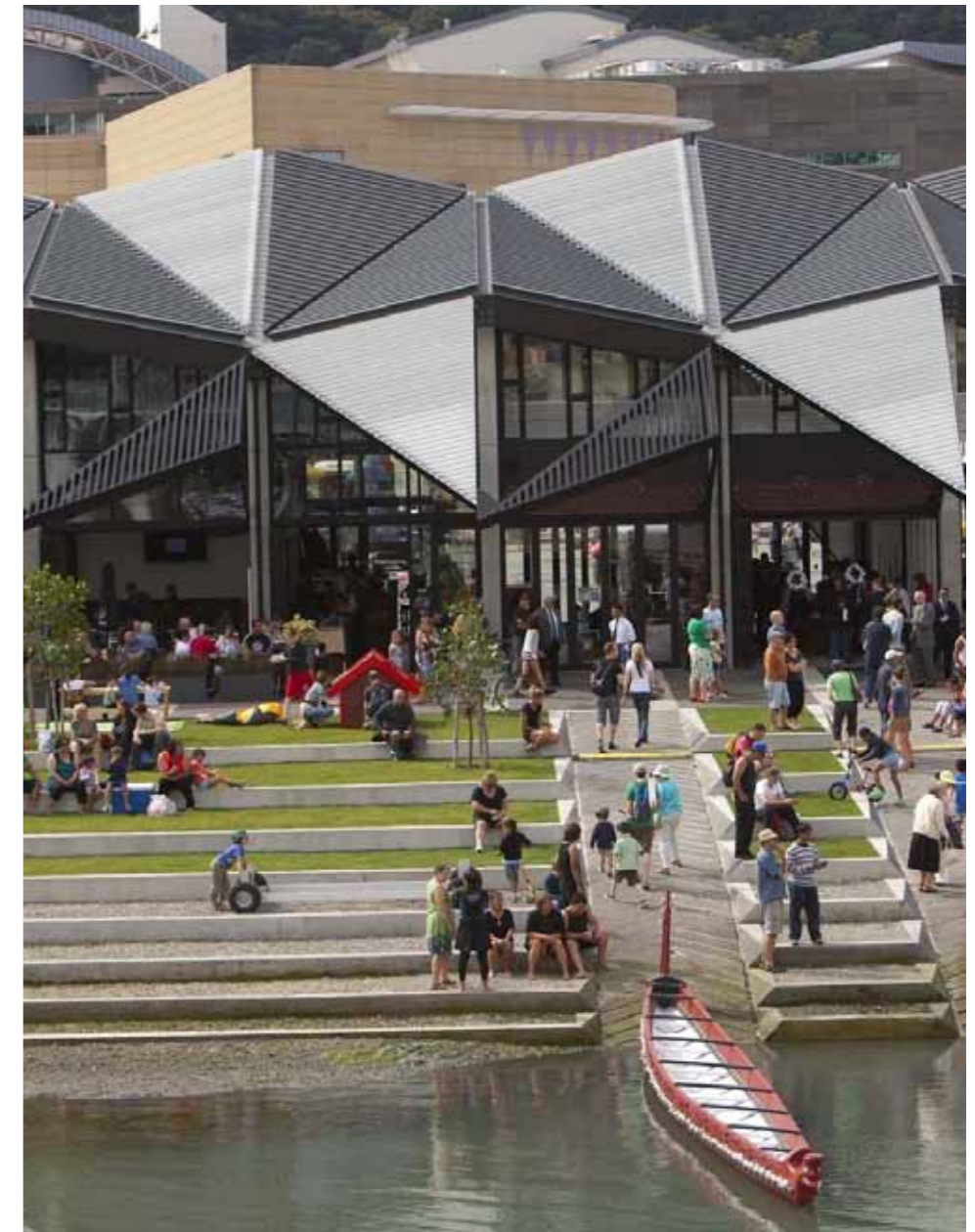
There is an urgent need for new housing within the city in the future, and new employment opportunities for an expanding population. The New Cut Greenway connects multiple areas of development change across the Bristol and as such can directly contribute to the economic well being of the city.

The potential development areas would increase much needed housing and create destinations along the route, increasing the prosperity of Bristol, stimulating growth, reduce unemployment and poverty.

### Sustainable Transport

There is a necessity to reduce use of fossil fuels and reliance on motor vehicles for movement within the city. This can be encouraged by making walking and cycling a safer, more convenient and efficient choice for people, and has the additional benefit of improving health and well being.

Good placemaking principles are the holistic tool for making effective, integrated responses within the urban environment to these drivers for change.



# 2

## Understanding the Context



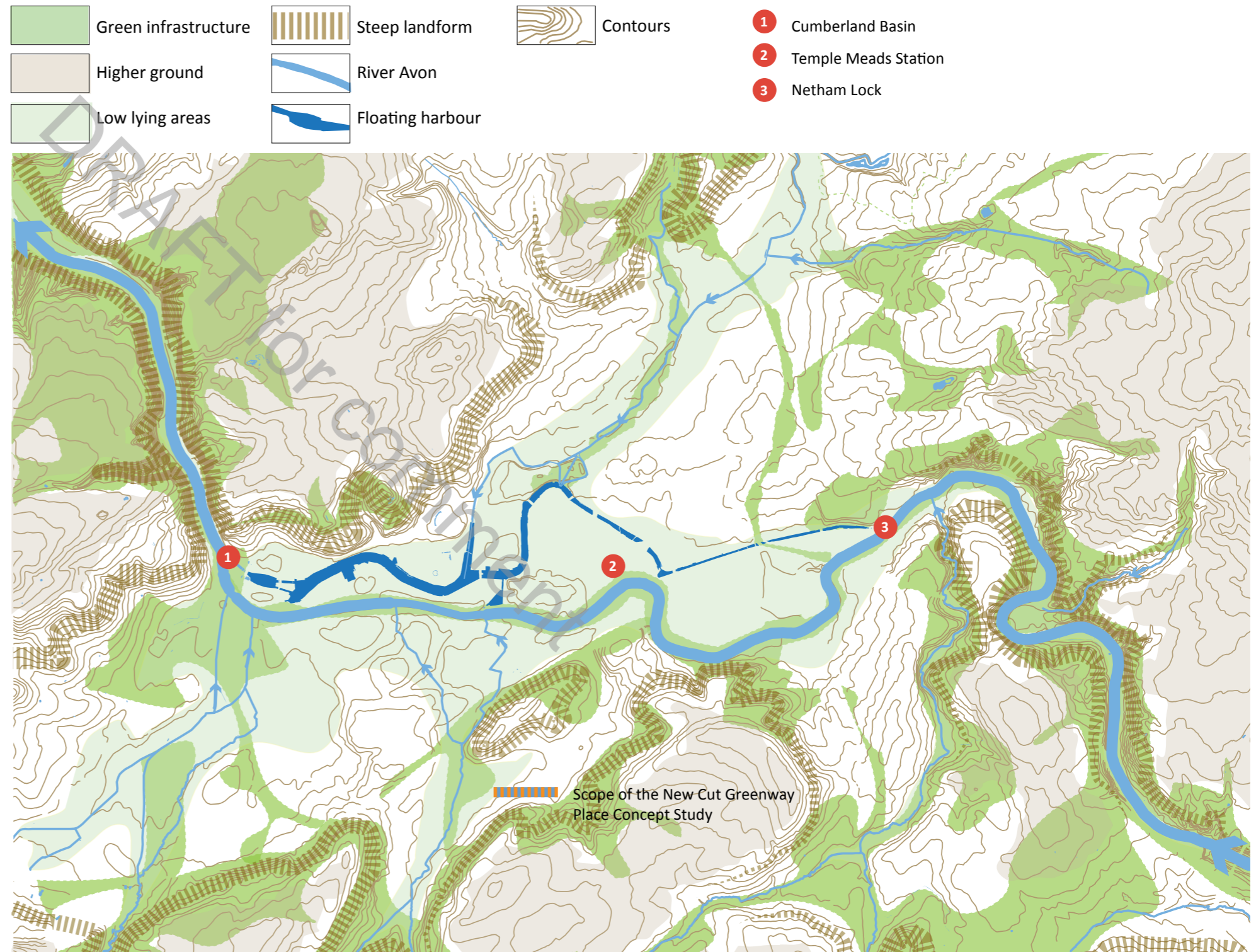
## 2. Understanding the Context

### Landscape context

The landscape context of Bristol shows that the River Avon is a landmark feature. Its central location and linear nature make it one of the most accessible green spaces within Bristol. The tidal nature of the New Cut makes it an ever changing environment with historic, geological and ecological importance. The River Avon enters Bristol from the East via a steep sided valley and exits Bristol in the west along the floor of a steep gorge.

The area of land between the River Avon and floating harbour with The Feeder Canal is a low lying area with river tributaries feeding into the River Avon. The tributaries predominantly flow north/south from the higher ground into the River Avon.

Both the tributary valley floors and areas of steeper landform host areas of green infrastructure as they are inappropriate for development. These areas of green infrastructure connect into the green infrastructure along the New Cut Greenway.



## 2. Understanding the Context

### Urban context

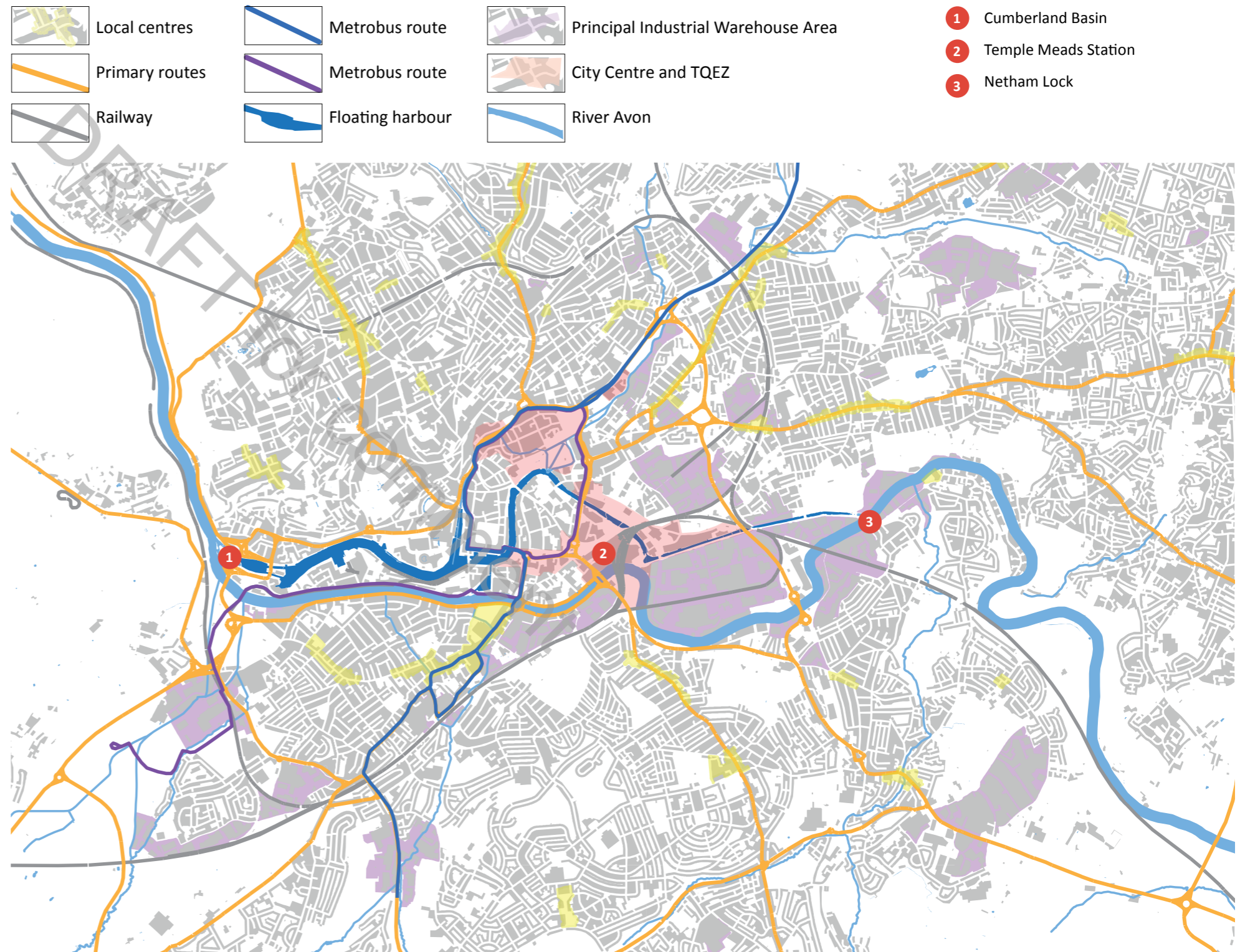
The New Cut Greenway city wide context has been assessed under the headings of urban and geographical context to understand the setting of the New Cut Greenway within Bristol.

The River Avon is a major east/west feature in the heart of Bristol. The main urban city centre is located north of the Floating harbour. The city Centre is circled by a primary route with major routes radiating out. Local centres are largely located along these routes or in close proximity.

The urban pattern along the River Avon is largely former bond buildings and industrial warehousing with some housing. The tight grain dense urban grain is located around the city centre to Cabot Circle, along Park Street and east of the centre towards Bristol Temple Meads railway station. The settlement pattern south of the River Avon is typified by terrace housing.

A large area of the industrial units is posited on the east of Bristol between The Feeder Canal and the River Avon. This area is low lying and known as St Philips Marsh.

The Metrobus route, a public transport system, currently under construction will connect Ashton Vale to Temple Meads and Hengrove to the North Fringe crossing the New Cut at Ashton Avenue Bridge and Bedminster Bridge.



## 2. Understanding the Context

# Green Infrastructure Policy Context

### Policy BCS9 Green Infrastructure

The integrity and connectivity of the strategic green infrastructure network will be maintained, protected and enhanced. Opportunities to extend the coverage and connectivity of the existing strategic green infrastructure network should be taken.

Individual green assets should be retained wherever possible and integrated into new development. Loss of green infrastructure will only be acceptable where it is allowed for as part of an adopted Development Plan Document or is necessary, on balance, to achieve the policy aims of the Core Strategy. Appropriate mitigation of the lost green infrastructure assets will be required.

Development should incorporate new and/or enhanced green infrastructure of an appropriate type, standard and size. Where on-site provision of green infrastructure is not possible, contributions will be sought to make appropriate provision for green infrastructure off site.

### Open Space

Open spaces which are important for recreation, leisure and community use, townscape and landscape quality and visual amenity will be protected.

Some areas of open space may be released, through the development plan process, for appropriate development where:

- They are no longer important for recreation, leisure and community use, townscape and landscape quality and visual amenity;
- Development of all or part of an open space would result in improved urban form or an enhancement to existing open space areas.

New development should incorporate, or contribute towards, the provision of an appropriate level and quality of open space.

### Biological and Geological Conservation

Internationally important nature conservation sites are subject to statutory protection.

National and local sites of biological and geological conservation importance will be protected having regard to the hierarchy of designations and the potential for appropriate mitigation. The extent to which a development would contribute to the achievement of wider objectives of the Core Strategy will be carefully considered when assessing their impact on biological and geological conservation.

Where development would have an impact on the Bristol Wildlife Network it should ensure that the integrity of the network is maintained or strengthened.

### Policy DM25: Greenways

The Core Strategy states that development proposals should maximise opportunities for walking and cycling. This Development Management policy sets out how development proposals should facilitate and, where possible, improve access to the network of 'Greenways'. Greenways are largely off-highway routes in Bristol intended for shared use by non-motorised forms of transport (including walking and cycling). They can be linked to form a network connecting people to facilities and open spaces in and around the city and linking to neighbouring communities and the countryside.

In order to maximise opportunities for walking and cycling:

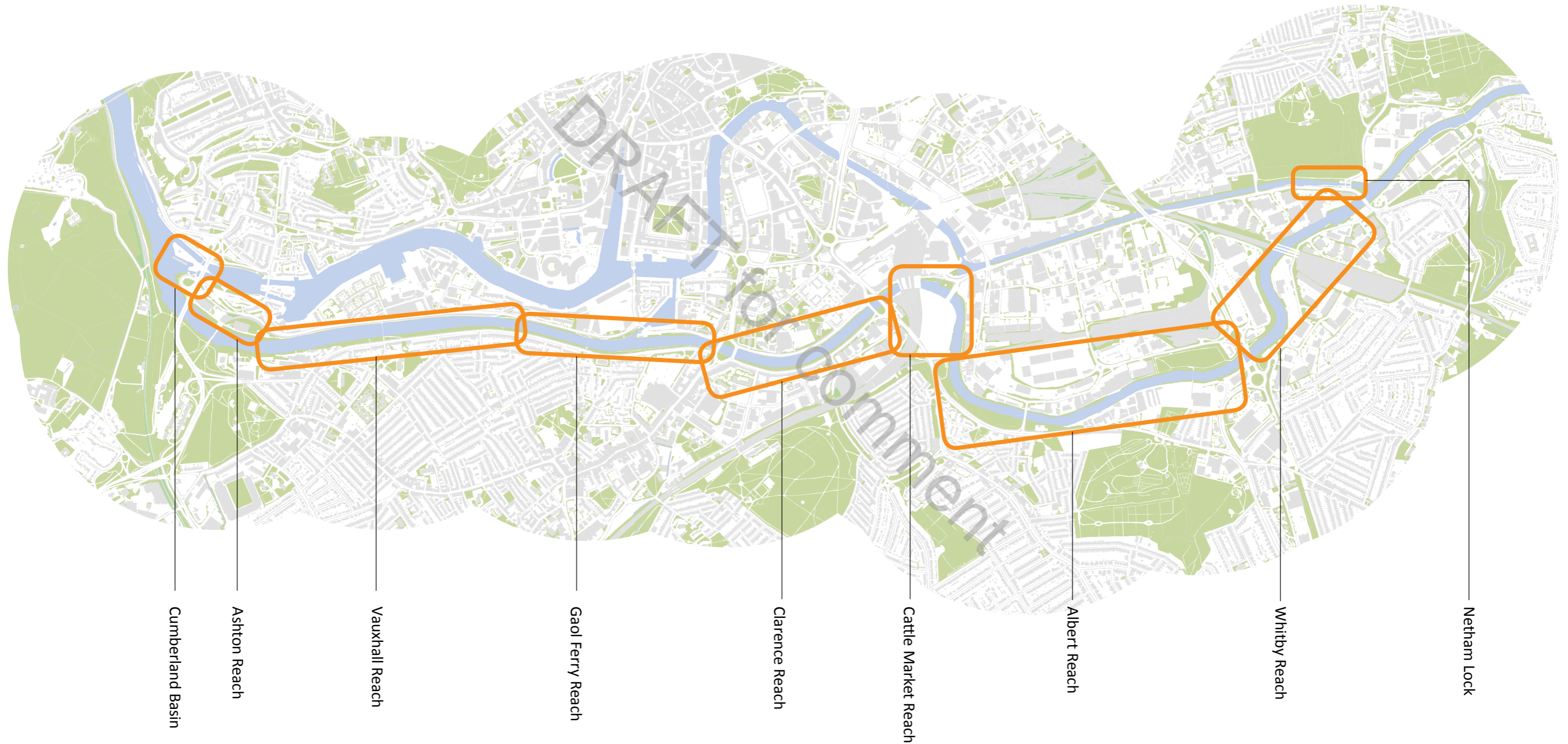
- Development will protect the function and amenity of existing Greenway routes.
- Development which contains proposed Greenway routes should incorporate and provide the proposed route contained within the development site.
- Development which is adjacent to the Greenway network should, where possible, provide spurs to connect with existing or proposed routes.

Any new sections of Greenway routes or spurs should be appropriately designed and landscaped to optimise use by pedestrians and cyclists, ensure the safety and security of users and protect or enhance the location's character and nature conservation value.

Any new sections of Greenways routes or spurs will be achieved either as an integral part of the scheme's design or through planning obligations.

## 2. Understanding the Context

### Corridor Character Areas



The process of understanding and evaluating the context has established nine areas, or reaches, along the corridor; each with its own distinctive character. The assessment of each of these reaches is set out in Appendix A.

# 3

## Learning from Other Places



### 3. Learning from other places

High Line Park, New York City



The High Line Park in New York is the re-purposing of nearly one and a half miles of disused elevated rail infrastructure running through Manhattan. This urban relic of black steel columns that once supported abandoned train tracks now supports an elevated park; part promenade, part town square and part botanical garden. The High Line along act as a section of sustainable transport allowing pedestrians to travel above the city streets for 10 blocks, with exceptional views of the city. As a linear park it has become a major destination draw for residents and visitors alike; enhancing the identity of the city and bringing significant inward investment to the neighbourhoods through which it runs.

The project has been so popular since opening in 2009 that a second section will open, extending the park further and it is hoped that in future the park will cover the rest of the High Line.

Connswater Greenway, Belfast



The Connswater Greenway scheme is a £40M investment by Belfast City Council, Big Lottery Fund, Department for Communities and Department for Infrastructure that providing:

- flood protection
- 9km linear park linking existing green spaces and allowing residents to travel across the city easily via car-free corridors
- 16km of new improved walking and cycling routes
- tourism and heritage trails

The project recognises that if 2% of the people who are currently inactive can be encouraged to become active along the greenway, the project will more than pay for itself and its management and maintenance over a 40-year period.

The 606, Chicago



The 606 in Chicago is a linear park which includes a re-purposed, 2.7 mile elevated section of railway line running east-west on the northwest side of Chicago.

This former train line has been transformed into greenway/linear park creating a sustainable transport link through this part of Chicago providing connections to an among the surrounding communities. The greenway follows along West Bloomingday Avenue and has several entrances and exits along the trail, now a combined route for cyclists, runners and walkers, with events spaces, art and green open areas.

# 4

## Green Infrastructure Design Approach



## 4. Green Infrastructure Design Approach

# Green Infrastructure

Green infrastructure is the network of multi-functional green spaces, including natural and semi-natural features, that run through and beyond the city. It is a term that covers all green spaces regardless of ownership, condition or size. Green infrastructure supports the natural and ecological processes that underpin principles of sustainability, and the delivery a wide range of ecosystem services such as water purification, air quality, wildlife habitats, biodiversity and space for human recreation.

Green infrastructure has a role in providing a cost effective, integrated approach to tackling a range of issues including water quality, air quality, climate resiliency and providing habitats for wildlife. It can perform different functions simultaneously to deliver a wide range of benefits; it supports natural ecological processes, and is integral to the health, wellbeing and quality of life of people and communities.

“Green Infrastructure is a strategically planned and delivered network comprising the broadest range of high quality green spaces and other environmental features. It should be designed and managed as a multi-functional resource capable of delivering those ecological services and quality of life benefits required by the communities it serves and need to underpin sustainability. Its design and management should also respect and enhance the character and distinctiveness of an area with regard to habitats and landscape types.”

**Definition of green infrastructure, Natural England's**

### Green Infrastructure Typology

**Parks and Gardens:** including all parks both urban and country, formal gardens and arboretums

**Amenity Green Space:** including informal recreation spaces, all green area within housing, domestic gardens, other incidental green space, allotments, cemeteries and churchyards and green roofs

**Natural and Semi Natural Green Spaces:** including woodland, scrub, grassland, wetlands, open and running water, bare rock habitats such as cliffs and quarries

**Green Corridors:** rivers and canals including their banks, road and rail corridors, cycling routes, pedestrian paths, and rights of way

**Other:** allotments, community gardens, city farms, cemeteries and churchyards

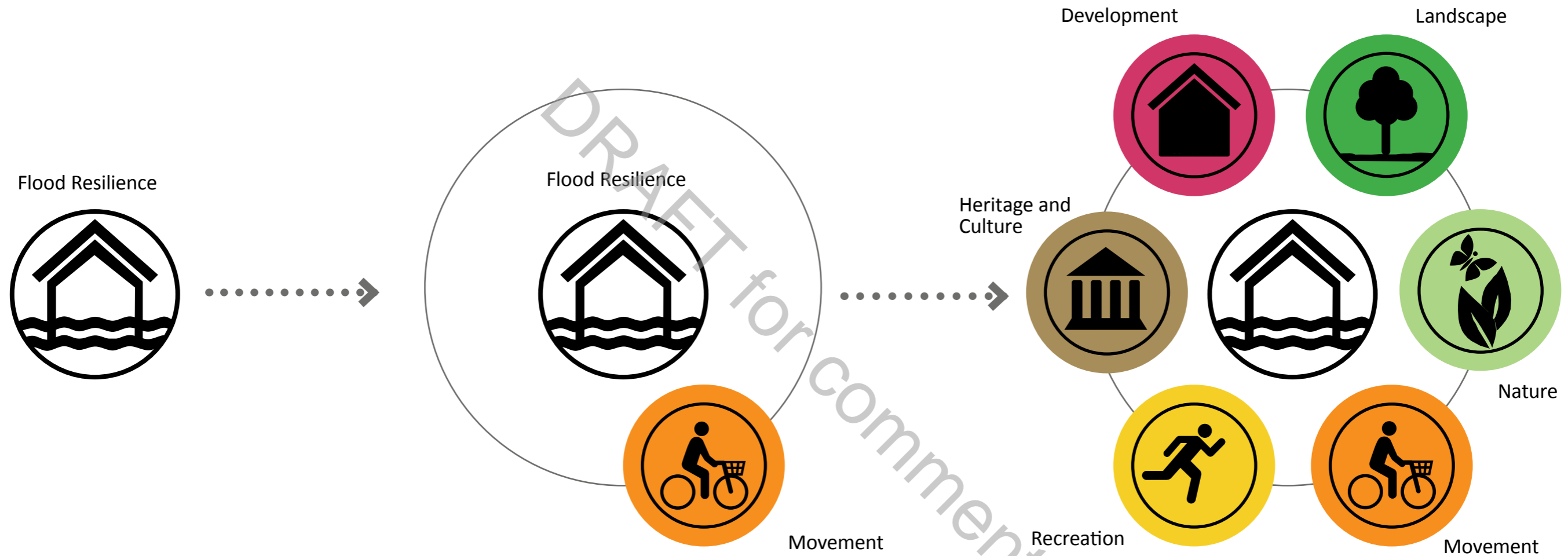
### Green Infrastructure Multifunctionality

- Habitat provision and access to nature
- Access, recreation, movement and leisure
- Landscape setting and context
- Flood attenuation and water resource management

“People want to be reconnected with nature and they want to transform underused land to produce clean air and clean water, good micro-climates and good food. They recognise the urgent need to capture carbon and to create landscapes teeming with wildlife. At the same time, they want to be protected from flooding and they want access to land for health and wellbeing.

**Merrick Denton Thompson OBE CMLI**

# Design Approach



INCREASING COSTS/ INCREASING BENEFITS

Flood wall scheme delivering flood protection:

- maximising resilience
- minimising impact on prosperity and growth







Flood wall scheme integrated with enhanced walking and cycling:

- maximising resilience
- minimising impact on prosperity and growth
- health and well being
- connectivity

Flood wall scheme interated with enhanced walking and cycling and multifunctional green infrastructure:

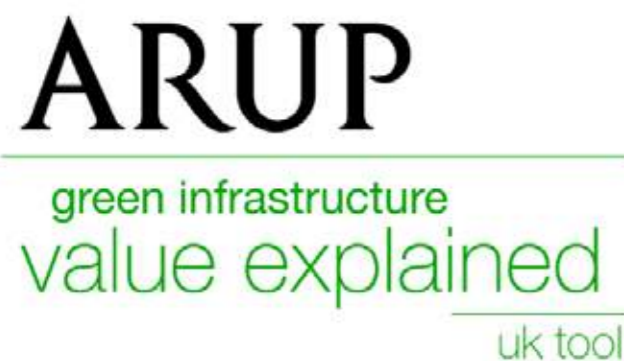
- maximising resilience
- minimising impact on prosperity and growth
- health and well being
- connectivity
- placemaking
- reinforces cultural heritage
- promotes development and inward investment
- supports and increases biodiversity
- visual amenity

## The Benefits

Heading	Social	Economic	Environmental
 <p><b>Development:</b> supporting economic vibrancy by providing the waterfront setting for existing and future major development sites.</p>	New development establishes new communities and can create new destinations; increasing activity and liveliness and natural surveillance of the public realm	Increased quality development promotes development and increases values and footfall for local	Delivers a high quality, sustainable public realm that balances development, movement and
 <p><b>Landscape:</b> creating a publicly accessible, linear greenspace; connecting healthy and well communities across the city</p>	As green infrastructure, landscape positively affects both mental and physical health	Landscape can provide a high quality, natural setting that increases land values and inward investment	Helps to mitigate climate change and air pollution through new tree planting
 <p><b>Movement:</b> connecting people and jobs through enhanced walking and cycling links.</p>	Active travel choices increase levels of activity and fitness, and the physical and mental health and wellbeing of the population.	Providing better active transport choices helps to reduce motor vehicle usage and highway maintenance, with the associated cost benefits	Reduces motor vehicle use which will reduce air pollution and improve air quality
 <p><b>Heritage and Culture:</b> protecting and conserving Bristol's harbour heritage. Supporting the visitor experience. Fostering opportunities to integrate public art.</p>	Cultural heritage tells the story of places and communities by providing contextual identity	Stabilisation, repair and reuse of historic assets is a cost effective, sustainable approach	The repair, reuse and integration of historic assets is key to creating a quality environment, and helps to reduce the environmental impact of construction.
 <p><b>Recreation:</b> encouraging social and physical activity by designing in sociable places, fitness trails and resting spaces.</p>	Fitness and play enhances and promotes healthy lifestyles and social activity	Encouraging a healthy population through recreation choices helps to reduce the costs of health care	Increased activity and liveliness in urban areas enhances a sense of ownership of the public realm.
 <p><b>Nature:</b> providing habitats and food for wildlife to enhance the biodiversity of the river corridor, and the movement of nature through the city.</p>	Connection to nature has a positive affect on the mental and physical health of people	Nature based design approaches can reduce maintenance and operation costs	Reduces/ mitigates biodiversity lost through development

## Quantifying the benefits

At this early stage the New Cut Greenway project has been able to pilot Arup's Green Infrastructure Valuation Estimation (GIVE) tool.



Arup's GIVE tool is a one stop estimate of monetarised wider benefits of green infrastructure, and allows the rapid comparison of the wider benefits of different green infrastructure options. It is intended to provide information about typical benefits of green infrastructure to assist early scheme scoping

### Outputs of the Arup GIVE tool

- Value of amenity improvements to the local community
- Value of pollutant sequestration
- Value of carbon dioxide sequestration
- Energy savings due to removal of surface water from combined sewerage network
- Value of surface water flood risk reduction
- Health benefits for local residents and visitors
- Value of long term employment created

### Limitations of the tool

- Assessment is based on concept of the scale of opportunity
- Assessment performed using national or global data that may not be context specific
- Assumes that flora (trees, green spaces and vegetative SuDS) are all fully established from the outset.
- The tool attempts to quantify non-traded goods, and therefore the assessment provides an estimate for decision making purposes.

### Summary conclusion

The New Cut Greenway presents a once in a generation opportunity to deliver improved air quality, reduce pollution, improve both physical and mental health and wellbeing as well as mitigating climate change.

Impacts of Green Infrastructure proposals have been estimated using the pilot tool. Air quality, carbon sequestration, surface water management, and health (access/view green space and informal recreation) could provide up to £127 million worth of benefits over the next 30 years.

Transport benefits, estimated by Bristol City Council, could total £30-50 million over the same period.

### Next Steps

- Development of New Cut Greenway spatial framework.
- Work to prioritise and define interventions including concept design and budget estimating.
- Justification of interventions to include refined benefits estimation, supported by site specific data (air quality, existing sewerage network, existing access to green space, surveys of residents on frequency of use of green space and willingness to pay).

# 5

## New Cut Greenway Concept Plan



# 5. New Cut Greenway Concept Plan

## New Cut Greenway - West of Temple Meads

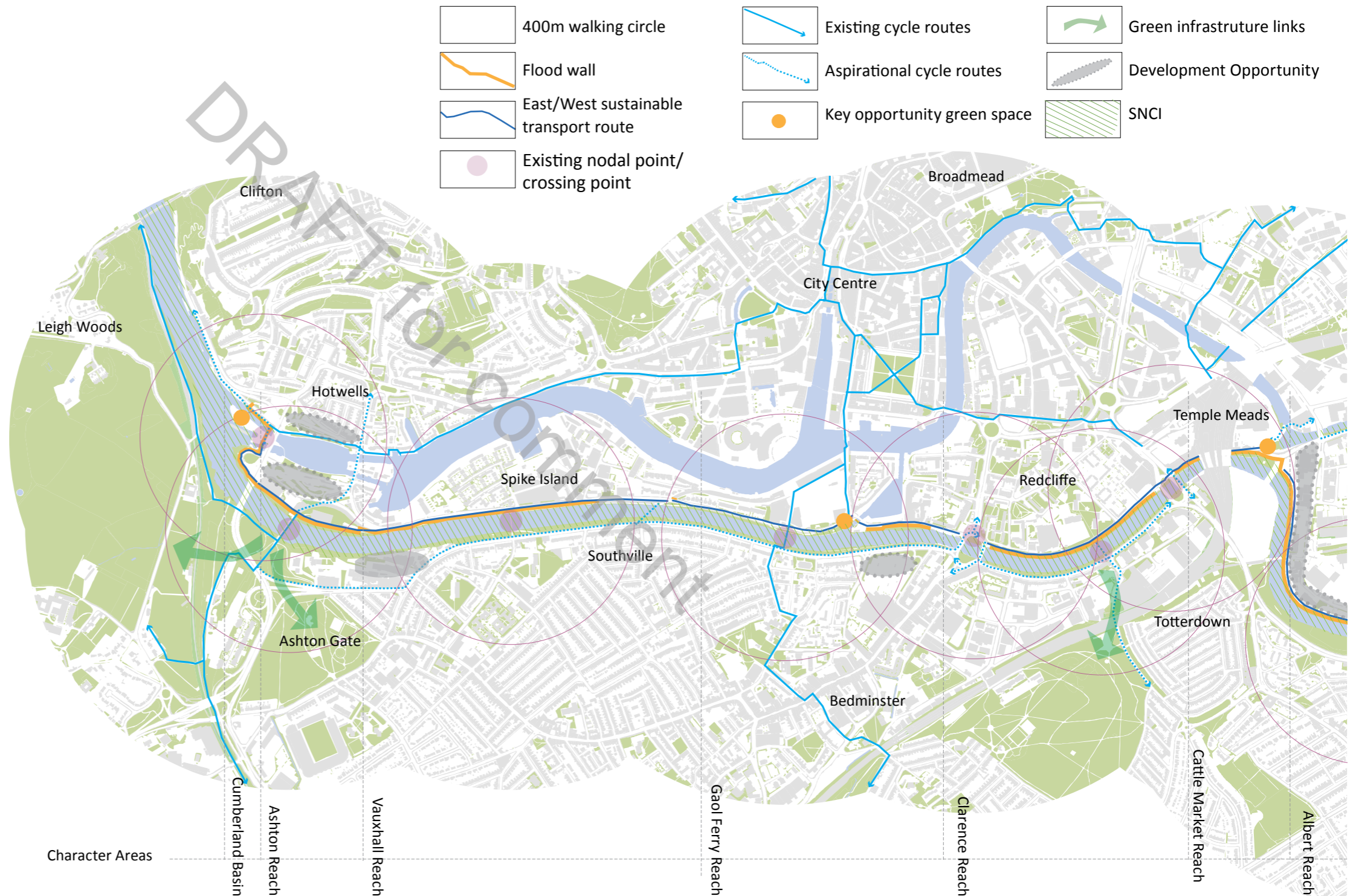
The overall strategy for the New Cut Greenway takes the vision of delivering a sustainable east/west sustainable transport route, asset management of existing river side structures and placemaking opportunities in conjunction with flood defences and illustrates;

- east/west sustainable transport route along the New Cut Greenway;
- SNCI ecological designation;
- proposed location of the flood defence walls;
- existing cycle route infrastructure;
- aspirational cycle route infrastructure;
- areas of development opportunity;
- links with surrounding green infrastructure;
- key opportunity spaces.

The New Cut Greenway overall strategy base map is based on an 800m radius walking circle from the key bridges crossing over the River Avon.

The overall strategy considers the thousands of people travelling along and crossing over the New Cut Greenway on a daily basis connecting with existing infrastructure that links the city.

The overall strategy highlights the importance of the crossing points over the New Cut Greenway and the easy access along this natural feature into the city centre, illustrating the relevance of the New Cut Greenway as the major east/west sustainable transport route. The east/west sustainable transport already exists along large parts of the New Cut Greenway linear route the most accessible green space and important green infrastructure site in Bristol. Section 4 of the Place Concept will show options for continuing the route where gaps exist.



## New Cut Greenway - East of Temple Meads

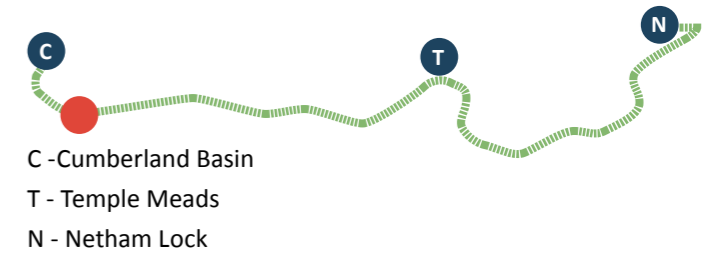


The overall strategy illustrates the numerous communities living within a 400m walking distance of the New Cut Greenway centred on the crossing points and how providing access to a major east/west sustainable transport route would connect parts of the city sustainably reducing car usage.

The overall strategy shows key opportunities spaces and development opportunities that would increase usage of the east/west sustainable transport route and give it desintinational points and increased activity along its route.

It is the intention of this place concept document to show how the flood defence project can integrate with the sustainable transport route to enhance parts of the route removing any gaps, these place concepts are illustrated in Section 4 of the document.





# Ashton Reach Place Concept

At Ashton Reach, the New Cut Greenway forms the river front setting for a redeveloped Cumberland Basin area.

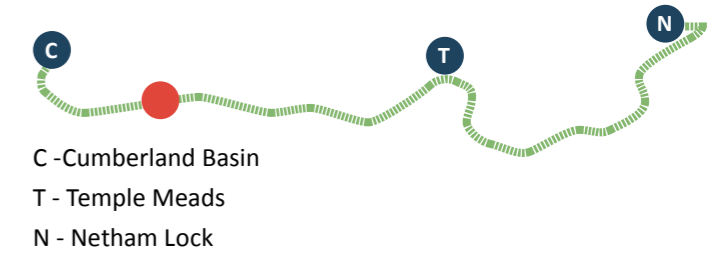
Stabilisation and repairs to the southern bank. Opportunities to increase future walking access through selective management of existing vegetation.

Flood protection wall with integrated habitat enhancements including opportunities for sequential placemaking through seating, public art, play, viewing points, interpretation and outdoor gym features.

Intertidal salt marsh habitat conserved and reestablished following flood wall installation



# Vauxhall Reach Place Concept

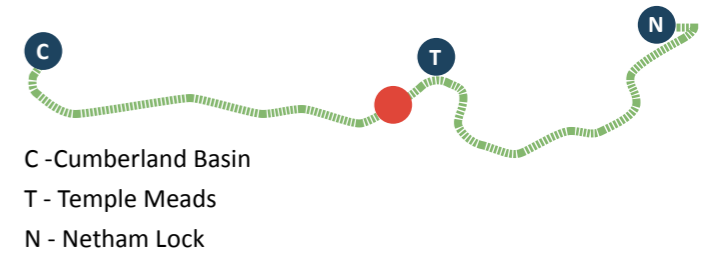


Stabilisation and repairs to the southern bank. Opportunities to open views of the river and increase future walking access through selective management of existing vegetation.

Flood protection wall integrated between Cumberland Road and the heritage railway line

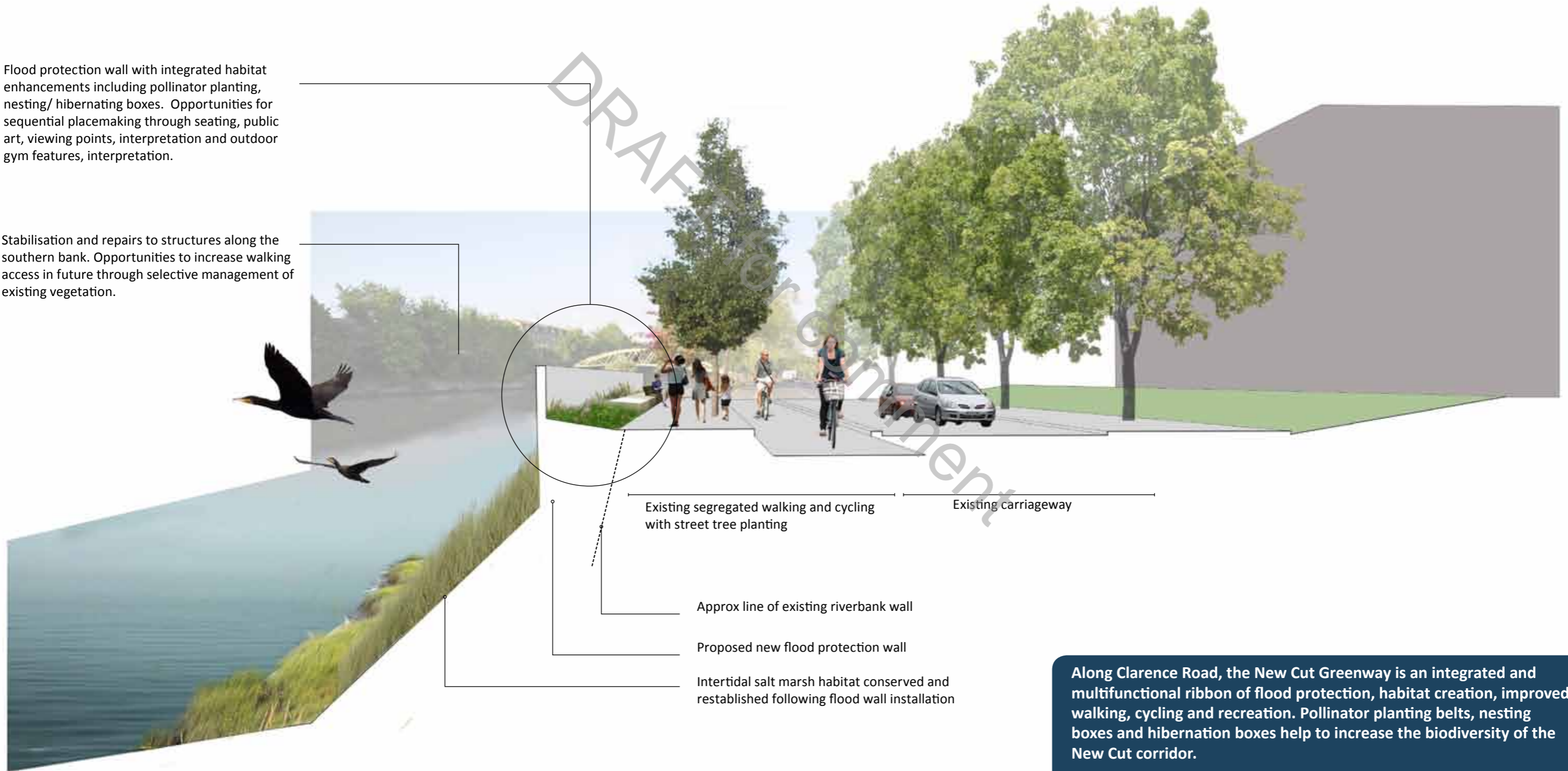
The Chocolate Path is an important part of Bristol's industrial heritage. Stabilisation and repair of the existing structure, and integration of new flood protection creates opportunities to improve the path for commuter and recreational walking and cycling. Rethinking the multifunctionality of the railway trackbed could extend opportunities further to create a linear park linking with a future redevelopment of Cumberland Basin.

# Clarence Reach Place Concept



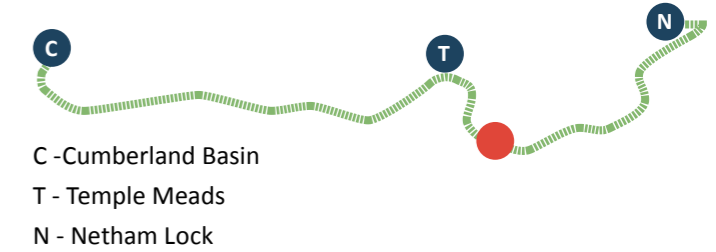
Flood protection wall with integrated habitat enhancements including pollinator planting, nesting/ hibernating boxes. Opportunities for sequential placemaking through seating, public art, viewing points, interpretation and outdoor gym features, interpretation.

Stabilisation and repairs to structures along the southern bank. Opportunities to increase walking access in future through selective management of existing vegetation.



**Along Clarence Road, the New Cut Greenway is an integrated and multifunctional ribbon of flood protection, habitat creation, improved walking, cycling and recreation. Pollinator planting belts, nesting boxes and hibernation boxes help to increase the biodiversity of the New Cut corridor.**

# Albert Reach Place Concept



Increased development density with mixed uses, this will create an active frontage and natural surveillance onto the river side path.

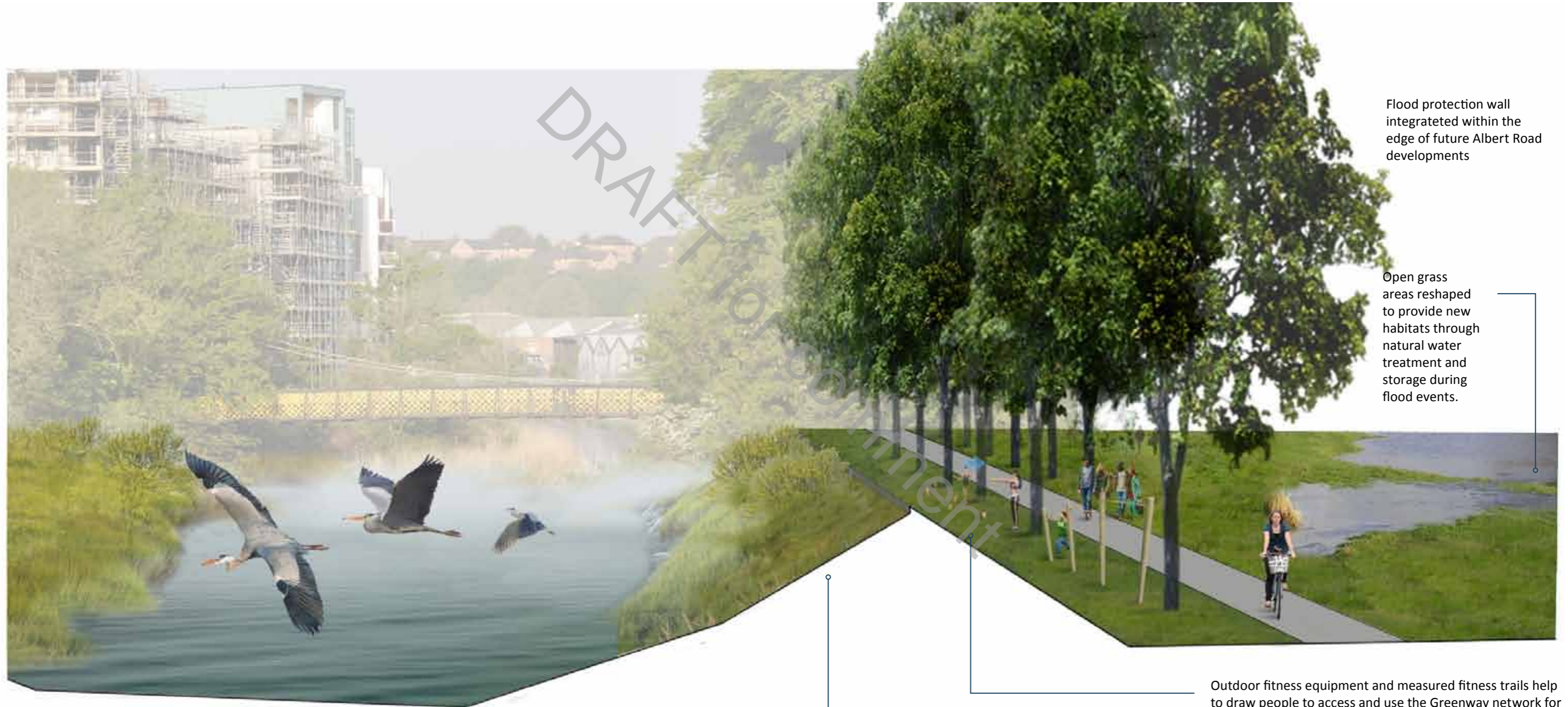
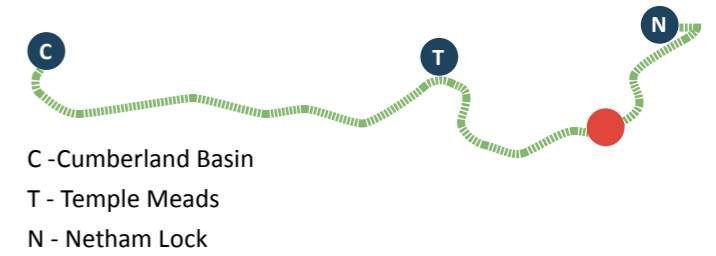
Flood protection wall integrated into the ground floor of the development

Increased pedestrian/cycle path width in proportion with the increase development height to provide a generous river side walkway.

Thin and diversify the range of tree and shrub species with an emphasis on native species to providing a wider range of food sources for birds and other wildlife. Sow wildflower mixes to provide nectar sources for bees and other

The existing industrial use building plots along Albert Reach represent an opportunity for a mixed use high density development, similar to Paintworks on the opposite bank. The flood defences are integrated into the development along the ground flood. The increase in building height is proportionally balanced with a generously wide pedestrian cycle path. Development along Albert Reach would create an active frontage along the river overlooking the naturalistic river edge planting and habitat for wildlife.

# Sparke Evans Park Place Concept



Flood protection wall integrated within the edge of future Albert Road developments

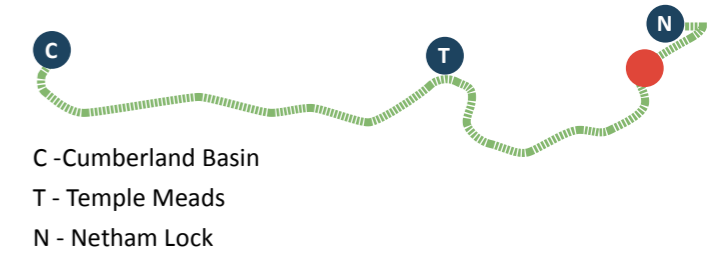
Open grass areas reshaped to provide new habitats through natural water treatment and storage during flood events.

Outdoor fitness equipment and measured fitness trails help to draw people to access and use the Greenway network for recreation.

Existing bank side vegetation selectively managed to increase intertidal saltmarsh habitat and open views to and from the park.

Sparke Evans Park is transformed as an important green space within the New Cut corridor. Better management of the overgrown edges increases both the biodiversity value of the park and the sense of safety; helping to promote the Greenway as a safe, convenient and attractive, walking and cycling commuter route for Bristol's south east communities.

# Whitby Reach Place Concept



Whitby Reach, between St Philips Causeway and Netham Weir, is reopened for walking and cycling through the repair and re-engineering of the existing collapsed footpath.

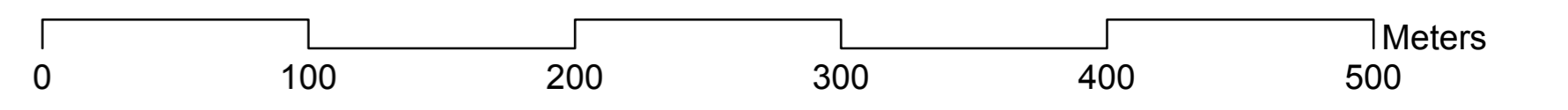
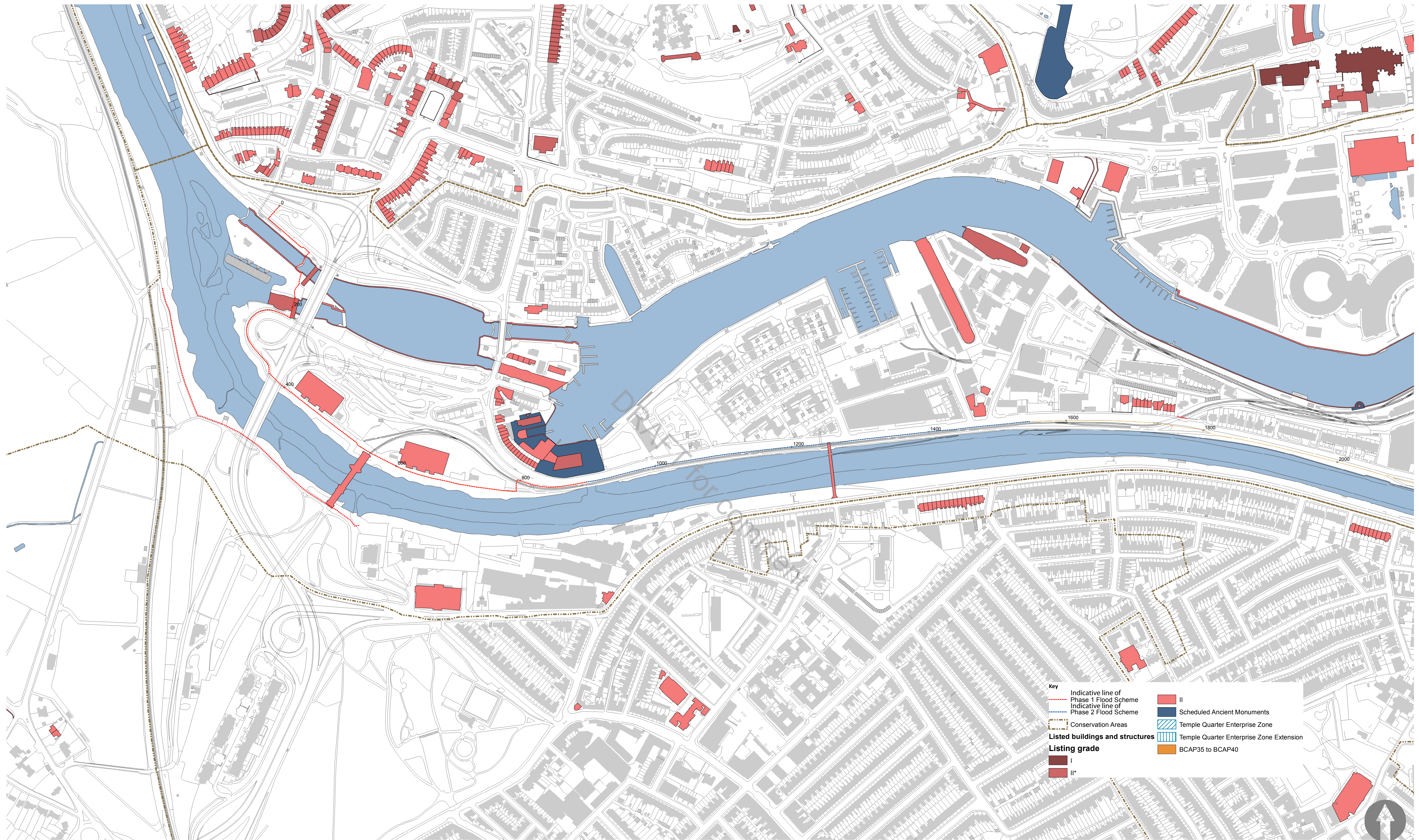
Existing riverside habitats conserved and enhanced

New walkway structure supports walking and cycling and re-establishes link between Netham Weir and St Philips Causeway.

# A

## Appendix A: Area Context Analysis

DRAFT for comment

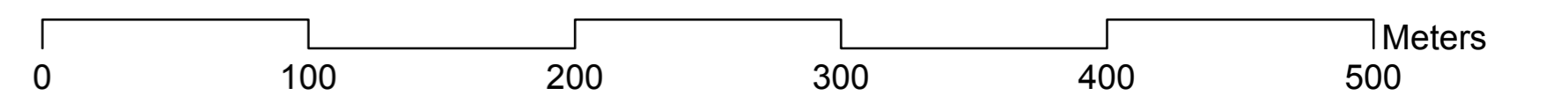
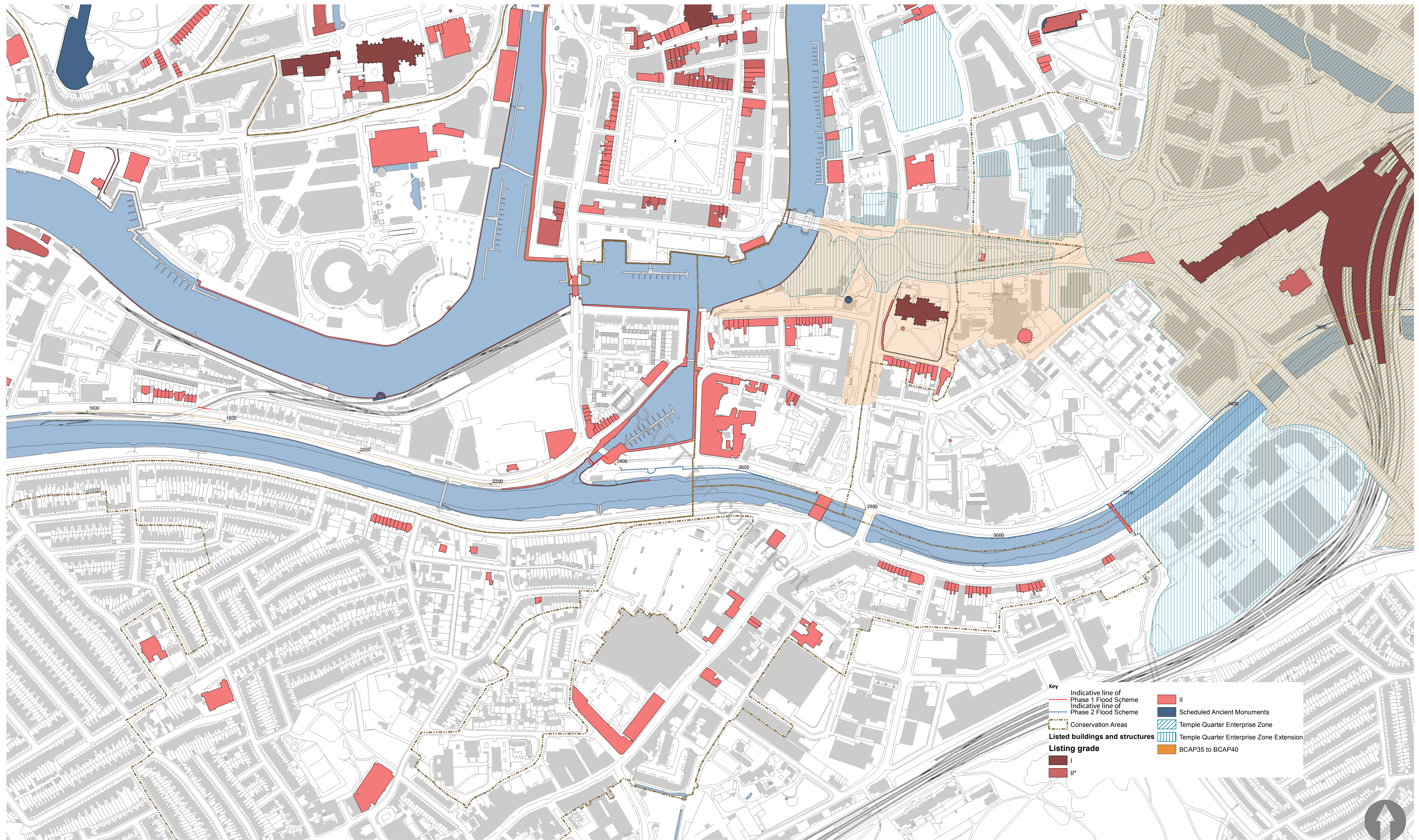


**West**  
(Cumberland Basin - Gaol Ferry Reach)

**New Cut Greenway**  
**Context Plan**

Drawing CDG 17-001- 013



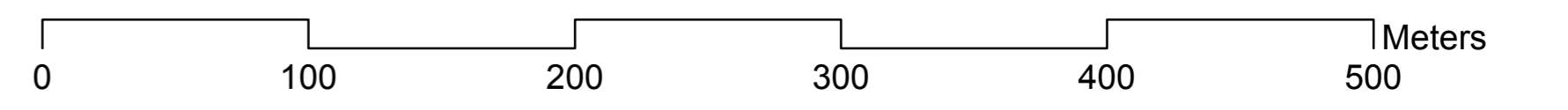
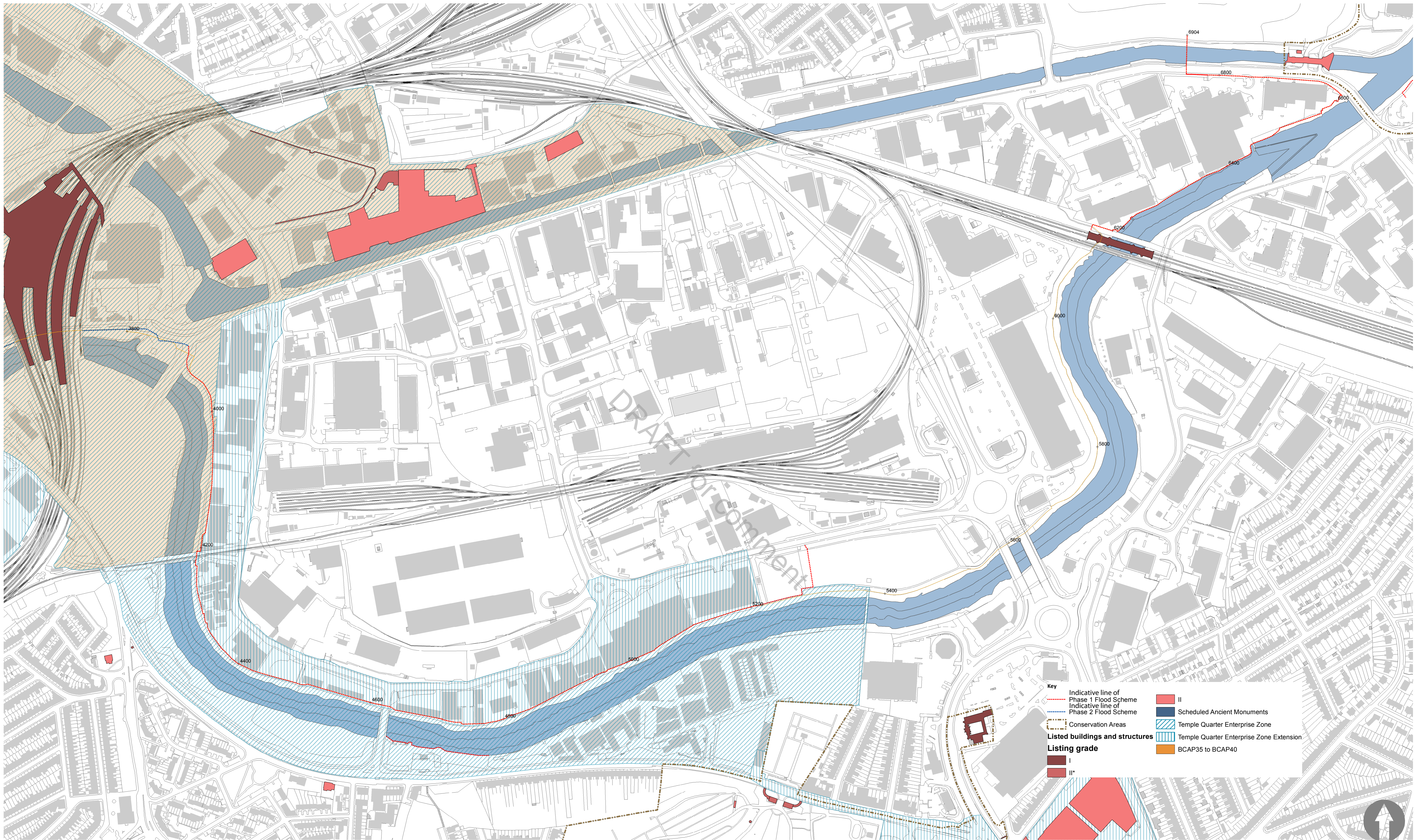


**Centre**  
(Gaol Ferry Reach - Temple Meads)

**New Cut Greenway**  
**Context Plan**

Drawing CDG 17-001- 014





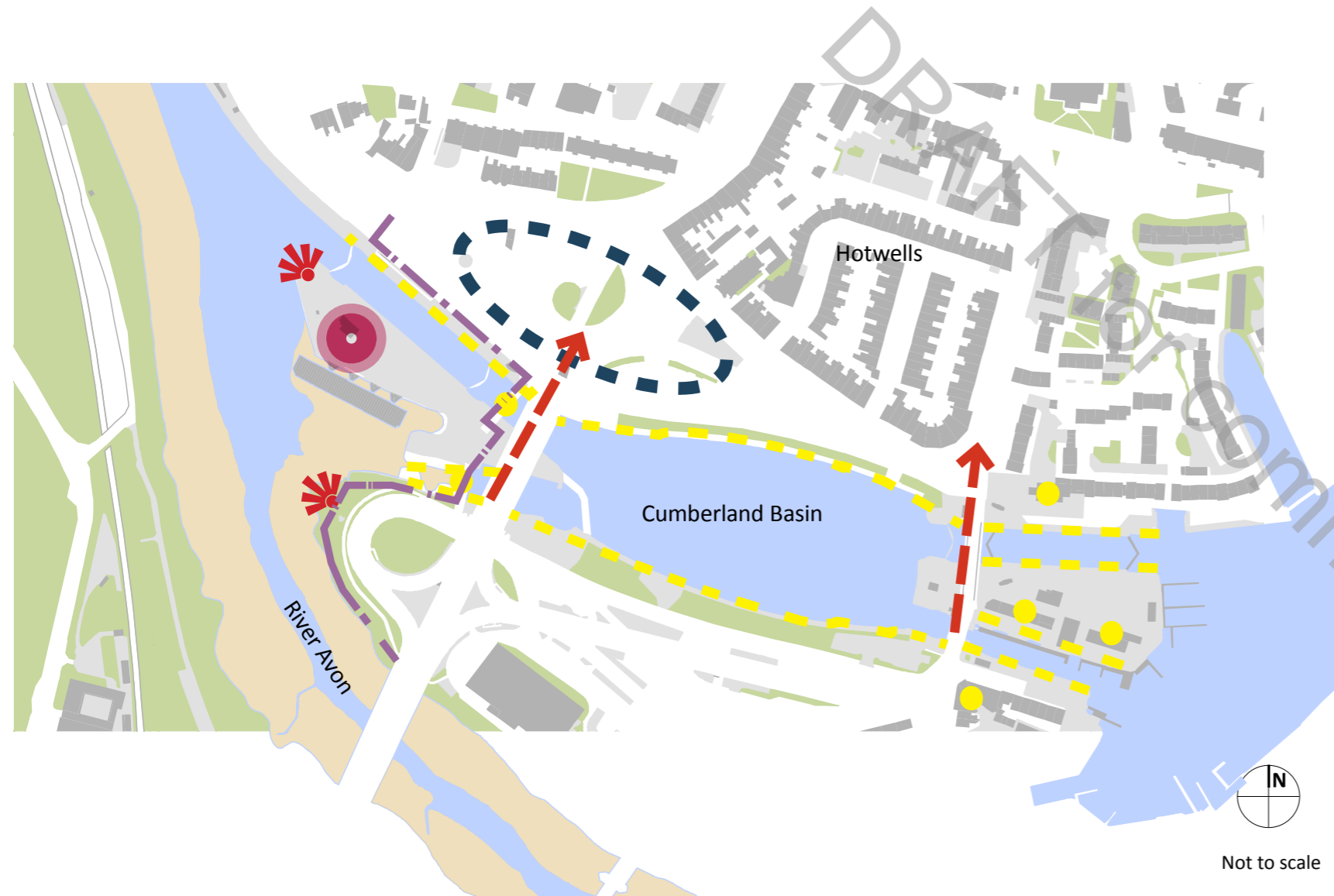
East  
(Temple Meads -Netham Lock)

New Cut Greenway  
Context Plan

Drawing CDG 17-001- 015



# Cumberland Basin



- Proposed location of flood defence wall
- Area of public realm
- Network of roads
- Views
- Cycle path
- Development Opportunity
- Edge of listed structure
- Listed buildings
- Key Links

### Character and Key Features

- Generous area of under used public realm with several small buildings
- Historical context linking the River Avon and Floating Harbour
- Far reaching open views of the river and Clifton suspension Bridge;
- 1960s road network to the north and east reduces the appeal of the area.

### Assets

- Large area of public realm
- Views along the Avon Gorge
- Historic Lock gates
- Historic significance of Brunel's swing bridge
- SNCI designation of the River Avon including the bare estuarine sediments through to saltmarsh communities with a fringe of amenity grassland and scrub.

### Key Links

- Link over Cumberland Basin using top of lock gates;
- Vehicular East/west main link;
- Vehicular North/south link across the Floating Harbour at Cumberland Basin and Merchants Road;
- Pedestrian/cycling link to the city centre, it takes approximately 15 mins to cycle to the city centre.

### Users

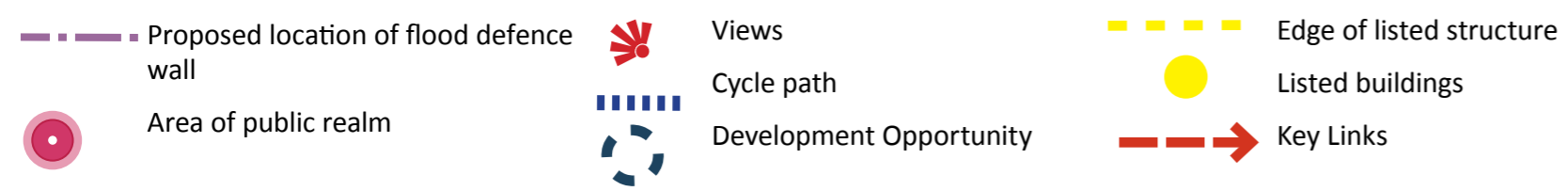
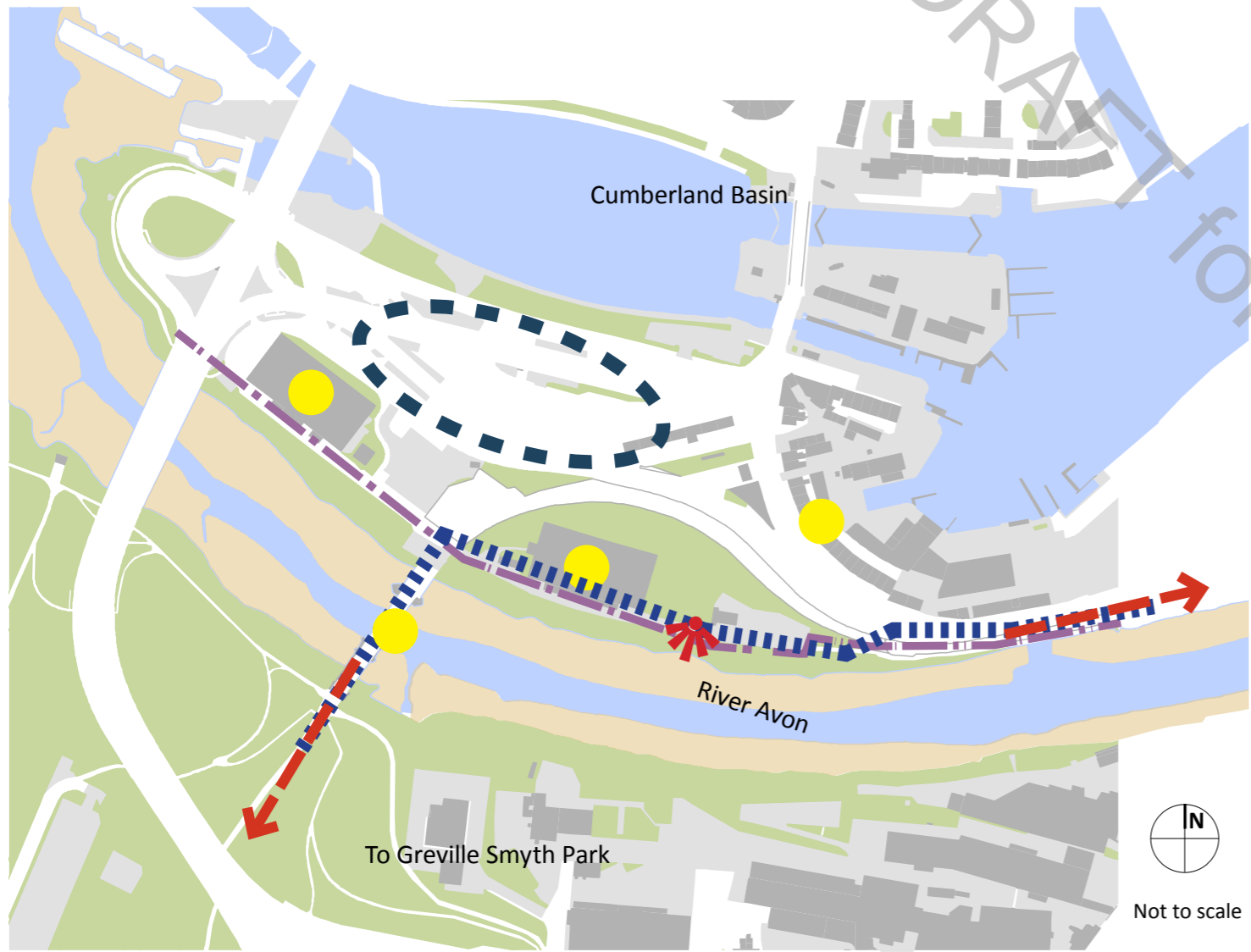
- Pedestrians/cyclist walking through the area.
- Working harbour uses

### Opportunities

- Place making opportunity to enhance the public realm and increase usage linked to redevelopment potential of wider area
- Rationise the road network to release land
- Conserve Brunel's swing bridge within an enhanced public realm setting
- Conserve the bare estuarine sediments, saltmarsh and grassland and enhance the scrub with a diversity of species.



# Ashton Reach



**Character and Key Features**

- Poorly maintained riverside access track serving to the historic bonded warehouses
- River Avon edged with scrub and tree vegetation
- Glimpsed views of the River Avon
- Area surrounded by a network of roads reduces the appeal of the area
- Butterfly Junction an area of rough grassland around the historic train tracks
- SNCI designation of the River Avon including the saltmarsh and upper fringe of rough grassland

**Assets**

- Views over the River Avon
- Historical buildings of A and B Bond
- Links over the Ashton Avenue bridge to the Sylvia Crowe landscape and Greville Smyth Park
- Butterfly Junction a biodiversity ‘hotspot’ supporting a wide variety of butterfly species and green infrastructure connectivity
- Saltmarsh and rough grassland habitat along the tidal River Avon.

**Users**

- Pedestrians/cyclist walking through the area;
- Users of The Create Centre.
- Metrobus

**Key Links**

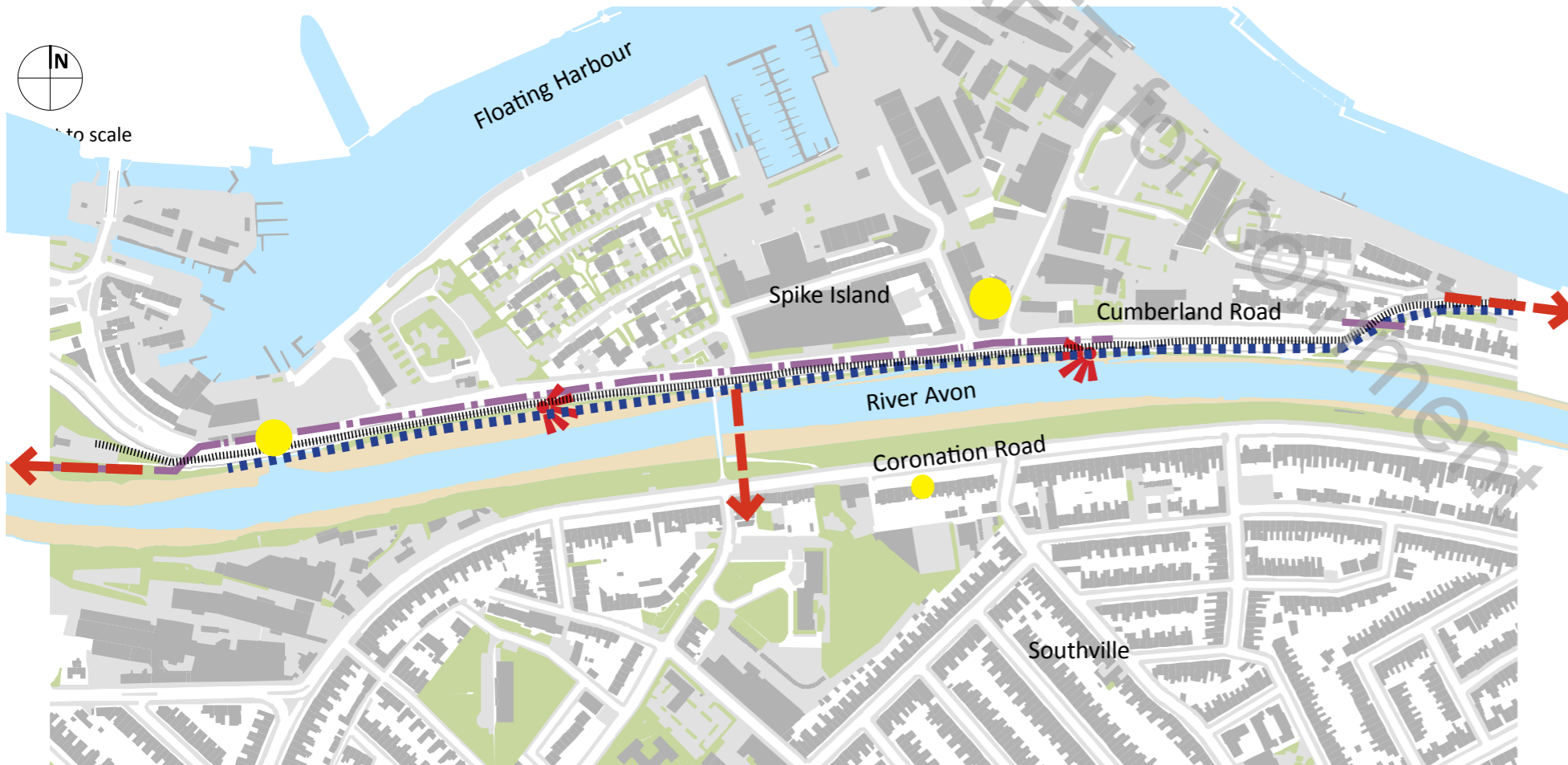
- Pedestrian/cycling link to city centre along the Chocolate Path;
- Pedestrian/cycling and Metrobus link across the River Avon using the Ashton Avenue Bridge;
- Link over Cumberland Basin using Merchants Road and Brunel Way bridges

**Opportunities**

- Enhance the area between A and B Bond and the river as part of comprehensive redevelopment
- Rationalise adjacent road network to deliver development opportunities
- Create flood water storage capacity on the south side of the river
- Conserve the saltmarsh and grassland
- Manage and enhance the biodiversity of scrub for breeding birds on both the north and south river banks creating green infrastructure connectivity with Butterfly Junction.

# A. Character Area Analysis

## Vauxhall Reach



- Proposed location of flood defence wall
- Views
- Chocolate Path
- Harbour Railway
- Listed buildings/ Scheduled Ancient Monuments
- Key Links

### Character Key Features

- Four separate movement types running linear to the river edge, including Pedestrian/cycle path running adjacent to the River, historic railway and road;
- Pedestrian/cycle path separated from the train track with iron railings;
- Cumberland Road separated from the train track with level difference and iron railing;
- Contrasting open character of the Chocolate path to the significant trees and shrubs cover on south bank of the river.
- SNCI designation of the River Avon including the saltmarsh and upper fringe of rough grassland.

### Assets

- Public Footpath and cycle track running adjacent to the River Avon;
- Views of the River Avon;
- Historical train tracks;
- Flora within the train track creates green infrastructure connectivity with Butterfly Junction
- Well treed south bank
- Metrobus route.

### Users

- Pedestrians/Cyclist;
- Historic train at the weekends for 6 months of the year;
- Vehicles along Cumberland Road;
- Metrobus in the near future

### Key Links

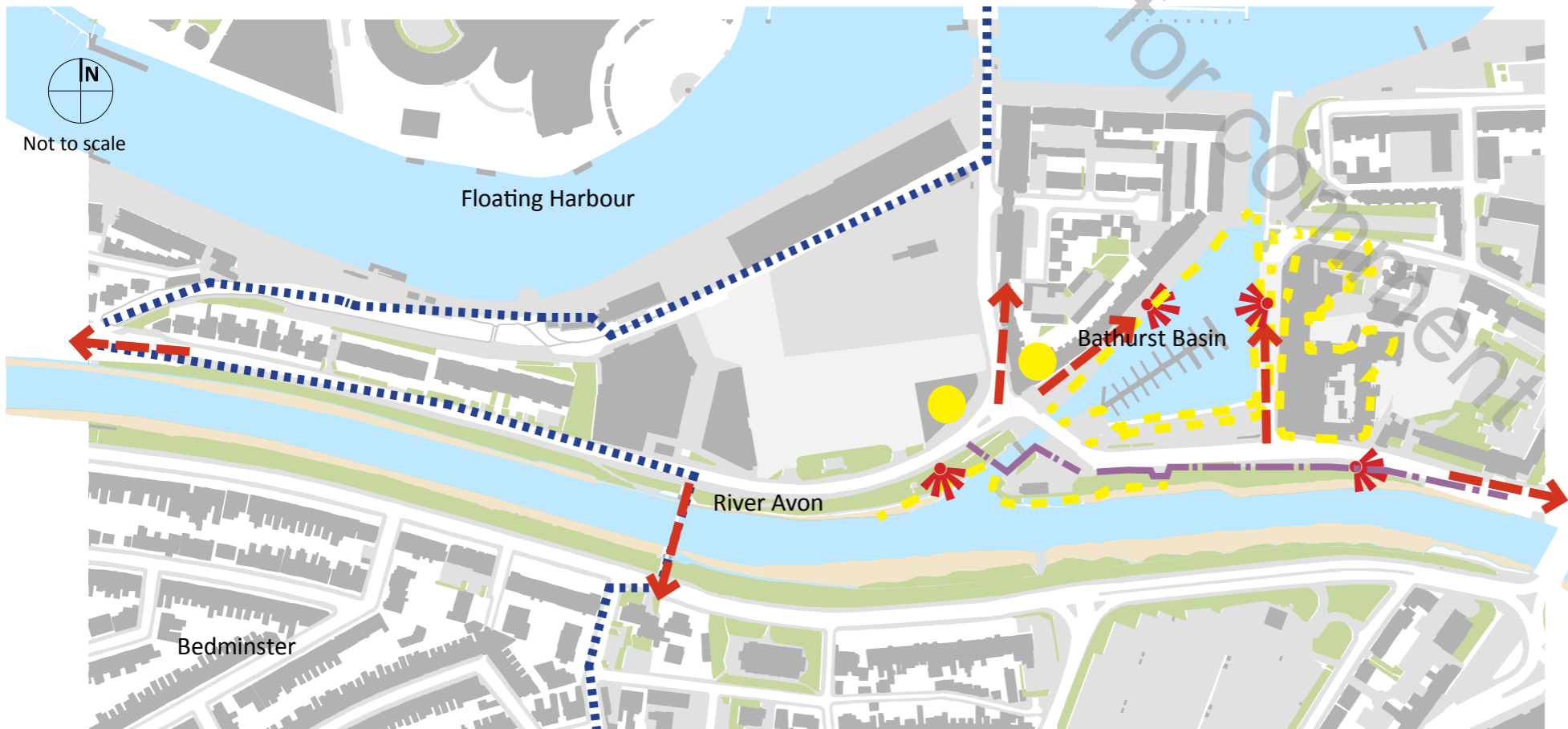
- Pedestrians/cyclist across Vauxhall Bridge
- Pedestrians/cyclist link to Cumberland Basin and City Centre (aprox. 10 mins cycling to city centre)
- Metrobus link.
- Links to ferry stops

### Opportunities

- Use the existing level change between Cumberland Road and the train track to form the flood defence wall;
- Reinststate part of the Chocolate path that has been subject to land slip;
- Surface around the train track to allow pedestrian use when the train is not operational;
- Remove the iron railing between the Chocolate Path and train tracks to allow permeability between the two areas and allow more space for the pedestrians and cyclists;
- Thin and diversify the tree cover on the south bank to ensure the saltmarsh vegetation is not suppressed.

# A. Character Area Analysis

## Gaol Ferry Reach



- - - Proposed location of flood defence wall  
\* \* \* Views

||||| Cycle route  
- - - Edge of listed Structure

● Listed buildings  
- - -> Key Links

### Character Key Features

- Cumberland Road running parallel to the New Cut on the northern bank and Coronation Road running parallel to the river on the southern bank both with greened river bank
- God's Garden small quayside space west of Bathurst Bridge
- Transition area across New Cut at Bathurst Basin with Bathurst Bridge crossing point
- Privately owned property on river bank south of Commercial Road restricts access to the river edge
- Significant trees and shrubs cover on south bank of the river;
- SNCI designation of the River Avon New Cut

### Assets

- God's Garden small quayside space on river edge
- Views from God's Garden along the New Cut
- Existing Bridges including Gaol Ferry pedestrian bridge and Bathurst Bridge
- Connections to City Centre along Prince Street and through Wapping Wharf
- Metrobus bridge under construction
- Pedestrian friendly urban environment around Bathurst Basin and Wapping Wharf
- Generous south bank area with abundant self seeded shrubs and trees.

### Users

- Pedestrians/cyclist through the area around Bathurst Basin and Wapping Wharf
- Vehicles travelling along Cumberland Road and Commercial Road
- Metrobus route running along Cumberland Road in the near future

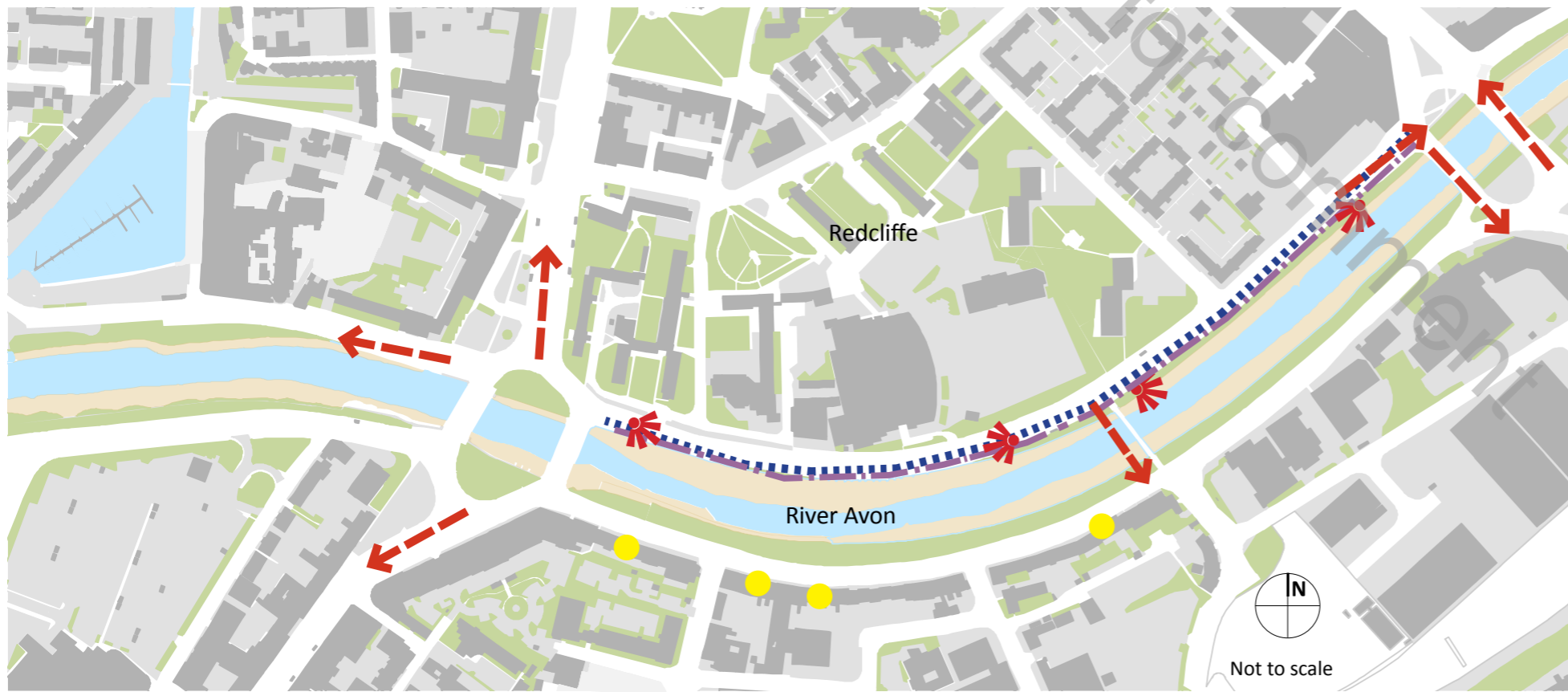
### Key Links

- Pedestrians/cycling through the area to the City Centre;
- Link connecting north and south sides of the River Avon

### Opportunities

- Enhance God's Garden as a pocket park
- Extend pedestrian/cycling friendly urban environment connecting with Bathurst Basin
- Thin and diversify the tree and shrub cover on the south bank to increase species biodiversity and increase visual interest and views.
- Consider a pedestrian path along the river's southern bank

# Clarence Reach



**Character Key Features**

- River Avon edged on both sides with primary roads
- Generous footpath on northern side with avenue trees between the railing at the top of the river bank and cycle path
- Recent cycle path positioned between the footpath and Clarence Road
- Significant trees and shrubs cover on south bank of the river
- SNCI designation of the River Avon

**Assets**

- Sweeping views along the River Avon;
- Generous pedestrian riverside footpath
- Segregated cycle path along Clarence Road
- Pedestrian bridge connecting over the River Avon
- Generous south bank area with abundant shrubs and trees
- Vehicular connections over the River Avon

**Users**

- Pedestrians/cycling along the river edge
- Vehicles travelling east/west

**Key Links**

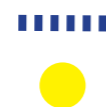
- Pedestrians/cycle path links
- Vehicular primary routes running north and south over the River Avon
- Vehicular primary routes running west and east along the river edge

**Opportunities**

- Continue cycle path west along the River edge
- Thin and diversify the tree and shrub cover on the south bank to increase species biodiversity and increase visual interest and views
- Locate a pedestrian path along the bank on the southern side of the river

--- Proposed location of flood defence wall

Views



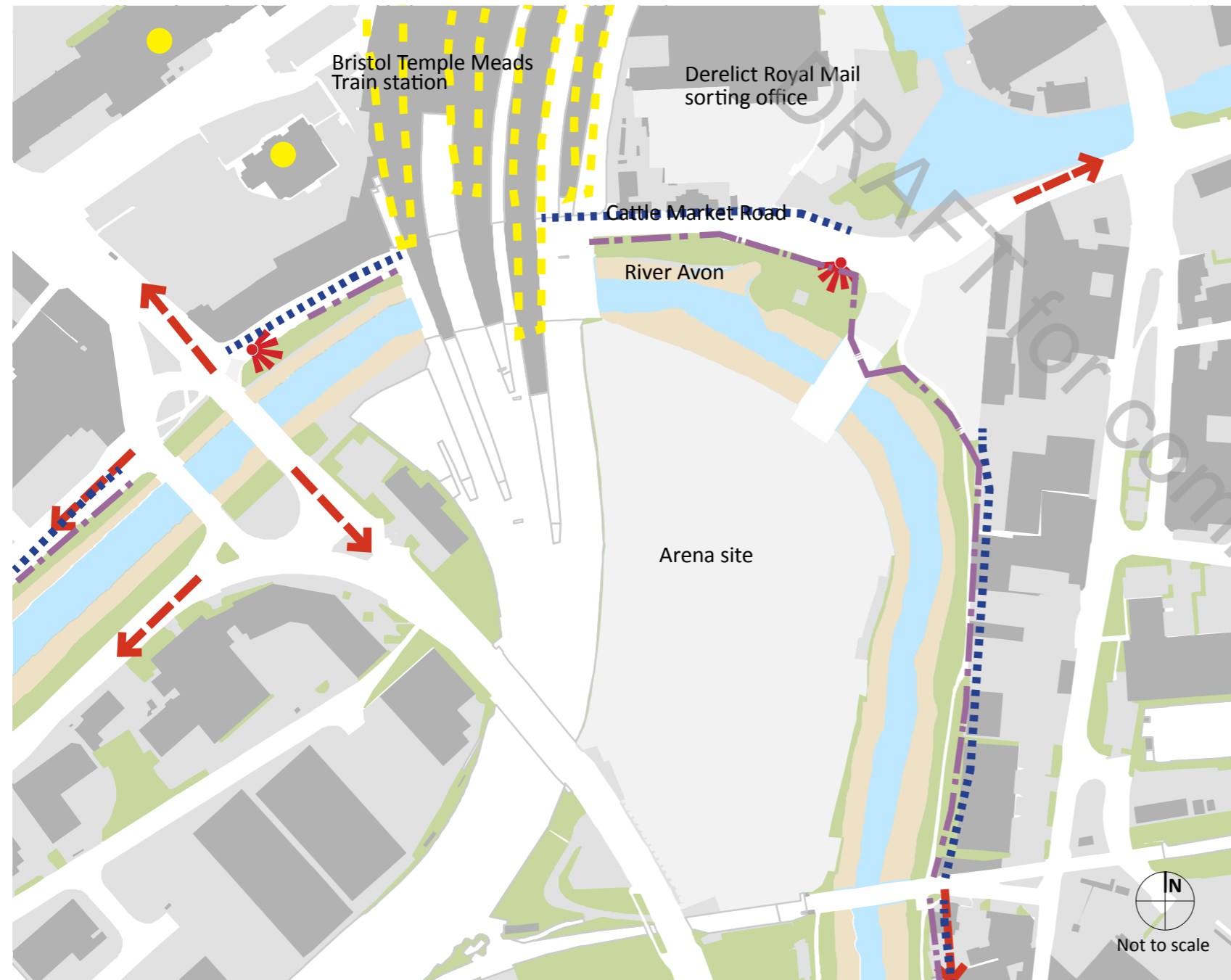
Cycle route



Listed buildings

---> Key Links

# Cattle Market Road



### Character Key Features

- Area falls within the Bristol Temple Quarter Enterprise Zone and is an area in transition with surrounding development due to take place in the near future
- Existing empty and decaying buildings including the derelict old Royal Mail sorting office building
- Recent inclusion of generous pedestrian/cycle path to take people to and from the Arena site
- SNCI designation of the River Avon
- Tree lined river edge prevent views except in the area around the Arena bridge

### Assets

- Large areas of development opportunity to include public realm enhancement
- View from Arena bridge of River Avon
- Generous north bank with abundant shrubs and trees
- Proximity to Bristol Temple Meads train station

### Users

- Pedestrians and cyclists with a few vehicles

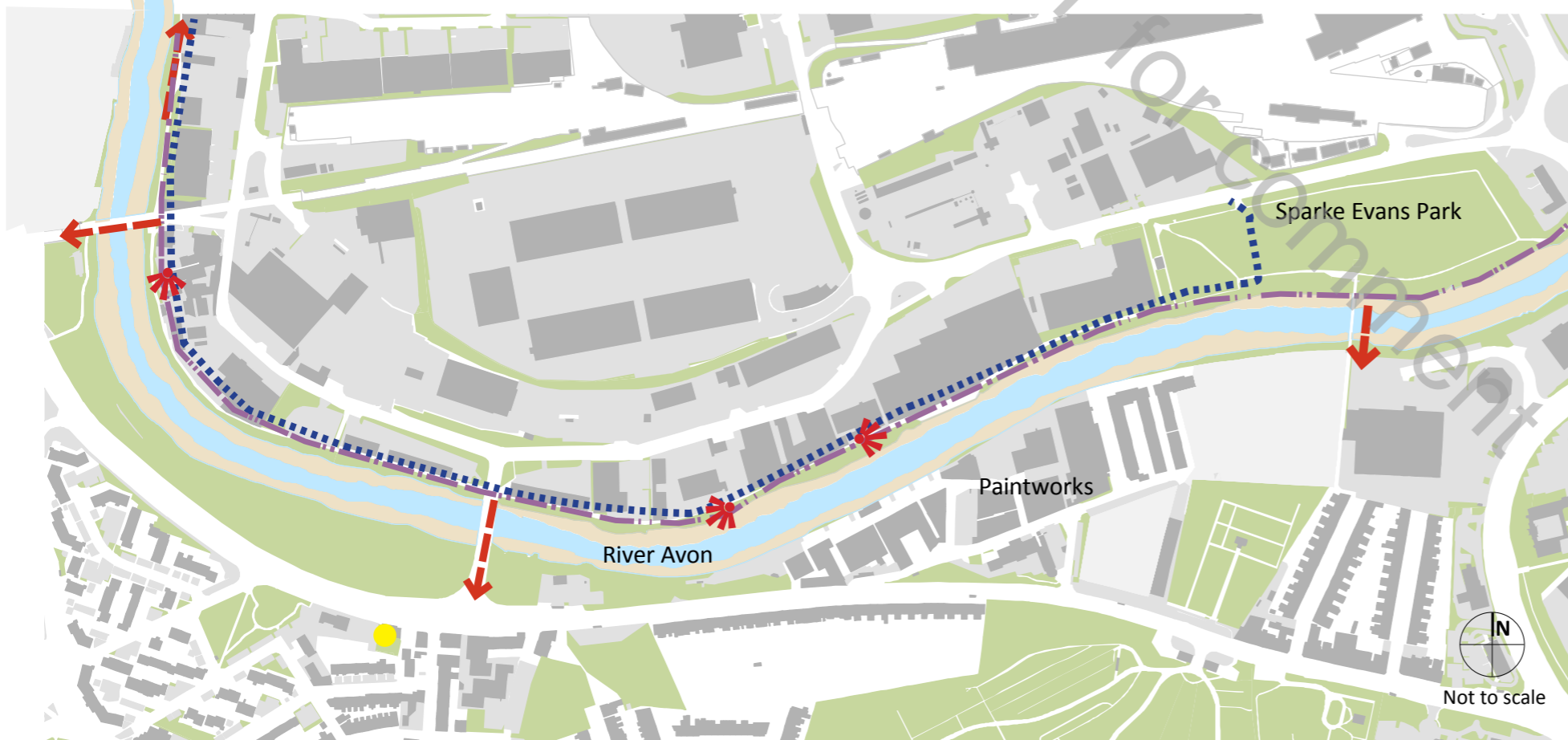
### Key Links

- Pedestrians/cycling link to river side Sustrans path 33
- Links to Bristol Temple Meads Stations
- Links to walkway along the edge of Floating Harbour

### Opportunities

- Place making opportunity to enhance the public realm as part of the redevelopment of the area
- Restore connection to the water side as part of the public realm improvements
- Enhance areas of green around Totterdown Basin

# Albert Reach



- ▬▬▬▬ Proposed location of flood defence wall
- ▬▬▬▬ Cycle route
- Key Links
- ★ Views
- Listed buildings

### Character Key Features

- Linear enclosed pedestrian and cycle path running along the river, edged with light industrial buildings
- River edge vegetation overgrown creating a green tunnel affect
- SSSI designation of the River Avon
- Sparke Evans Park has a wooded edge along the riverside path. Treed edge surrounds grass open area.

### Assets

- Sparke Evans Park
- Footbridge at Sparke Evan Park
- Occasional views of the river through the vegetation
- Proximity to Arno's Vale Cemetery

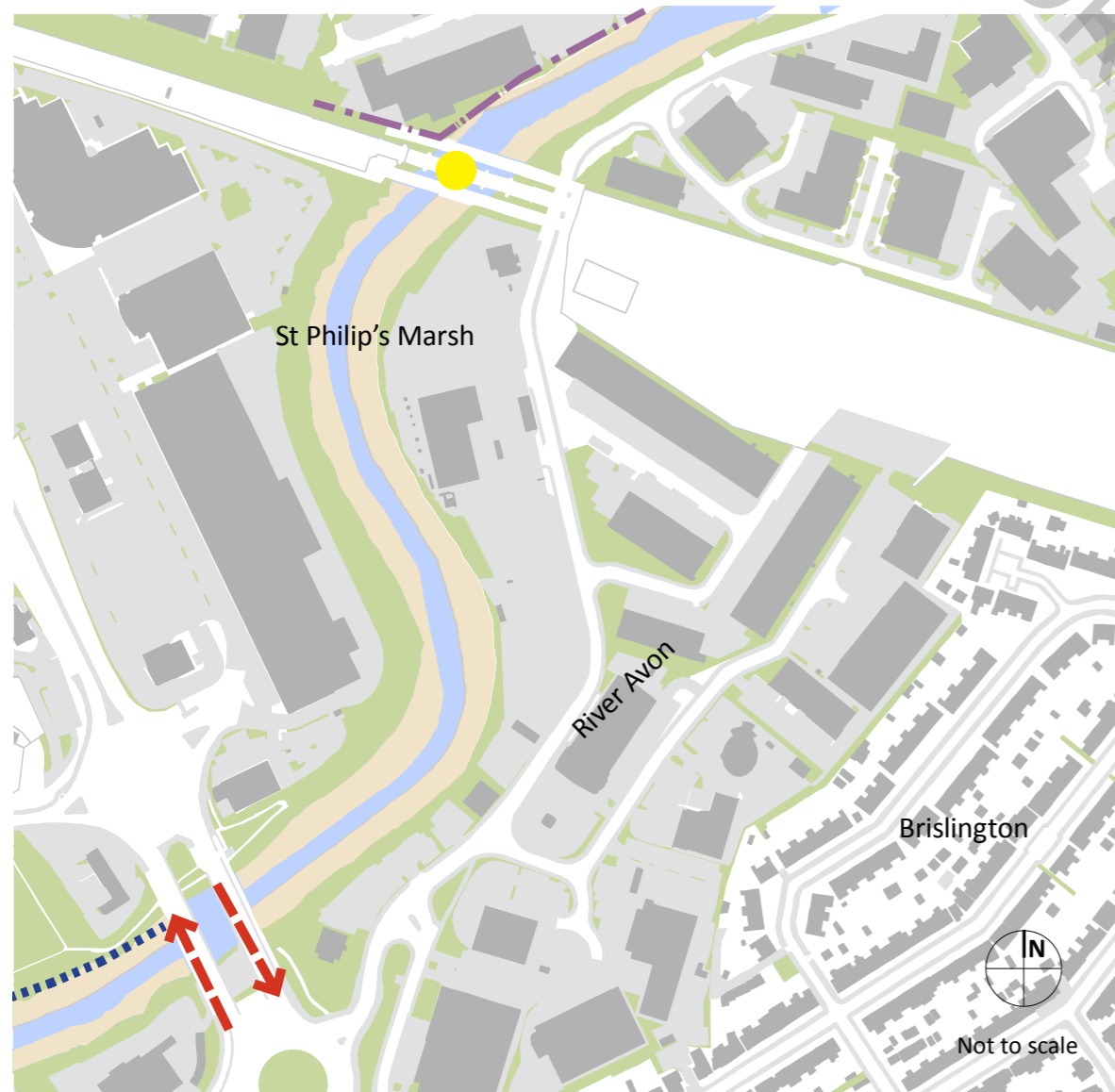
### Users

- Recreational users of Sparke Evan Park;
- Pedestrians/cyclists along the path.

### Opportunities

- Manage the river edge planting to create a varied experience for pedestrian/cyclists
- Remove some trees to replace with a wider variety of species to increase biodiversity
- Develop area of industrial units along the river edge increasing density to overlook path to conform to secure by design principles
- Crown lift the trees in Spark Evan park to give it an open feel
- Enhance Spark Evan Park with facilities for both children and adults

# Whitby Reach



- Proposed location of flood defence wall
- Cycle route
- Listed buildings
- Key Links



### Character Key Features

- River Avon set between an area of light industrial buildings and retail park, with no frontage along the river edge
- SNCI designation of the River Avon
- In accessible waters for edge from St Philips Causeway to train bridge over the River Avon due the path becoming overgrown and other parts disappeared due to landslip

### Assets

- Areas of woodland both sides of the river

### Users

- Workers in the industrial areas and people using the retail park, none along the river edge

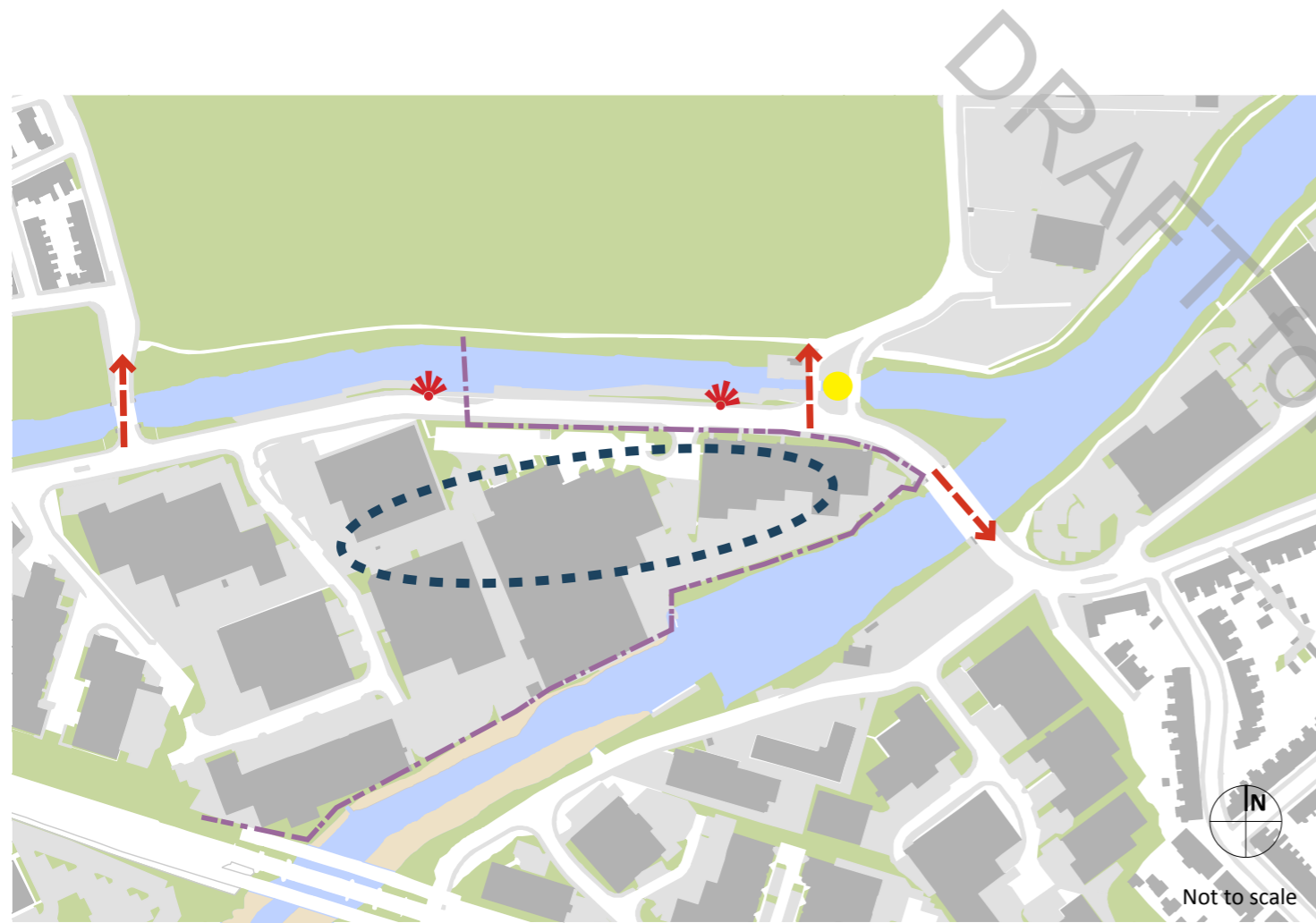
### Opportunities

- Opportunity to connects with existing cycling footpath by re-instating the path
- Create a frontage along the river edge
- Manage to increase biodiversity to promote wildlife

### Future Users

- Pedestrians and cyclists using the riverside walkway

# Netham Lock



### Character Key Features

- A triangular shaped area of light industrial buildings and associated parking edged by the River Avon on the southern side and the canal on the northern side
- Head of the Floating Harbour forking away from the River Avon
- Netham Park north of the feeder canal

### Assets

- Netham Park large park
- Connections over the feeder canal and over the River Avon;
- Historic lock gates

### Users

- Car dominated public realm to serve the light industrial units.
- Opportunities
- Place making opportunity to enhance the public realm to increase pedestrian usage around the historic lock gates
- Increase the planting along the River Avon edge as part of the green infrastructure connecting to Netham Park
- Densification of light industrial use and introduction of residential developments
- Connect Netham park green infrastructure with the green infrastructure along Brislington Brook

### Future Users

- Pedestrians walking through the area connecting Netham Park with Brislington Brook for recreation in the area

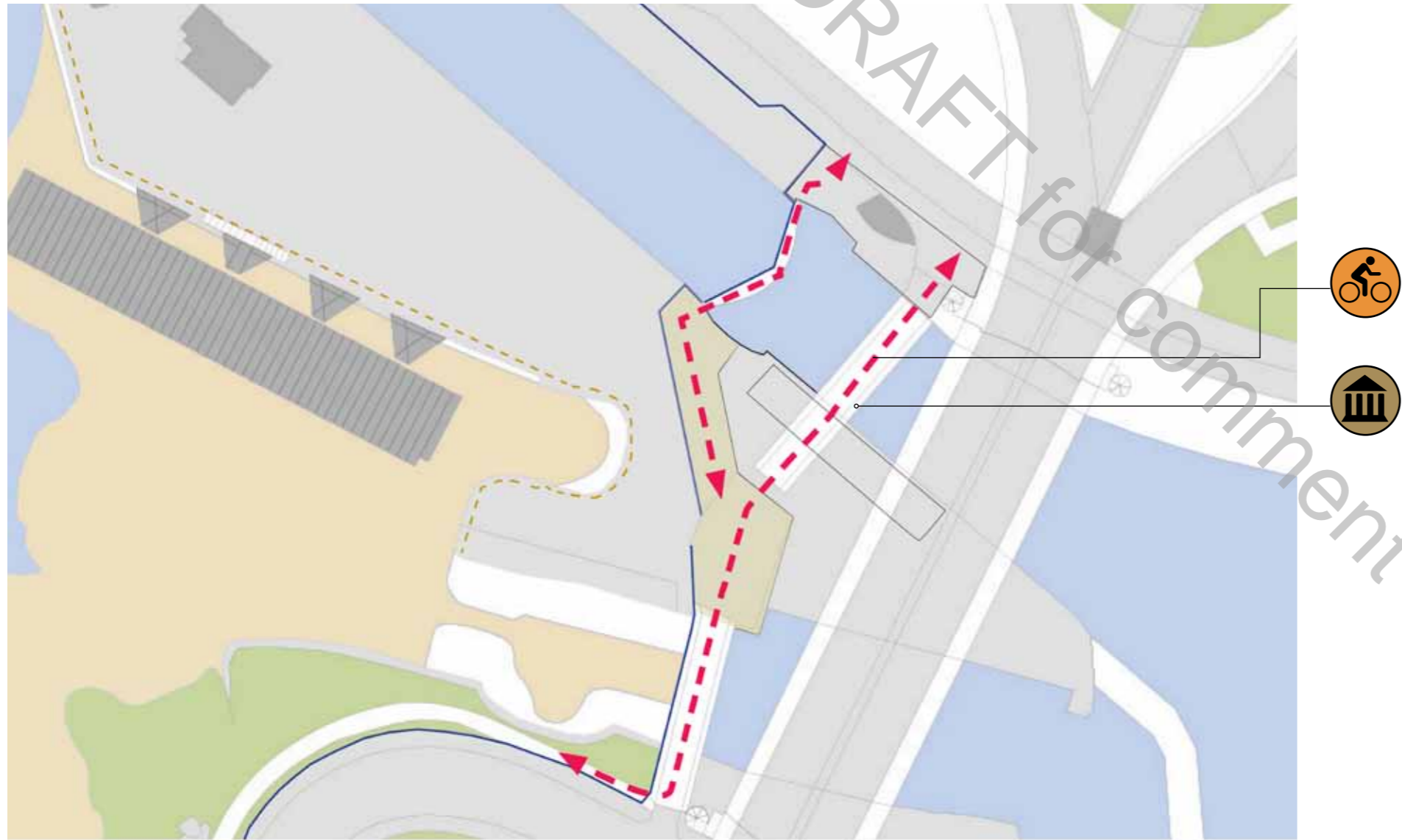
- Proposed location of flood defence wall
- Cycle route
- Listed buildings
- Views
- Key Links

# B

## Appendix B: Spatial Options Analysis

DRAFT for comment

# Cumberland Basin



**Design opportunities for Cumberland Basin in conjunction with providing flood defences**

- Integrate the proposed flood wall into the area by utilising and extending the existing changes in level, and reducing clutter
- Enhance, unify and reveal this area through a simple, quality public realm treatment in keeping with the functional character of the docks
- Consider seating for people to appreciate the space and views
- Enhance the setting of Brunel’s Swing Bridge to reveal this important piece of heritage fabric. Restore and repair for walking and cycling use across the entrance dock.

**Option 1: Create a raised area both sides of the dock at the lower flood defence level.**

**Heritage and Culture:** Create a raised area of enhanced public realm to integrate the flood wall and reveal Brunel’s Swing bridge. Improve the public realm with upgraded perimeter treatment and surface.

**Movement:** Repair and restore swing bridge for walking and cycling.

Key:

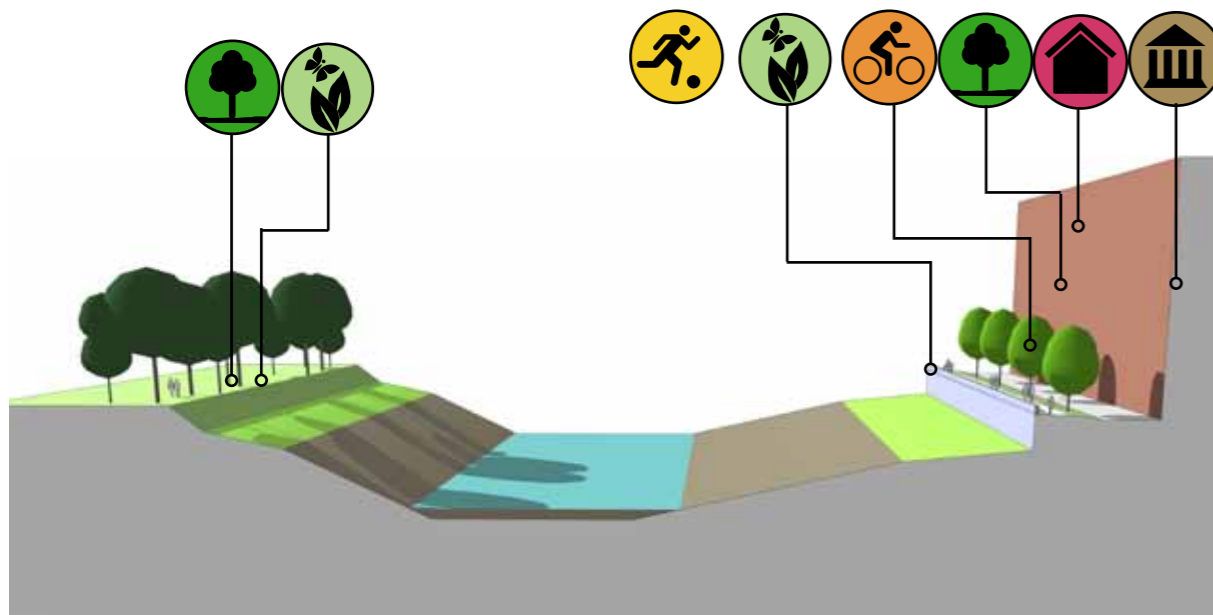
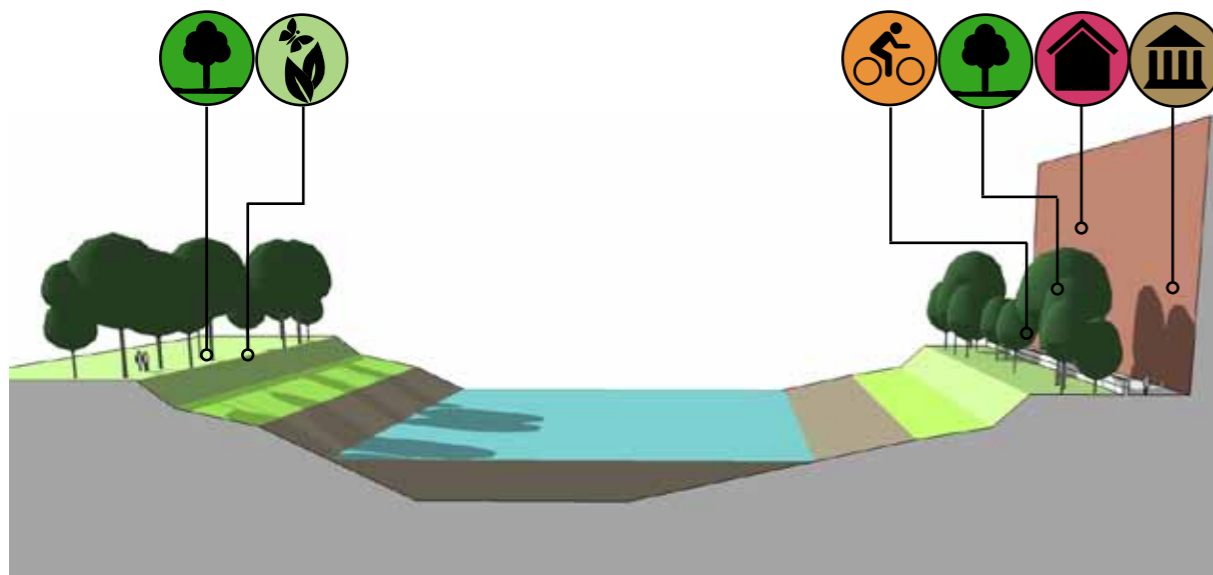
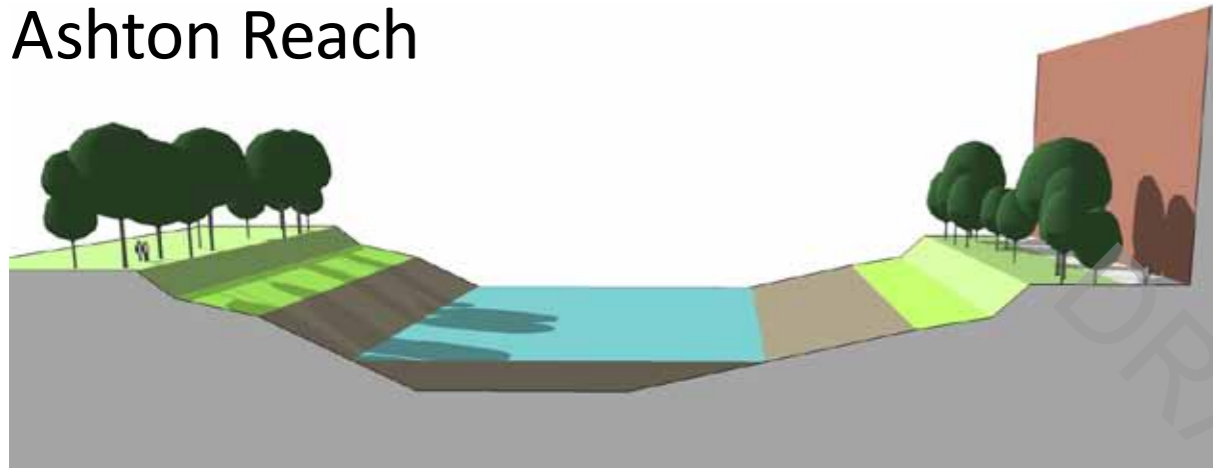
- Potential links
- Location of flood defence wall
- Upgraded perimeter edge treatment
- Raised area



Not to scale

## B. Spatial Options Analysis

### Ashton Reach



#### Design opportunities for Ashton Reach in conjunction with providing flood defences

- Enhance the public realm between A and B Bond historic buildings and the river edge to increase activity along the building frontage;
- Create a green infrastructure link with Butterfly Junction and the river edge planting;
- Increase the diversity of plant species within the river edge vegetation to provide a wide range of habitat and food species for wildlife.

**Option 1:** Locate flood wall along the edge of the existing track and river edge vegetation.

**Heritage and Culture:** Enhance the setting of the historic A and B Bond warehouses as part of any redevelopment

**Landscape:** Improve the public realm along the river edge for amenity and to attract increased activity.

**Nature:** Increased biodiversity of scrub areas and enhance the flora variety to provide habitat for breeding birds and create green infrastructure connectivity with Butterfly Junction on both the south and north banks of the river.

**Development:** Greenway provides the waterside frontage and setting for future development of the Western Harbour

**Movement:** Improve track surface for walking and cycling

**Option 2:** Extend the landform out into river bank to increase public realm frontage

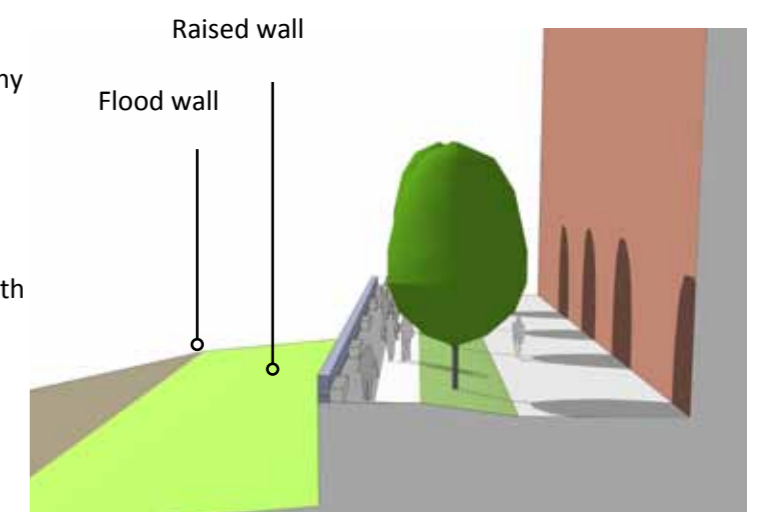
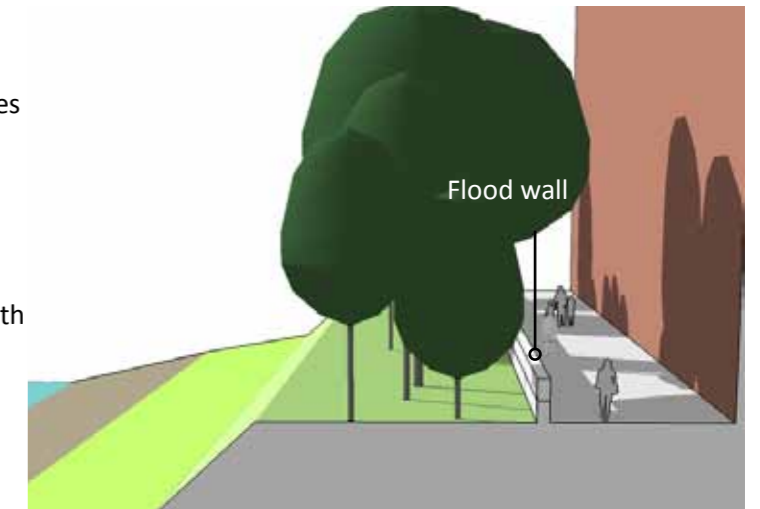
**Heritage and Culture:** Conserve the historic A and B bond buildings and restore any parts of the building that need work.

**Landscape:** Improve the public realm along the river edge and around A and B Bond building for amenity and as a destination

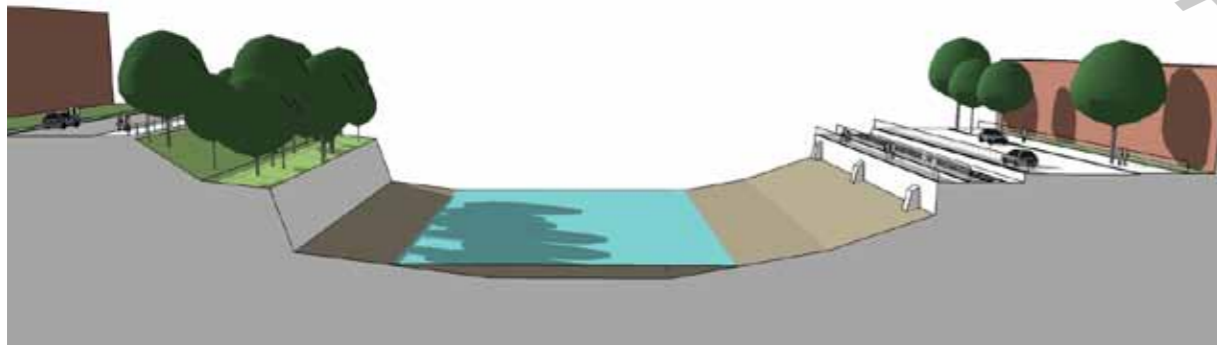
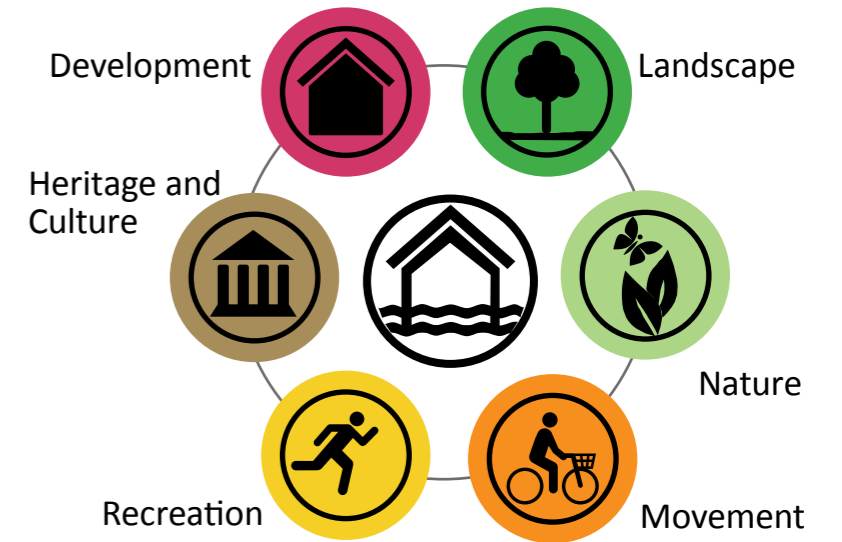
**Nature:** Increased biodiversity of scrub areas and enhance the flora variety to provide habitat for breeding birds and create green infrastructure connectivity with Butterfly Junction on the south bank of the river.

**Development:** Greenway provides the waterside frontage and setting for future development of the Western Harbour

**Movement:** Improve track surface for walking and cycling

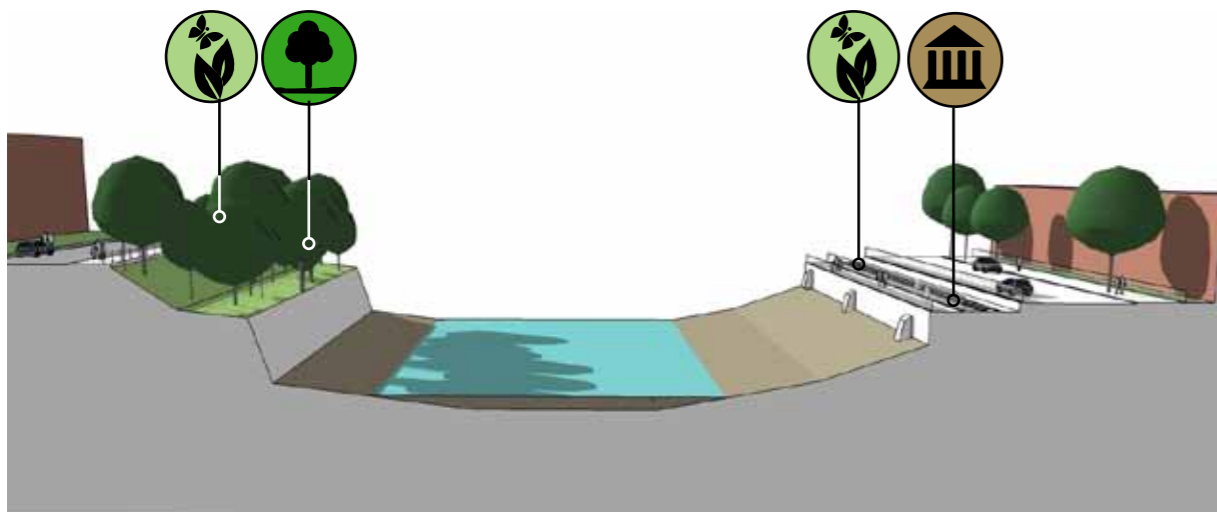


# Vauxhall Reach



**Design opportunities for Vauxhall Reach in conjunction with providing flood defences**

- Install flood wall to road edge making use of the existing ground levels along Cumberland Road to minimise the height of wall required
- Stabilise and repair the Chocolate Path and railway trackbed where necessary (Harbour Asset Management)
- Conserve, protect and interpret the Underfall (Scheduled Ancient Monument)
- Consider more multifunctional use of the heritage railway space for recreation, landscape and to increase space for walking and cycling
- Improve views and opportunities for walking and recreational access along south bank

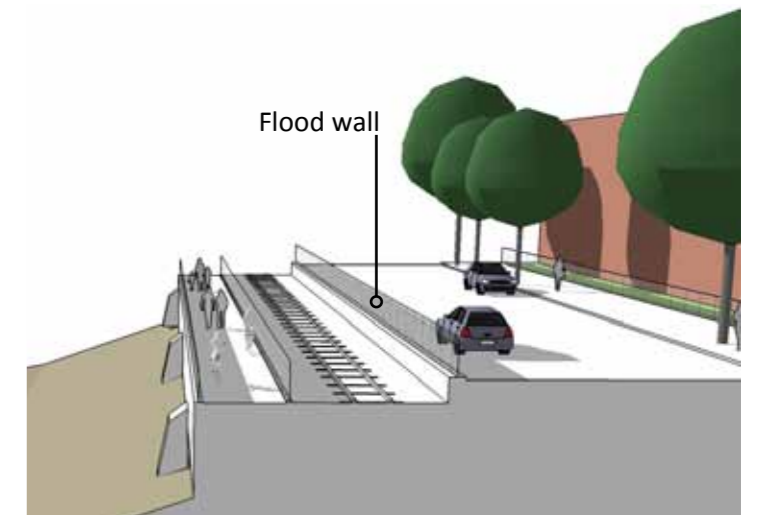


**Option 1: Stabilise and improve Chocolate Path for existing uses**

**Heritage and Culture:** Retain the heritage railway for use as existing. Stabilise and repair river wall structures where necessary.

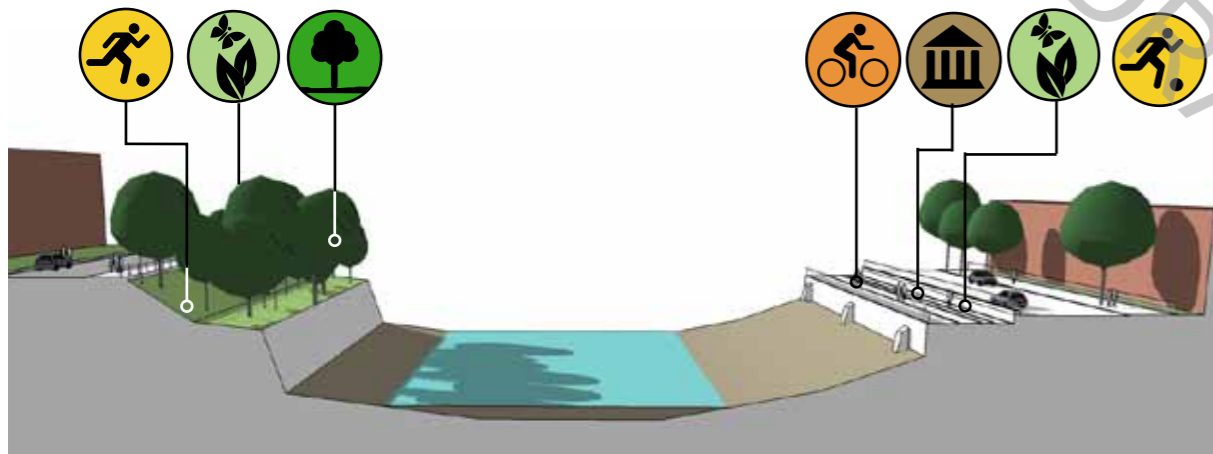
**Movement:** Improve Chocolate Path surface for cycling by relaying existing block surface with staggered bonds.

**Landscape and Nature:** Manage the planting on the southern river bank to increase the species biodiversity, creating visual interest with managed views of the river and providing an increase in food sources for wildlife. Conserve and enhance railway trackbed existing open mosaic habitat.



## B. Spatial Options Analysis

### Vauxhall Reach



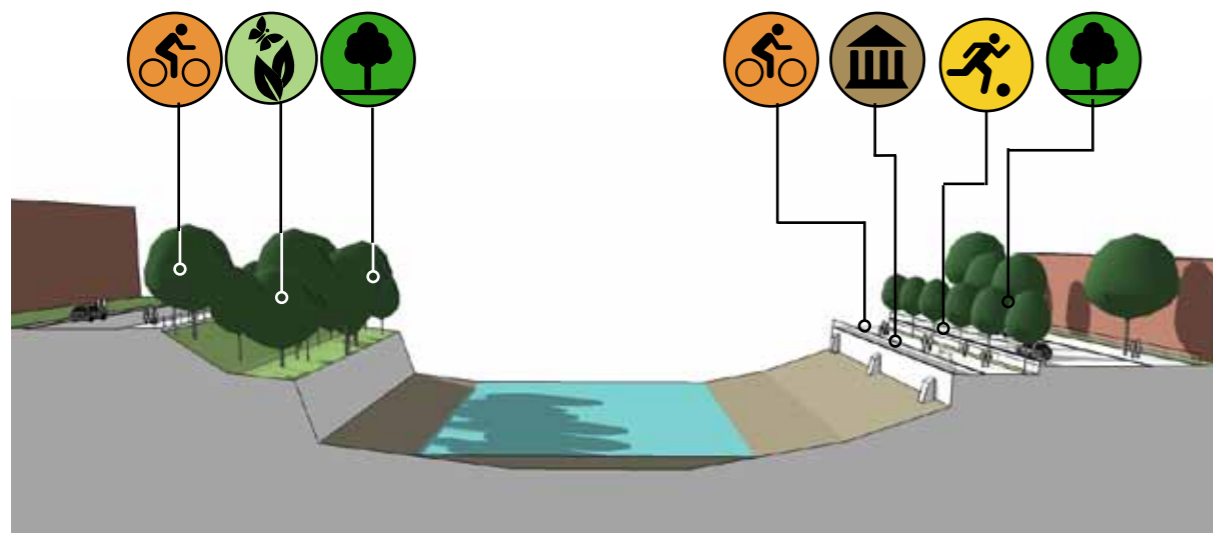
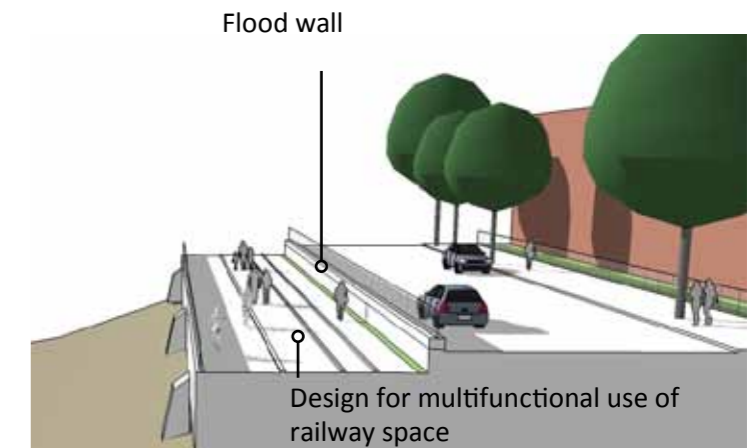
#### Option 2: Retain railway use allowing for multifunctional use

**Heritage and Culture:** Install a public realm surface between rail tracks allowing pedestrian use when the train is not in operation. Replace existing railings and allow managed access to trackbed at key points

**Movement:** Improve Chocolate Path surface for cycling by relaying existing block surface with staggered bonds.

**Landscape:** Provide for recreational access to parts of the south bank.

**Nature:** Manage the planting on the southern river bank to increase the species biodiversity, creating visual interest with managed views of the river and providing food sources for wildlife.



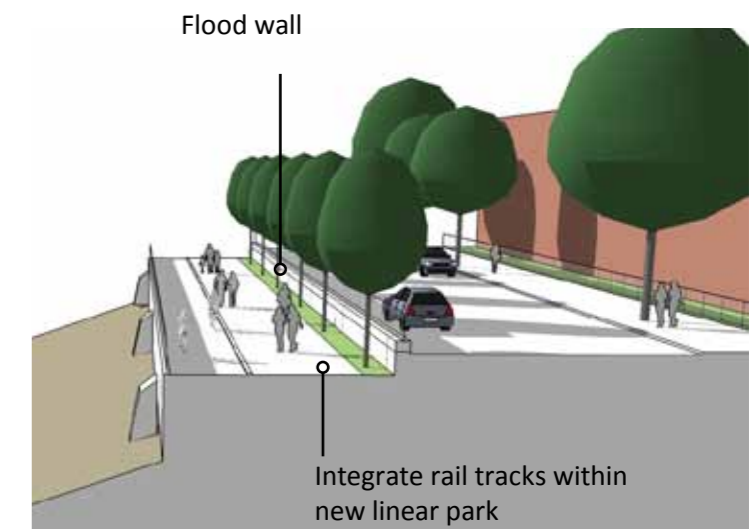
#### Option 3: Destination Linear Park

**Heritage and Culture:** Retain railway track bed and tracks and integrate as part of a destination linear park

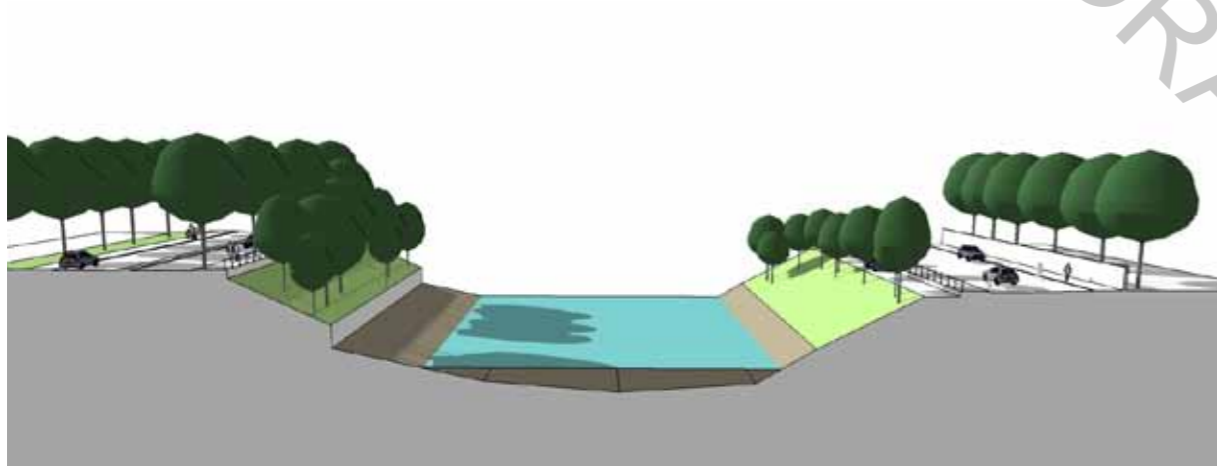
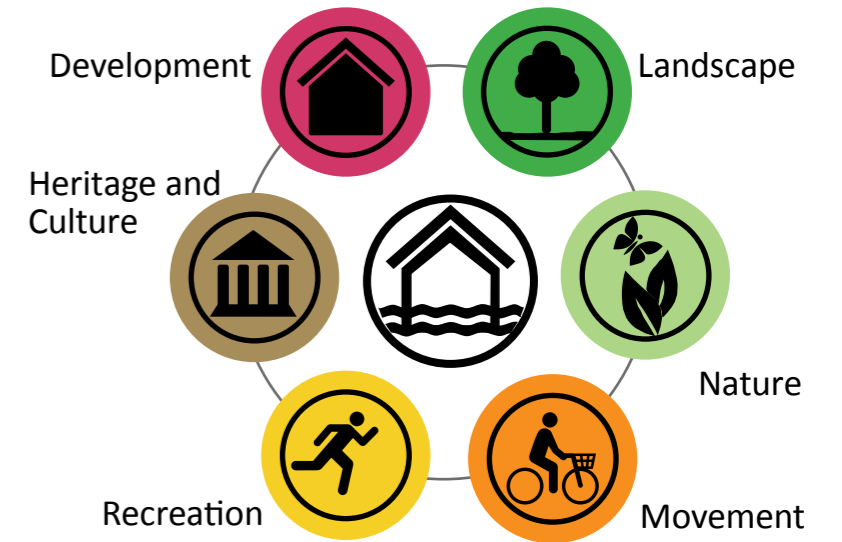
**Movement:** Relay existing Chocolate Path surface with staggered bonds to improve cycling

**Landscape:** Destination linear park for walking, recreation and wildlife.

**Nature:** Manage the planting on the southern river bank to increase the species biodiversity, creating visual interest with managed views of the river and providing food sources for wildlife.

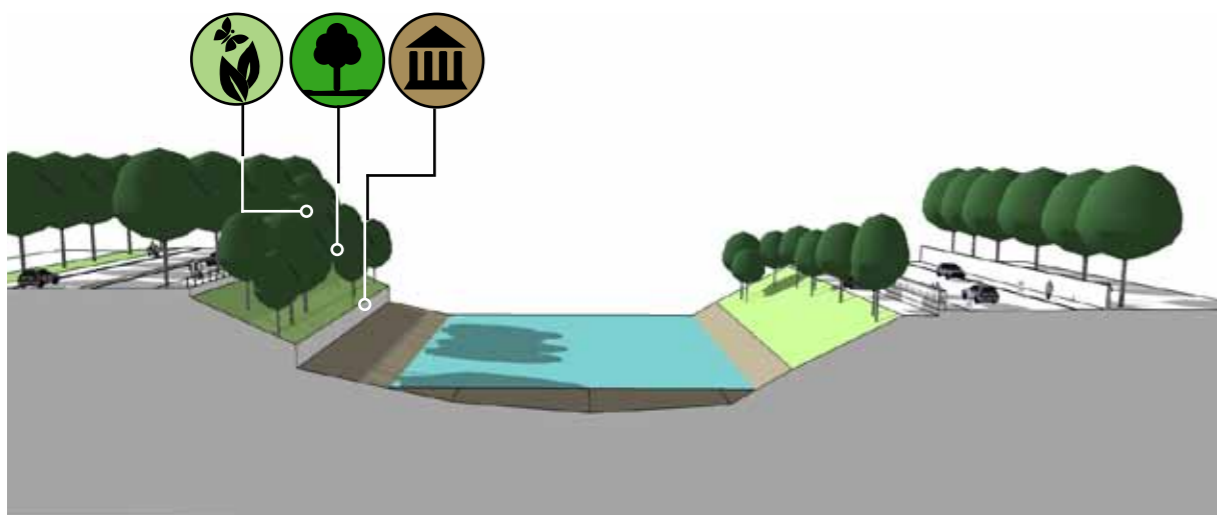
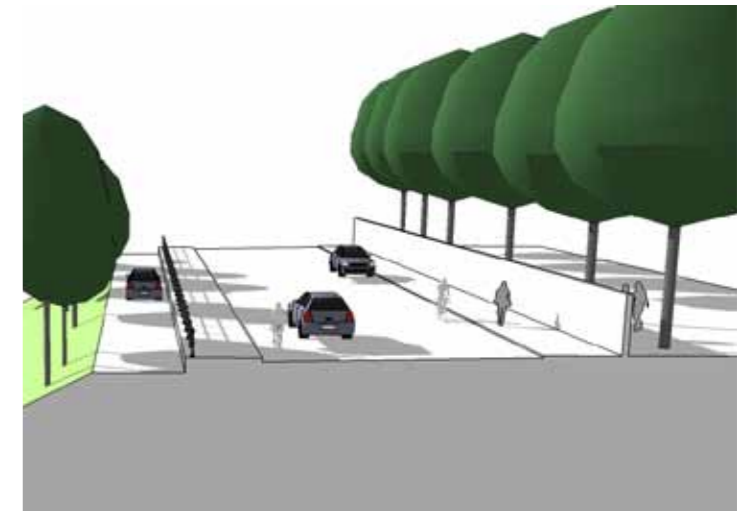


# Gaol Ferry Reach



**Design opportunities for Gaol Ferry Reach in conjunction with providing flood defences**

- Use the existing line of the railing as the location of the flood defence wall;
- Manage the planting on the southern river bank to increase the species biodiversity, creating visual interest with managed views of the river and providing an increase in food sources for wildlife
- Stabilise and repair the existing river bank walls where necessary.

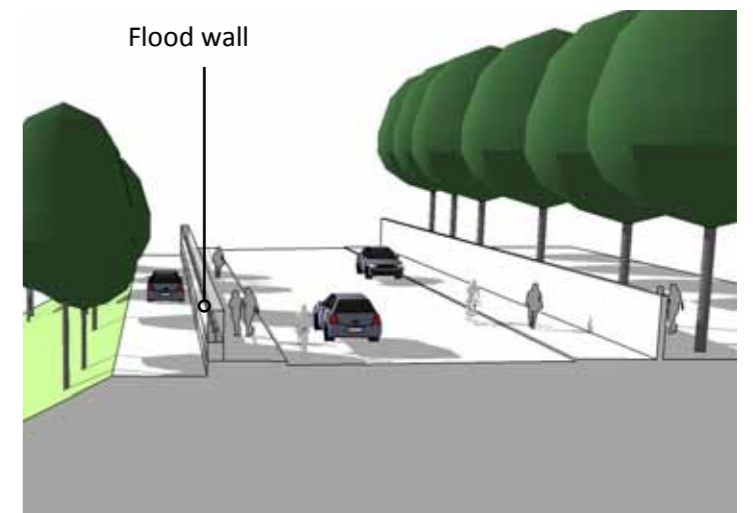


**Option 1: Locate the flood wall to replace the existing railing, between the road side pavement and private access road.**

**Landscape:** Locate a viewing platform on the southern bank with management of the existing planting to provide increase visual interest along the bank and views of the river.

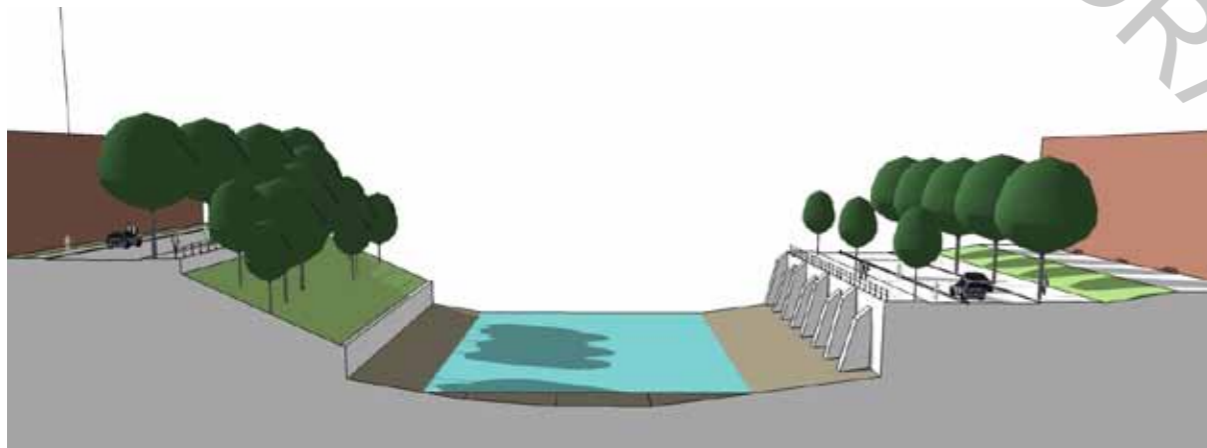
**Nature:** Thin and diversify the range of tree and shrub species with an emphasis on native the berry-bearing species to providing a wider range of food sources for birds and other wildlife. Sow wildflower mixes to provide nectar sources for bees and other pollinators.

**Heritage and Culture:** Stabiles and repair the existing river edge wall on both sides of the river where necessary.



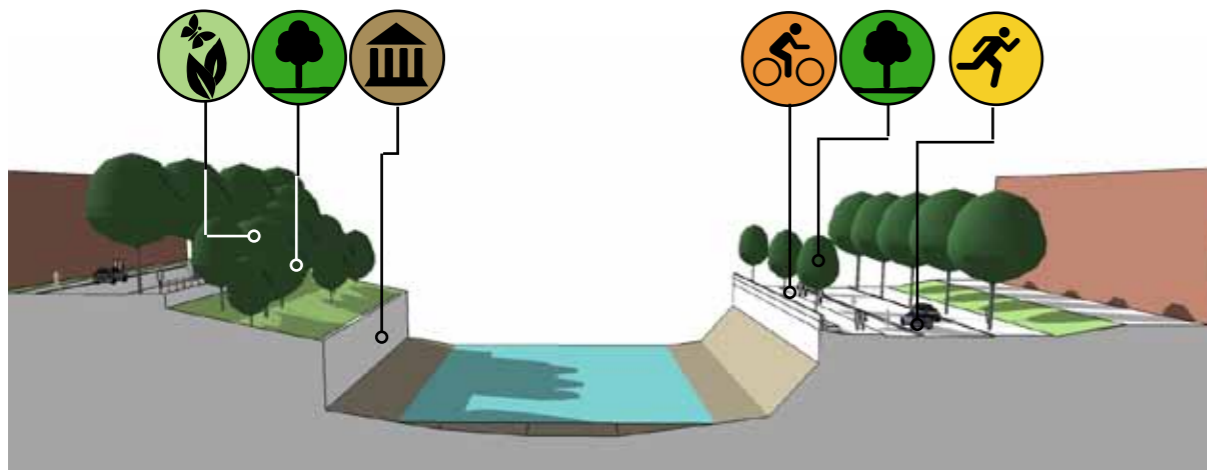
## B. Spatial Options Analysis

### Clarence Reach



#### Design opportunities for Clarence Reach in conjunction with providing flood defences

- Maintain existing segregated cycle route and pedestrian path
- Retain views of the River Avon
- Plant additional street trees
- Stabilisation and repair of the river walls where required
- Manage the planting on the southern river bank to increase the species biodiversity to provide visual interest, view of the river and an increase in food sources for wildlife



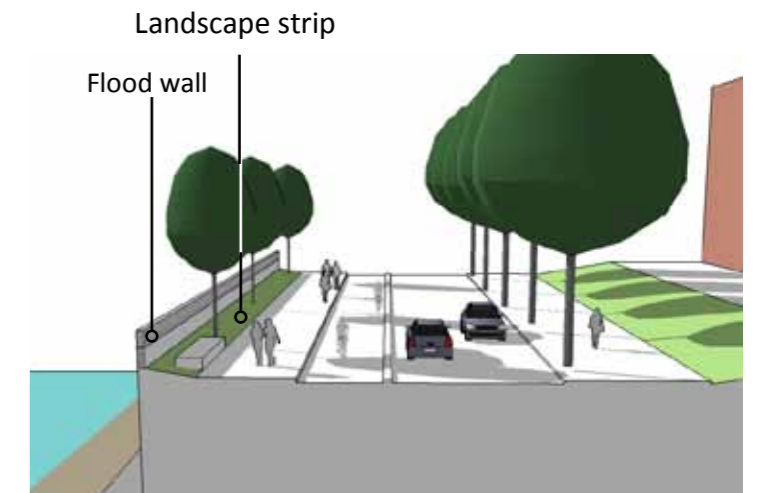
#### Install flood wall 2m in front of existing, creating an additional public realm strip with opportunities for recreation and nature

**Movement:** Retain the segregated footpath and cycle path along Clarence Road.

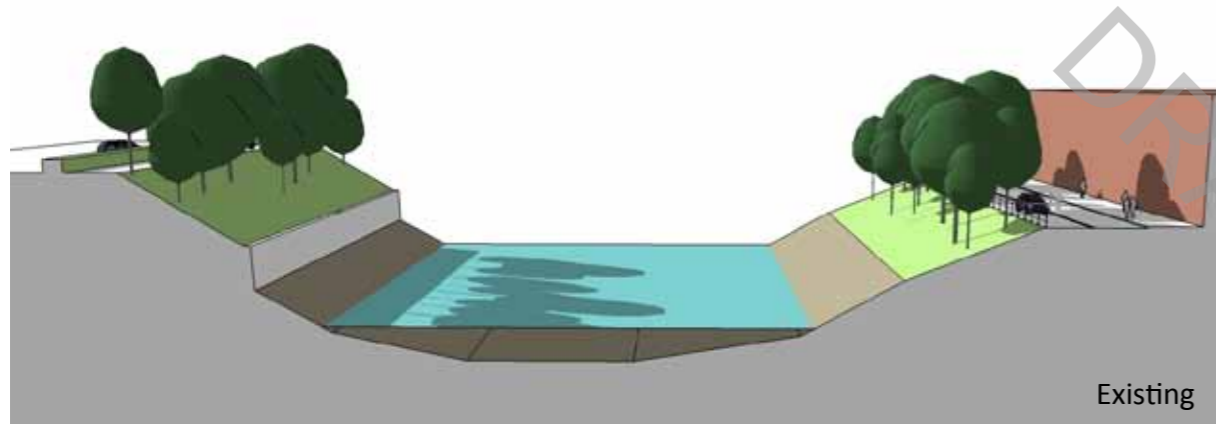
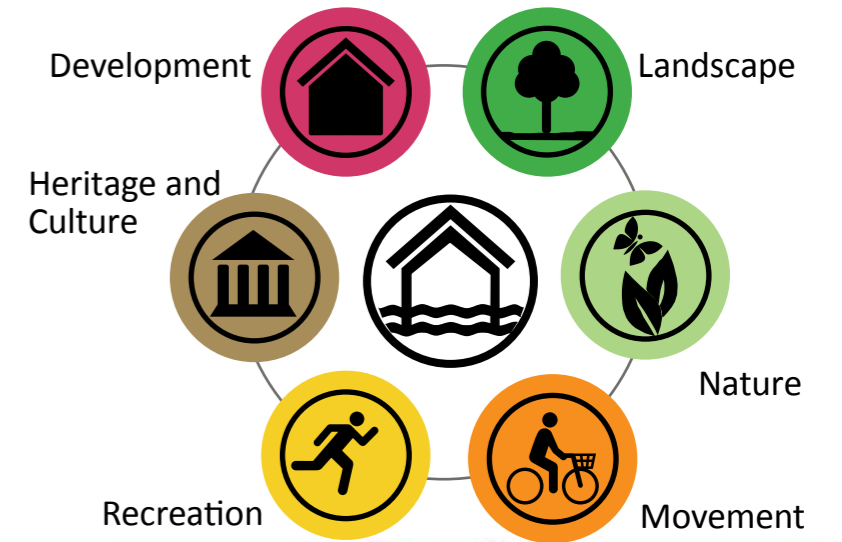
**Landscape:** Establish new 2m public realm strip providing pollinator planting, SUDs and with opportunities for seating, public art and outdoor fitness equipment. Use existing grass areas along housing edge for SUDs and pollinator planting.

**Nature:** Ecological management of existing vegetation along south bank of river to manage views of the river and improve diversity of the ground flora.

**Heritage and Culture:** Stabilise and repair the existing river edge walls where necessary.

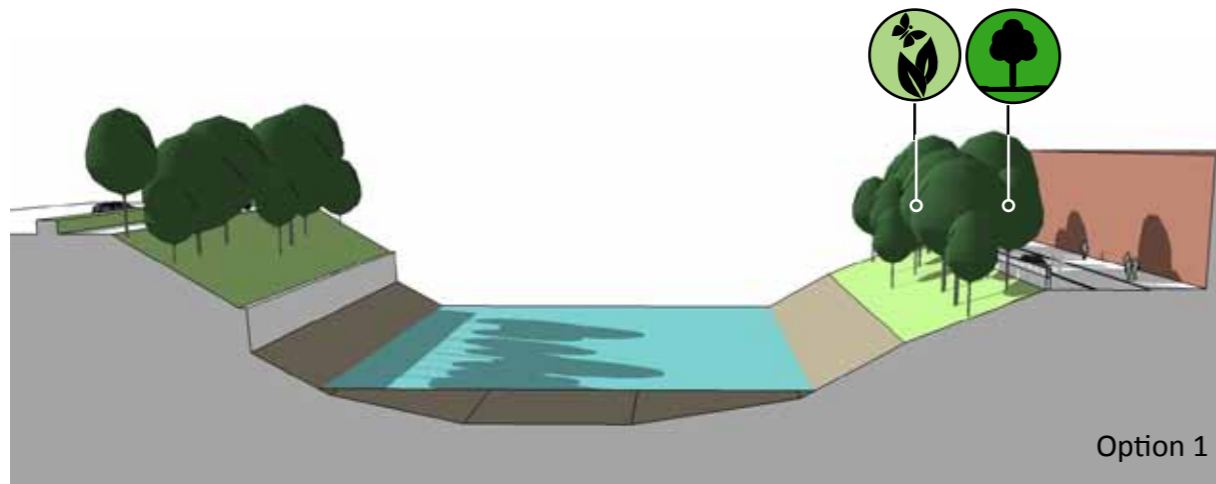


# Cattle Market Reach



**Design opportunities for Cattle Market Road in conjunction with providing flood defences**

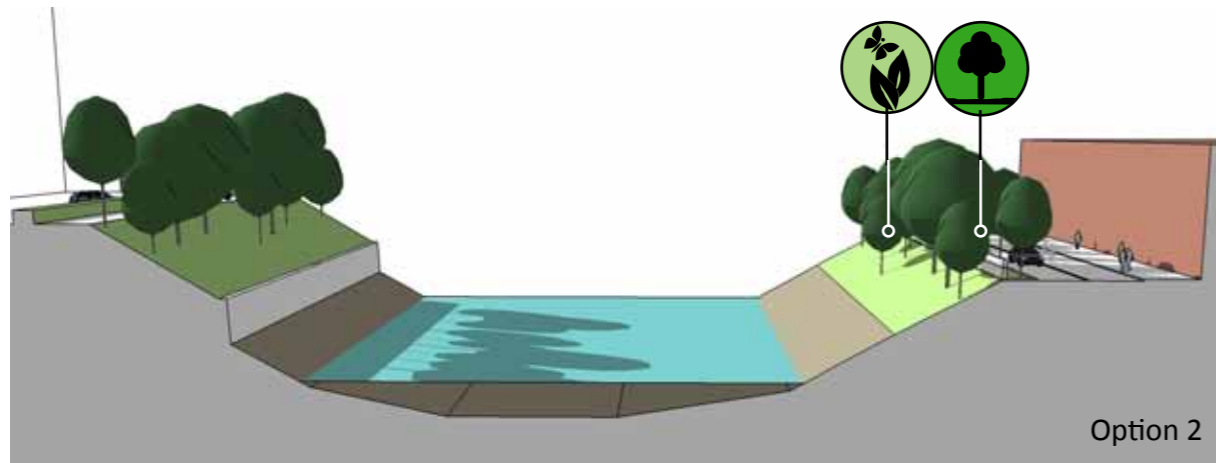
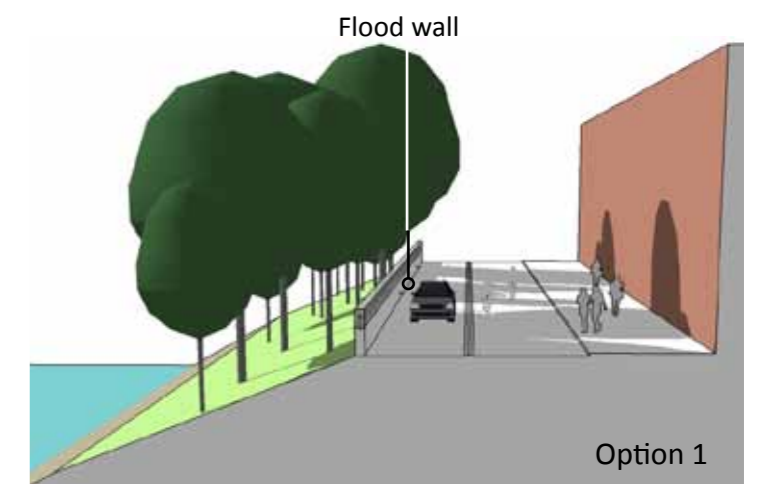
- Increase the biodiversity of the riverside planting;
- Retain the existing segregated footpath and cycle route;
- Create a park at the heart of the Enterprise Zone around Brock’s Bridge and Totterdown Basin



**Option 1: Locate the flood wall to replace the road side railing**

**Landscape:** Manage the existing planting to provide increase visual interest and views of the river.

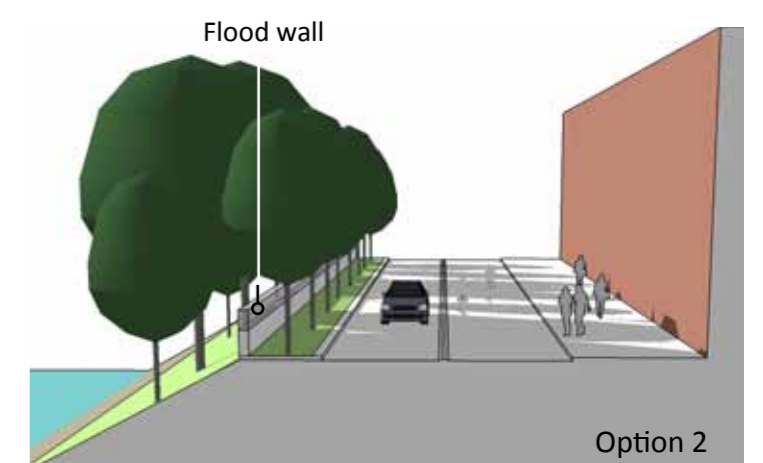
**Nature:** Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora.



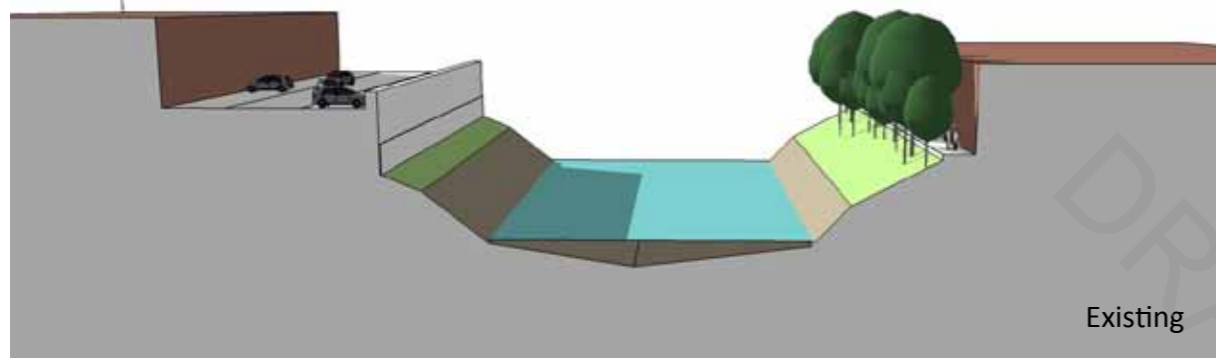
**Option 2: Locate the flood wall 1m into the riverside vegetation to create a road side avenue tree planting**

**Landscape:** Remove and replace existing planting to provide increase visual interest with views of the river with avenue tree planting along the road edge.

**Nature:** Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora.

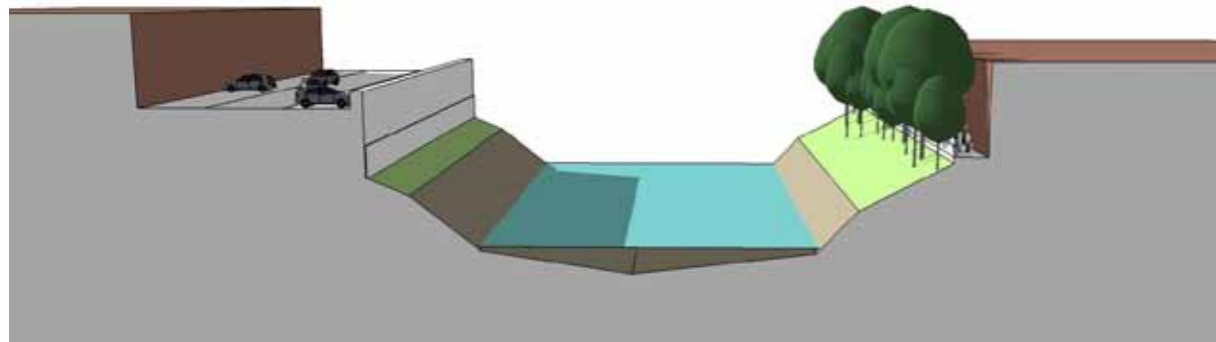
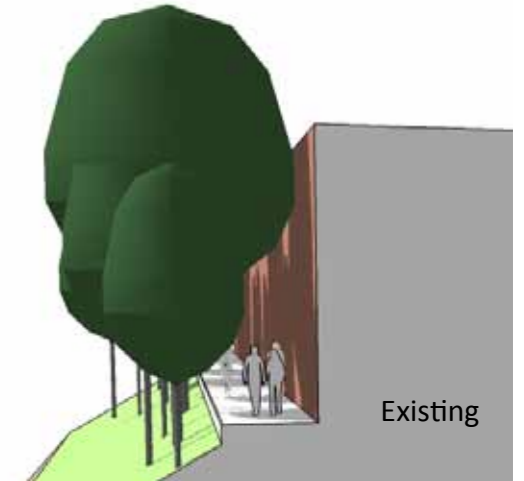


# Albert Reach



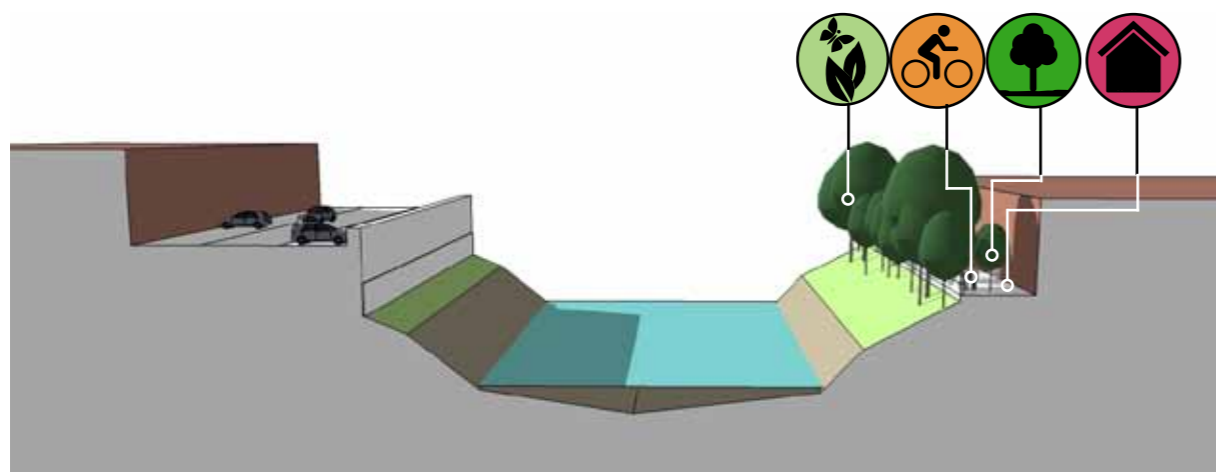
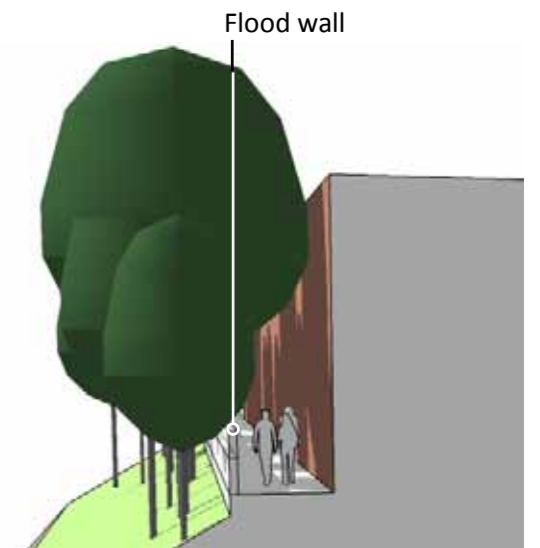
**Design opportunities for Albert Reach in conjunction with providing flood defences**

- Increase the width of the existing narrow shared pedestrian/cycle path through future redevelopment of waterfront sites
- Integrate flood walls within new development edge
- Open managed views of the river through ecological management and selective removal of existing vegetation
- Increase overlooking onto the path from adjacent development to increase natural surveillance



**Option 1: Located the flood wall between the edge of the pedestrian/cycle path and the riverside vegetation.**

Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora

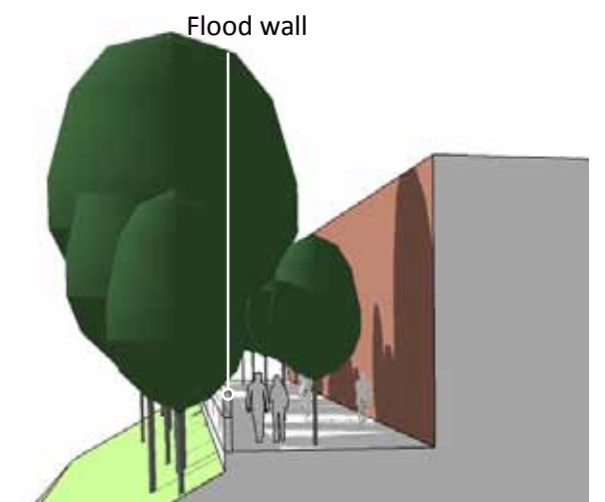


**Option 2: Widen the existing pedestrian/cycle path out into the river bank with the flood wall located at the edge of the path.**

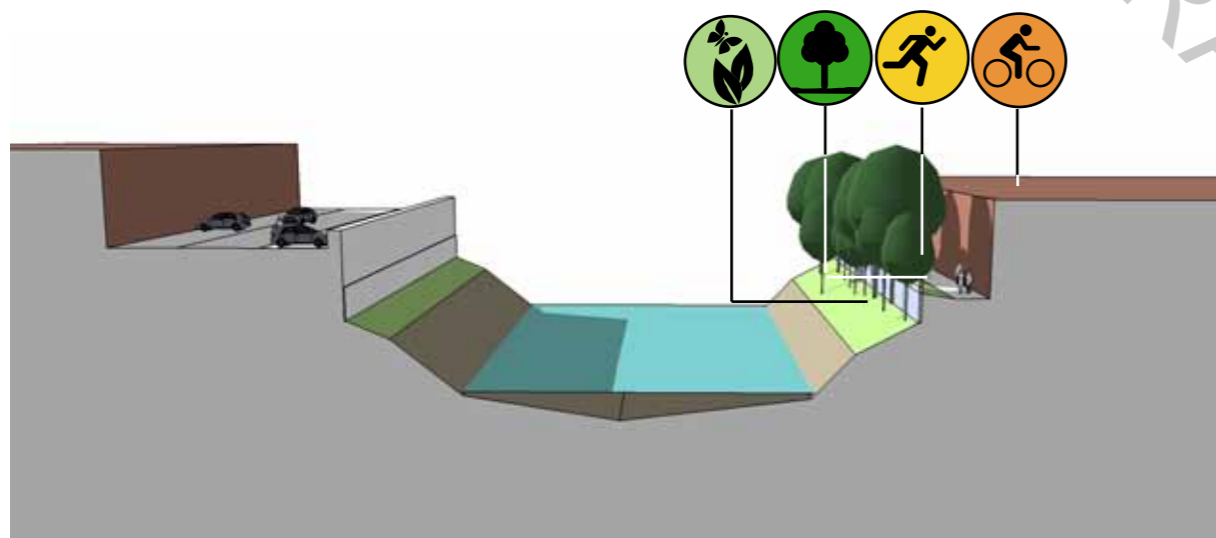
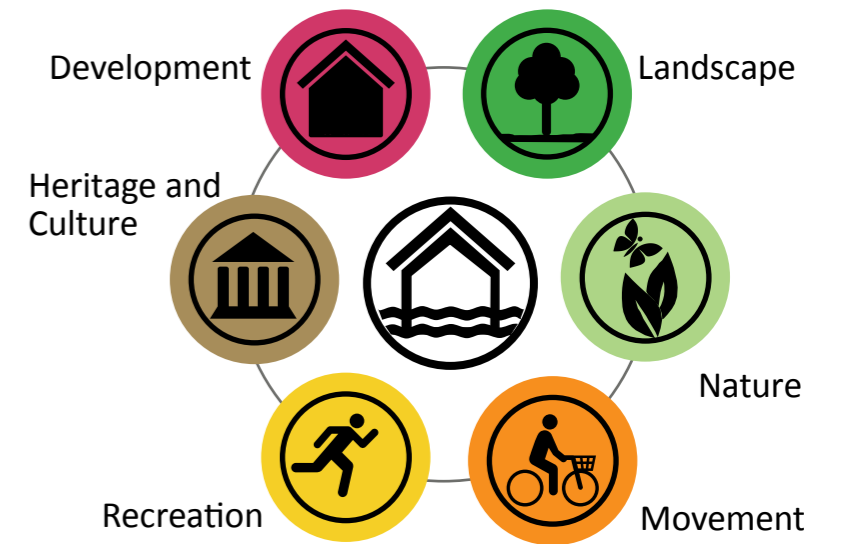
**Development:** Generous riverside path increasing the quality of the path.

**Movement:** Segregated footpath and cycle path.

**Landscape and Nature:** Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora.



Albert Reach



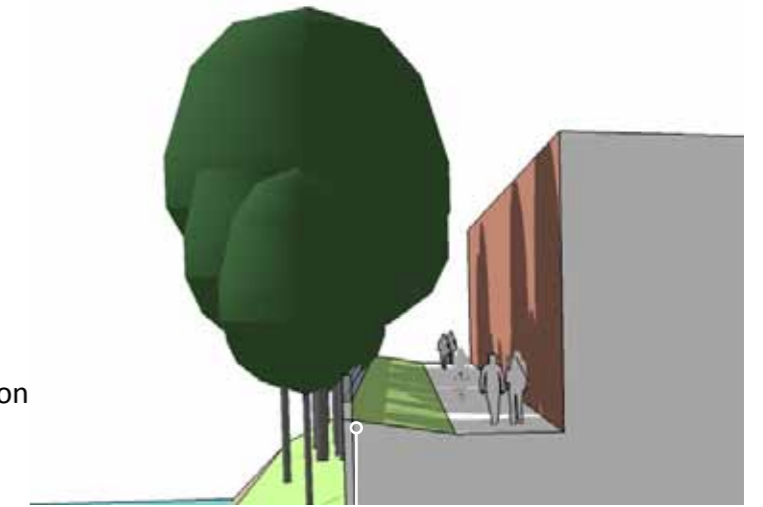
**Option 4: Pile and raise existing path to create a green linear edge to the pedestrian/cycle path.**

**Development:** Linear green area along the pedestrian/cycle path edge.

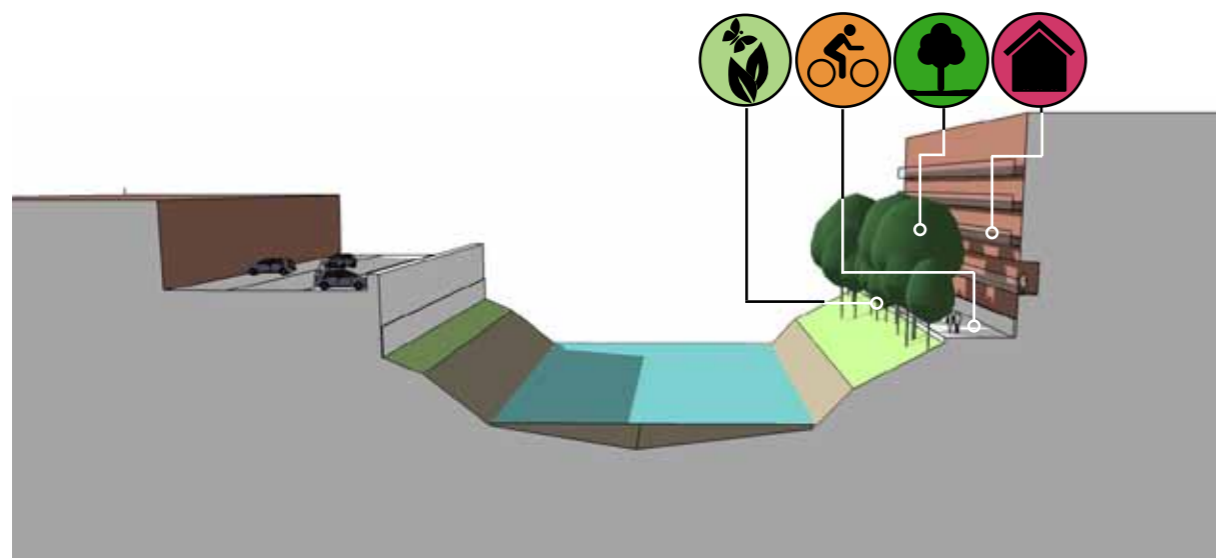
**Movement:** Increase in pedestrian/cycle path width.

**Recreation:** Linear green area for recreation, such as trim trail.

**Landscape & Nature:** Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora.



Flood wall



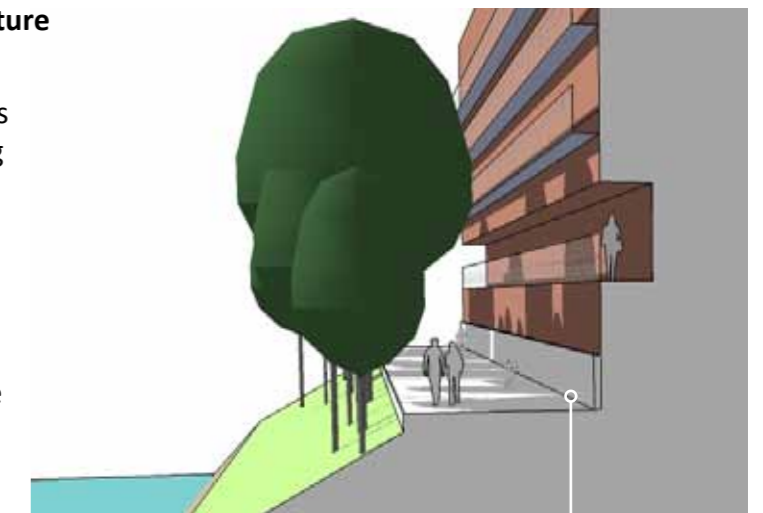
**Option 5: Widen river path and integrate flood wall within the edge of future redevelopment of adjacent sites**

**Development:** Increased density of mixed used development opportunities adjacent to the riverside together with a generous riverside walk by moving the building line back from the river front.

**Movement:** Segregated footpath and cycle path.

**Landscape:** Generous riverside walkway to create a riverside linear public realm area adjacent to the river.

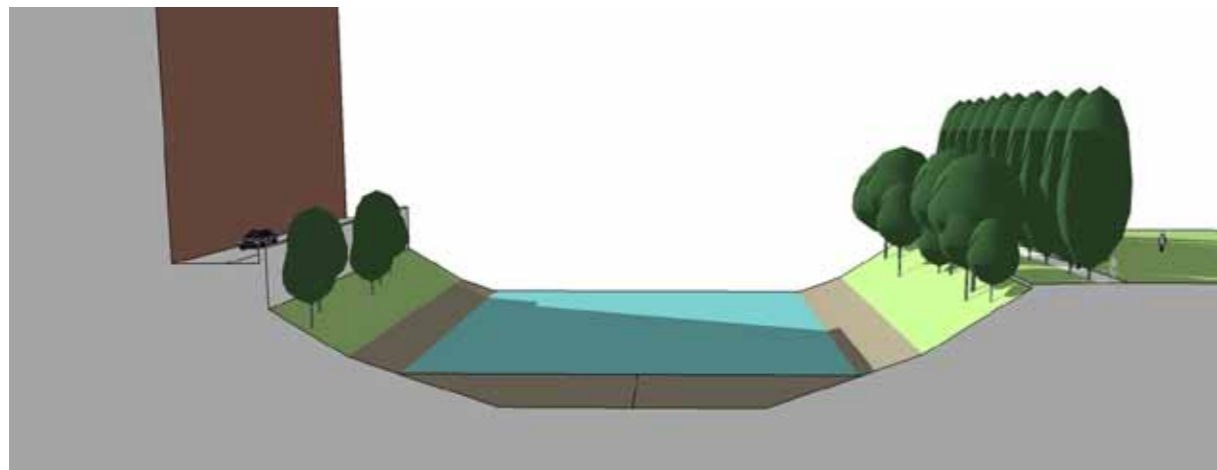
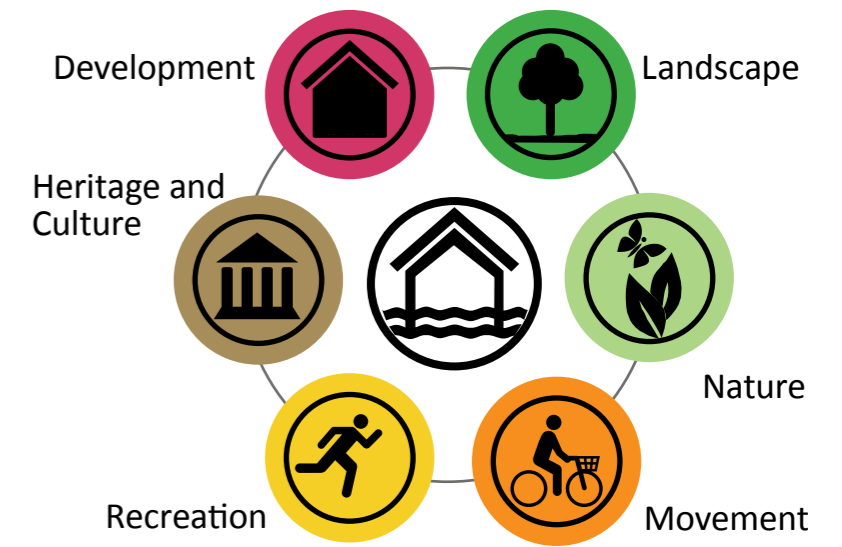
**Nature:** Selective management of existing river edge vegetation to increase glimpsed views through to river and increase biodiversity and pollinator potential of the ground flora.



Flood wall

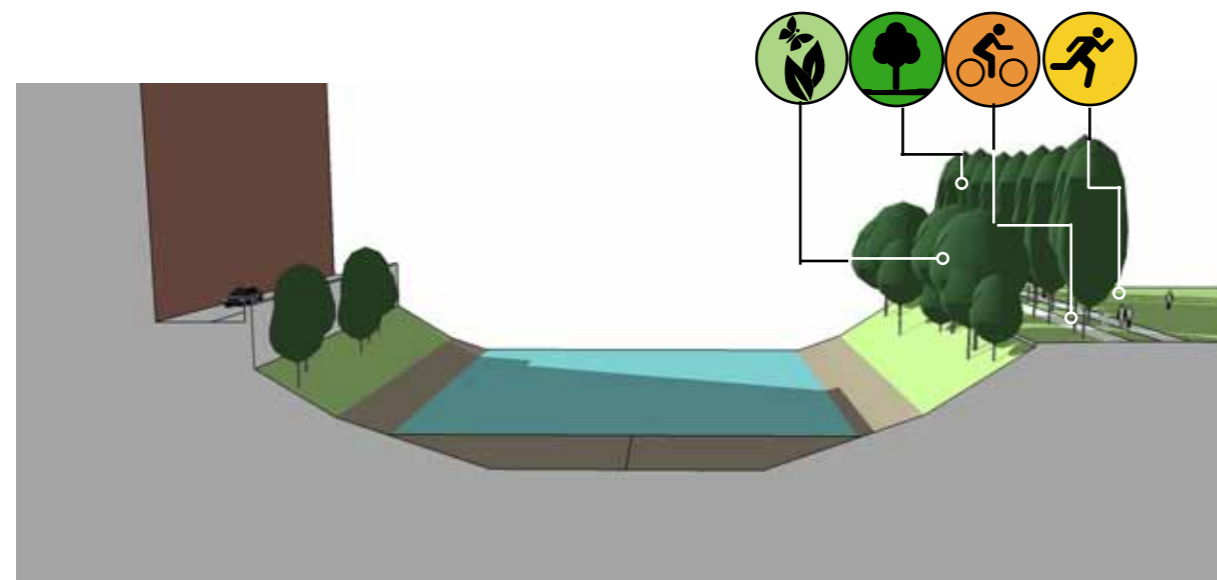
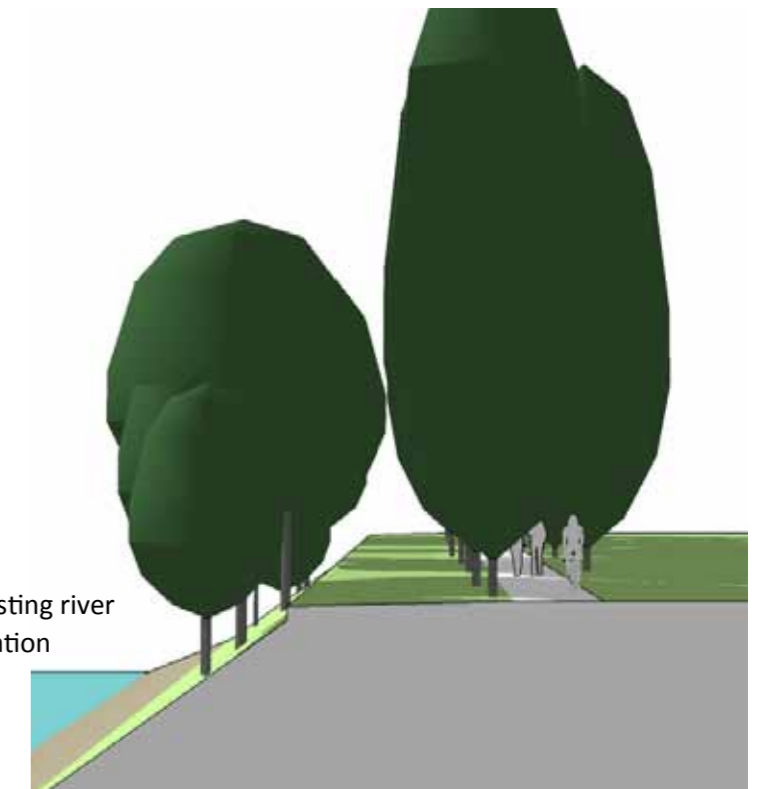
## B. Spatial Options Analysis

### Sparke Evans Park



#### Design opportunities for Sparke Evans Park

- Create multifunctional park for the residents of the new at the new development at Paint Works with a playful natural play elements
- Provide a separate pedestrian and cycle path as enlarging the path to combine both is restricted due to the mature tree planting.
- Reduce the enclosed character of the park
- Crown lifting the avenue trees to allow visual connectivity with the river
- Increase the biodiversity of the planted river edge planting



#### Option 1: Separate the footpath from the cycle path and introduce playful landscape elements to increase the multifunctional use of the park

**Movement:** Segregate the pedestrian and cycle path

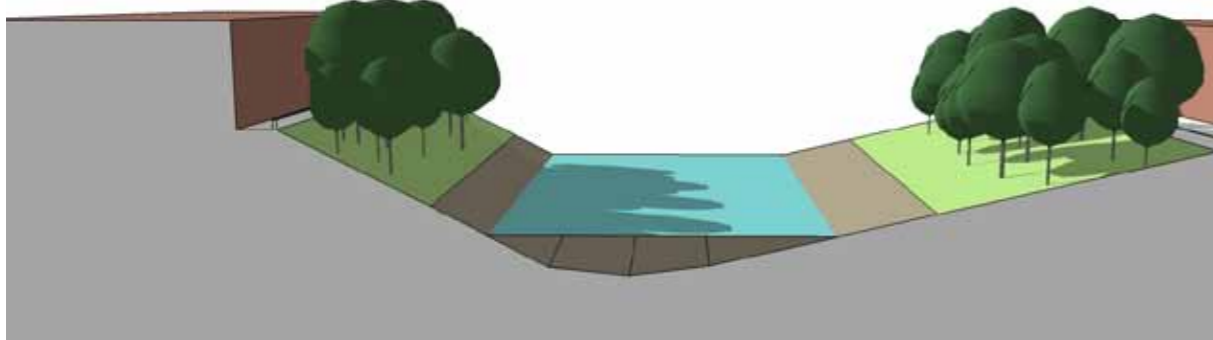
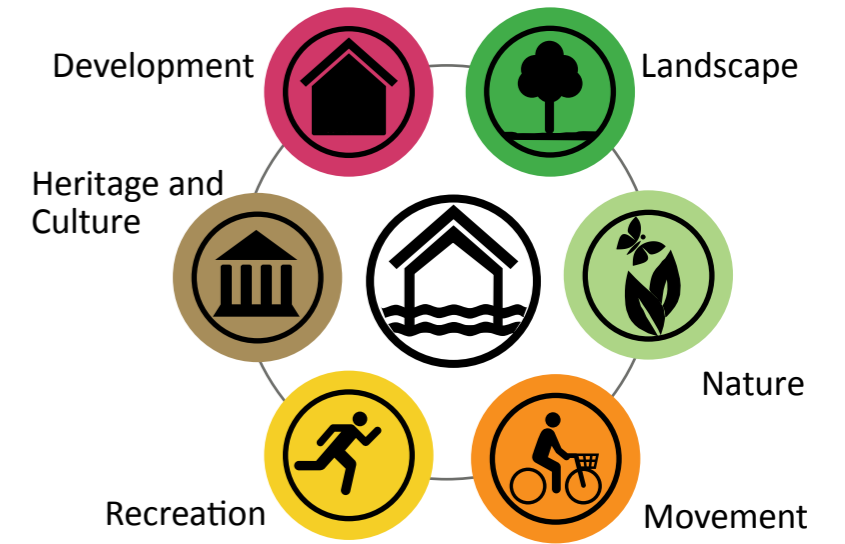
**Recreation:** Create a multifunctional park with playful landscape elements for play

**Landscape:** Crown lift the avenue trees to allow natural surveillance of the park and views of the river. Consider integration of SUDs drainage measures within park grassland

**Nature:** Ecological management of riverside vegetation to reduce shading of ground flora, open views of river and increase casual surveillance of park

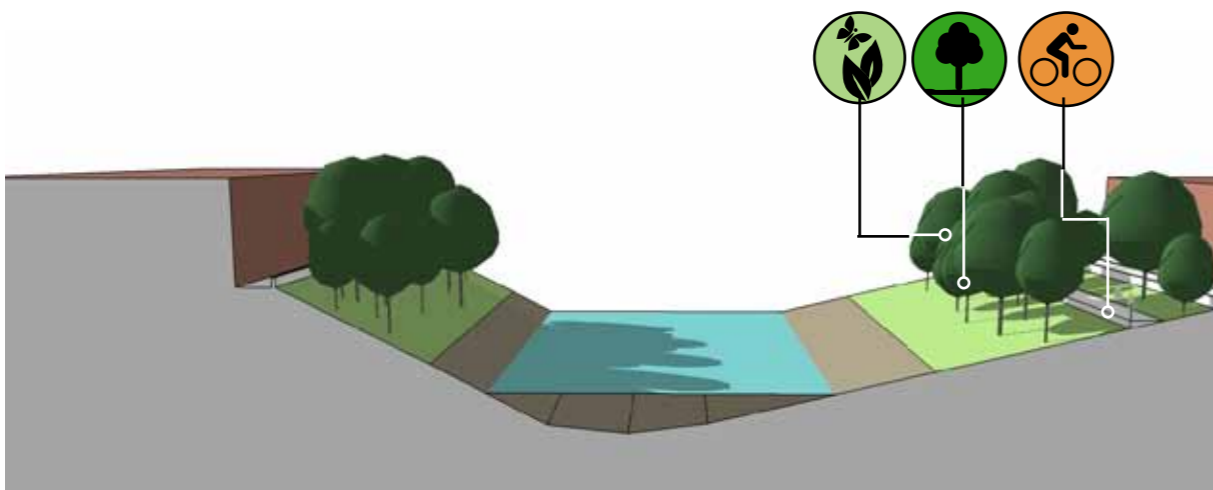
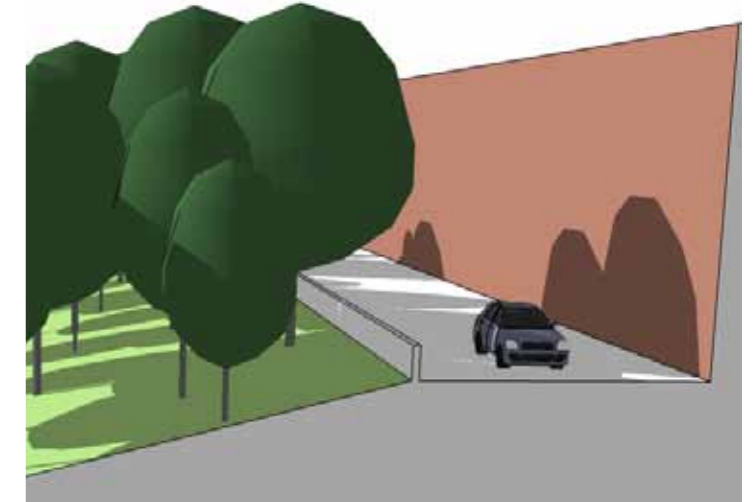
## B. Spatial Options Analysis

### Whitby Reach



#### Design objectives for Albert Reach in conjunction with providing flood defences

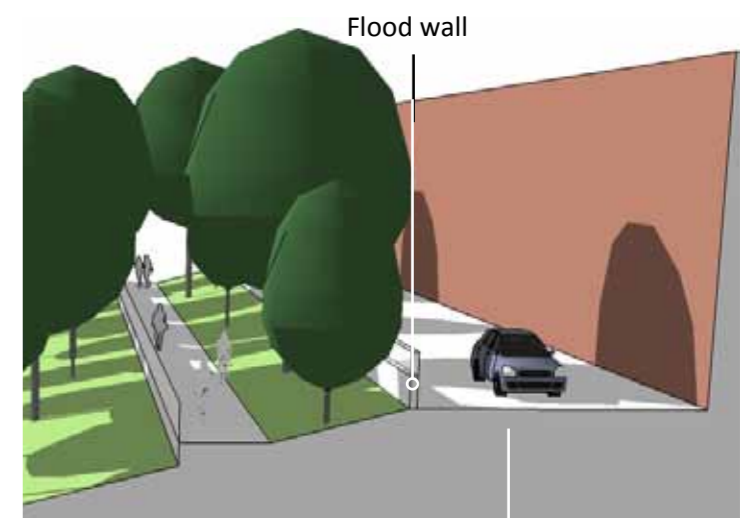
- Create a pedestrian/cycle path to connect the existing path at St Philips Causeway with Netham Park
- Ecological management of riverside vegetation to increase biodiversity and to provide glimpsed views of river



#### Option 1: Create a pedestrian cycle path structure along the northern bank of the River Avon

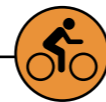
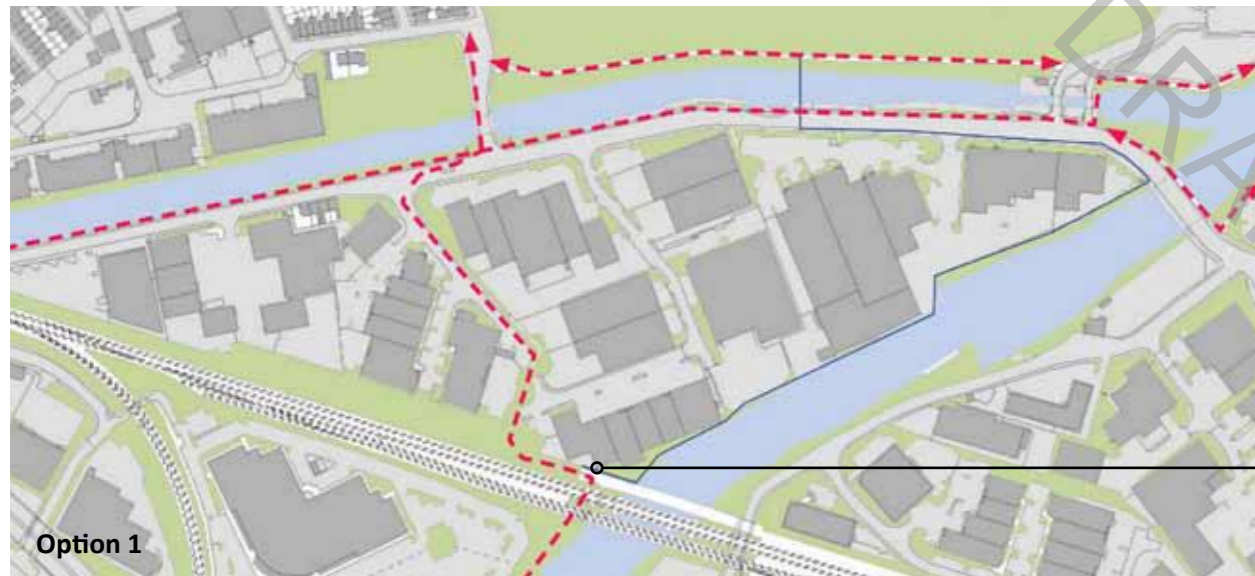
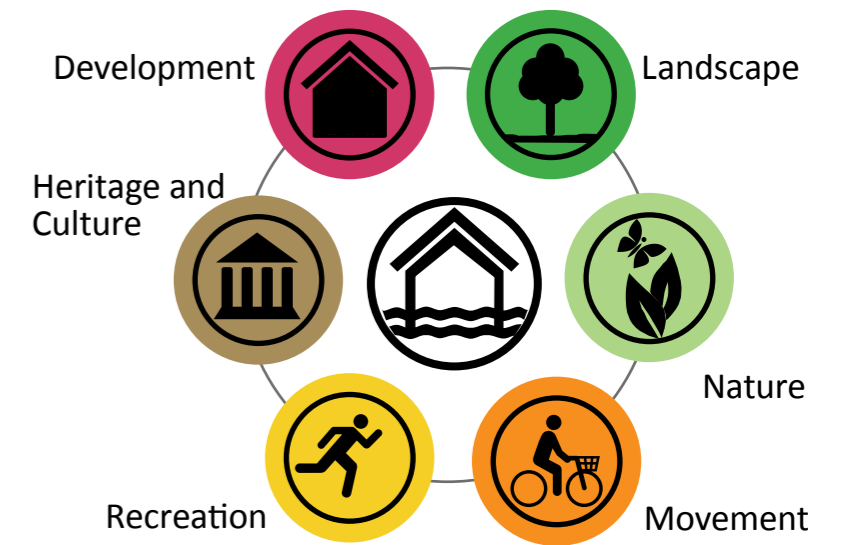
**Movement:** Pedestrian and cycle path linking Netham Park with the existing pedestrian cycle path along the northern bank of the River Avon. This provides a missing strategic walking and cycling connection link along the river edge.

**Landscape and Nature:** Selective management of existing river edge vegetation to improve glimpsed views of river and increase biodiversity and pollinator potential of the ground flora.



## B. Spatial Options Analysis

### Netham Lock

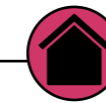
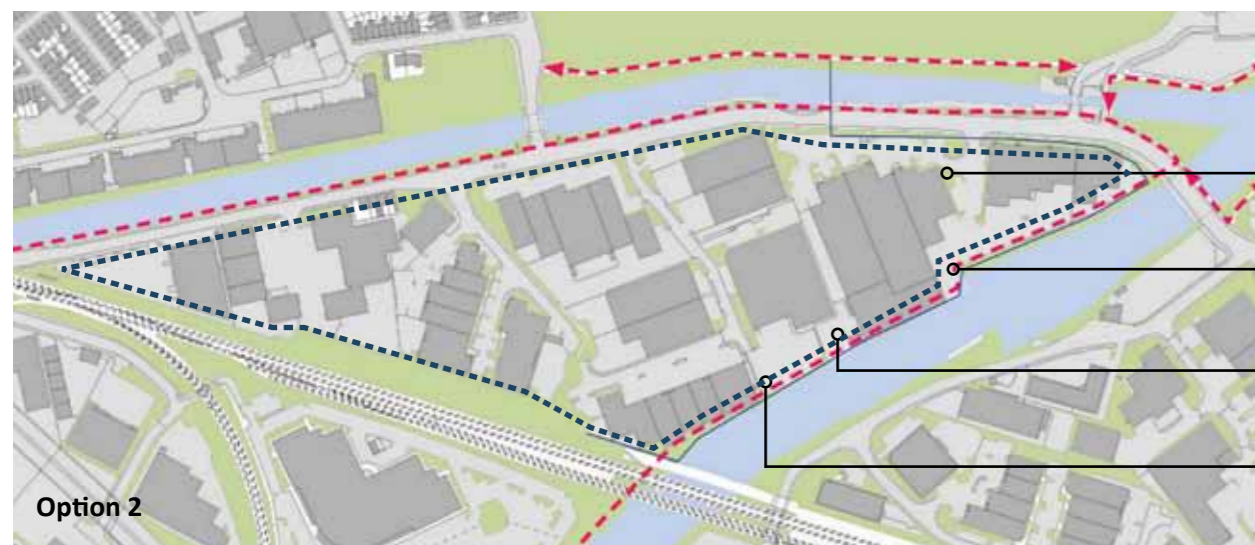


#### Design opportunities for Netham Reach in conjunction with providing flood defences

- Potential for the future redevelopment of the industrial area subject to reassessment of the PIWA status and strategies for its relocation, or integration with mixed uses
- As part of any redevelopment provide a positive waterfront relationship between development and the river

#### Option 1: Reinstate and enhance existing Public Right of Way through industrial area

**Movement:** Create a footpath/cycle link between St Philips and Brislington utilising the disused Network Rail footbridge adjacent to the railway bridge.



#### Option 2: Create a raised area both sides of the river at the lower flood defence level.

**Development:** Potential for future redevelopment of the site to subject to PIWA strategy

**Movement:** Create a cycle/footpath along the river edge to reconnect with Whitby Reach.

**Landscape:** Enhance the redevelopment of the area with positive public realm/ waterfront edges and green infrastructure street tree planting

**Nature:** Development densification allow space for a continuation of green edge to the River Avon, this will enhance and diversify the ecology in this area.

#### Key:

Existing and potential links for links for improvement

Proposed flood defence wall

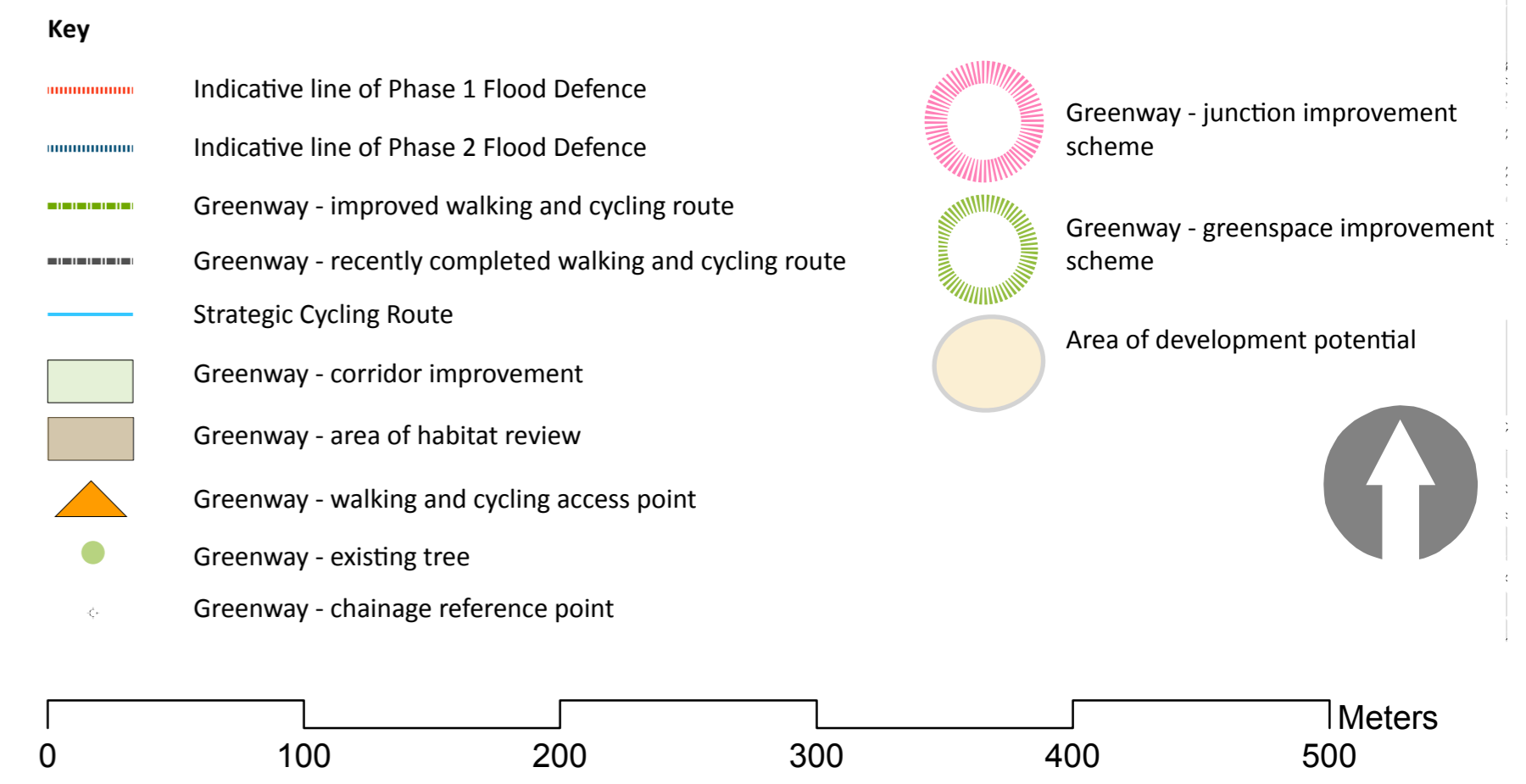
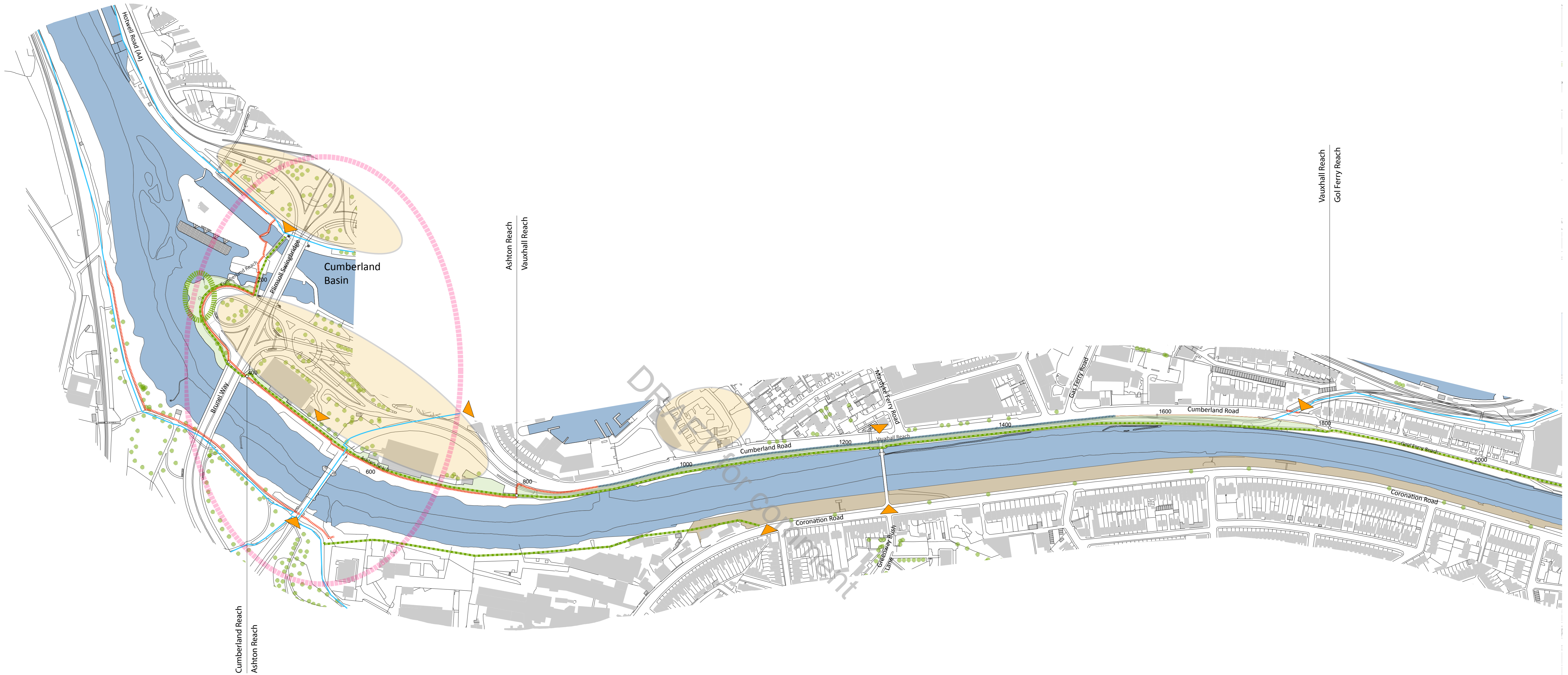
Potential for future development

Not to scale

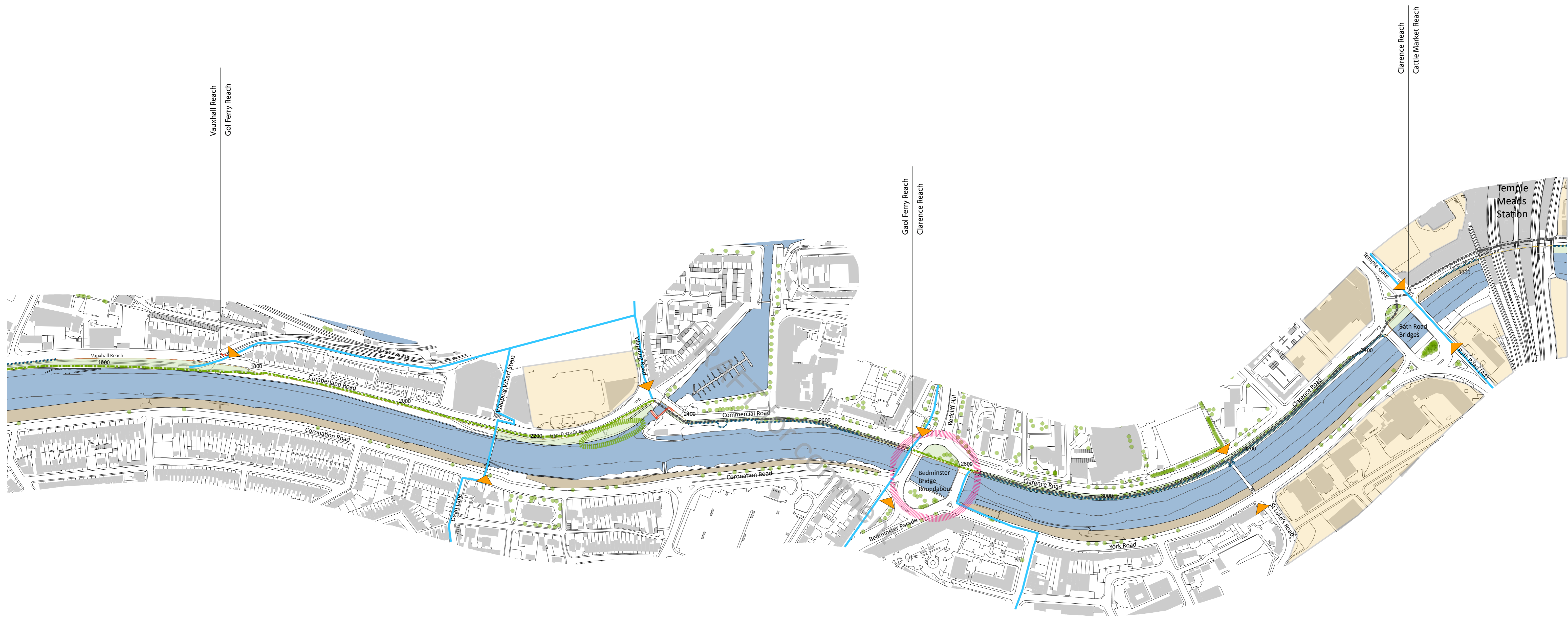


	Cumberland Basin	Ashton Reach	Vauxhall Reach	Gaol Ferry Reach	Clarence Reach	Cattle Market Reach	Albert Reach	Whitby Reach	Netham Reach	The Feeder
Key Junctions/Crossings	Cumberland Basin lock gates, Brunel Swing Bridge	Ashton Swing Bridge	Vauxhall Bridge, Cumberland Road rail bridge	Gaol Ferry Bridge, Bathurst Basin road bridge	Bedminster Roundabout, Banana Bridge, Bath Bridges	Temple Meads rail bridge, Bricks Bridge	Vicar Street Rail Bridge, Tottersdown Bridge, Sparkle Evans bridge	St Philips Causeway, Whitby Road rail bridge	Feeder Road Bridge, Netham Lock Bridge	Avon Street Bridge, Skethorne Lane pedestrian bridge, Marsh Lane Bridge
Flood Wall Proposal	Phase 1 Flood Defence. Replace railings at edge of Cumberland Basin Road. Replace/ increase height of lock gates. Integrate new flood wall within dock making use of existing level changes. Integrate flood wall as part of existing Brunel Way access ramp structure.	Phase 1 Flood Defence installed at edge of existing access track to bonded warehouses.	Phase 1 Flood Defence installed at edge of Cumberland Road along line of recently completed Metrobus wall (800-890m approx). Phase 2 Flood Defence installed to same line (890-1550m approx). Flood gates required beneath Cumberland Road bridge.	Phase 1 flood defence at Bathurst Basin dam. Phase 2 flood defence installed at back edge of Commercial Road (2410-2645m approx) 2m from existing river wall, with flood gates to property access.	Phase 2 flood defence installed at back edge of Clarence Road Road (2820-3380m approx) 2m from existing river wall.	Phase 2 flood wall integrated within edge of Cattle Market Road Highway around Temple Meads rail bridge. Phase 1 flood wall integrated within future Albert Road development edge structures.	Phase 1 Flood wall integrated within future Albert Road development edge structures.	None	Phase 1 Flood wall integrated within development edge. Includes new flood defence structures at Netham Lock.	None
Greenway Place Concept	Integrate the proposed flood wall into the area by utilising and extending the existing changes in level, and reducing clutter: - Enhance, unify and reveal this area through a simple, quality public realm treatment in keeping with the functional character of the docks - Consider seating for people to appreciate the space and views - Enhance the setting of Brunel's Swing Bridge to reveal this important piece of heritage fabric. Restore and repair for walking and cycling use across the entrance dock.	Greenway provides the waterfront setting for future Western Harbour redevelopment of Cumberland Basin area. - Enhance the public realm between A and B Band historic buildings and the river edge to increase activity along the building frontage; - Create a green infrastructure link with Butterfly Junction and the river edge planting. - Increase the diversity of plant species within the river edge vegetation to provide a wide range of habitat and food species for wildlife.	Design opportunities for Vauxhall Reach in conjunction with providing flood defences: - Install flood wall to road edge making use of the existing ground levels along Cumberland Road to minimise the height of wall required - Stabilise and repair the Chocolate Path and railway trackbed where necessary (Harbour Asset Management) - Conserve, protect and interpret the Underfall (Scheduled Ancient Monument) - Consider more multifunctional use of the heritage railway space for recreation, landscape and to increase space for walking and cycling - Improve views and opportunities for walking and recreational access along south bank	Opportunity to conserve, enhance and reveal 'God's Garden' quayside as a pocket park/ greenspace. Installation of flood wall 2m in front of existing river edge wall would create an additional public realm strip providing opportunity for e.g. pollinator planting, SUDs, seating, public art and outdoor fitness equipment.	Retain the segregated footpath and cycle path along Clarence Road. Installation of flood wall 2m in front of existing river edge wall creates an additional public realm strip providing opportunity for e.g. pollinator planting, SUDs, seating, public art and outdoor fitness equipment. Use existing grass areas along housing edge for SUDs and pollinator planting.	Increase the biodiversity of the riverside planting. Retain the existing segregated footpath and cycle route; Create a park at the heart of the Enterprise Zone around Block's Bridge and Tottersdown Basin	Increase the width of the existing narrow shared pedestrian/cycle path to 3.5m minimum through future redevelopment of waterfront sites Integrate flood walls within new development edge Open managed views of the river through ecological management and selective removal of existing vegetation Increase overlooking onto the path from adjacent development to increase natural surveillance. At Sparkle Evans Park create multifunctional park for the residents of the new development at Elizabeths with opportunities for natural play and SUDs elements - Reduce the enclosed character of the park - Crown lifting the avenue trees to improve visual connectivity with the river - Manage riverside vegetation to increase the biodiversity of the river edge and Option 1: Located the flood wall between the edge of the pedestrian/cycle path and the riverside vegetation Option 2: Widen the existing pedestrian/cycle path out into the river bank with the flood wall located at the edge of the path. Option 3: Pile and raise existing path to create a green linear edge to the pedestrian/cycle path. Option 4: Widen river path and integrate flood wall within the edge of future redevelopment of adjacent sites	Establish a pedestrian cycle path structure along the northern bank linking Netham Park with the existing at Sparkle Evans Park. This provides a missing strategic walking and cycling connection link along the river edge. Selective management of existing river edge vegetation to improve glimpsed views of river and increase biodiversity.	Potential for the future redevelopment of the industrial area subject to measurement of the PWA status and strategies for its relocation, or integration with mixed uses As part of any redevelopment provide a positive waterfront relationship between development and the river. provide connectors with River Avon path upstream from Netham Lock on north and south banks consider junctions improvements at Netham Lock to improve walking and cycling	See RIF Feeder cycle scheme including junction improvements to Avon Street and Marsh Lane
Harbour Asset Management (Current known issues)		Stabilise and repair existing river wall structures on north and south bank where necessary	Stabilise and repair the Chocolate Path and railway trackbed where necessary	Stabilise and repair existing river wall structures on north and south bank where necessary	Stabilise and repair existing river wall structures on north and south bank where necessary	Stabilise and repair existing river wall structures on north and south bank where necessary	Stabilise and repair existing river wall structures on north and south bank where necessary			
Factors	Future redevelopment of Cumberland Basin road network. Need to reconcile with repair and conservation proposals for Brunel Swing Bridge structure(s).	Loss of self seeded riverine trees/ shrubs. Opt 2: Loss of intertidal coastal salt marsh habitat.	The Underfall - Scheduled Ancient Monument	Potential loss of 11No. street trees within Commercial Road footway (2500-2720m) depending on method of flood wall construction	Bedminster Bridge junction improvement scheme to improve function of the junction for all modes. Potential loss of 28No. street trees within Clarence Road footway (2850-3400m) depending on method of flood wall construction.					

Draft for comment

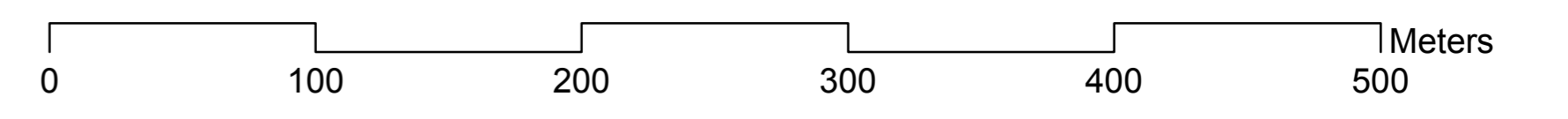


**West**  
(Cumberland Basin - Gaol Ferry Reach)

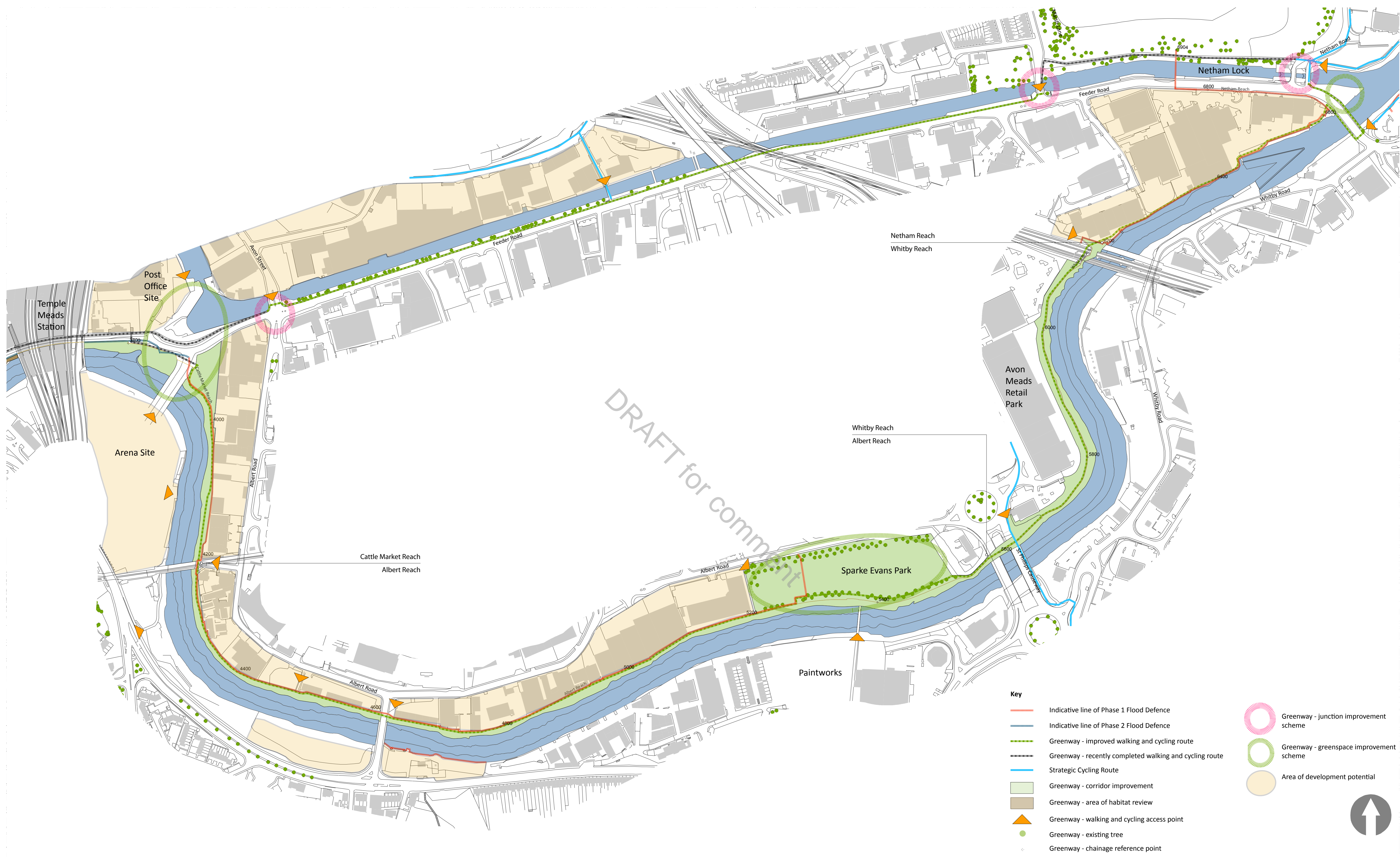


**Key**

- Indicative line of Phase 1 Flood Defence
- Indicative line of Phase 2 Flood Defence
- Greenway - improved walking and cycling route
- Greenway - recently completed walking and cycling route
- Strategic cycling route
- Greenway - corridor improvement
- Greenway - area of habitat review
- Greenway - walking and cycling access point
- Greenway - existing tree
- Greenway - chainage reference point
- Greenway - junction improvement scheme
- Greenway - greenspace improvement scheme
- Area of development potential



**Centre**  
(Gaol Ferry Reach - Temple Meads)



DRAFT for comment

East  
(Temple Meads - Netham Lock)