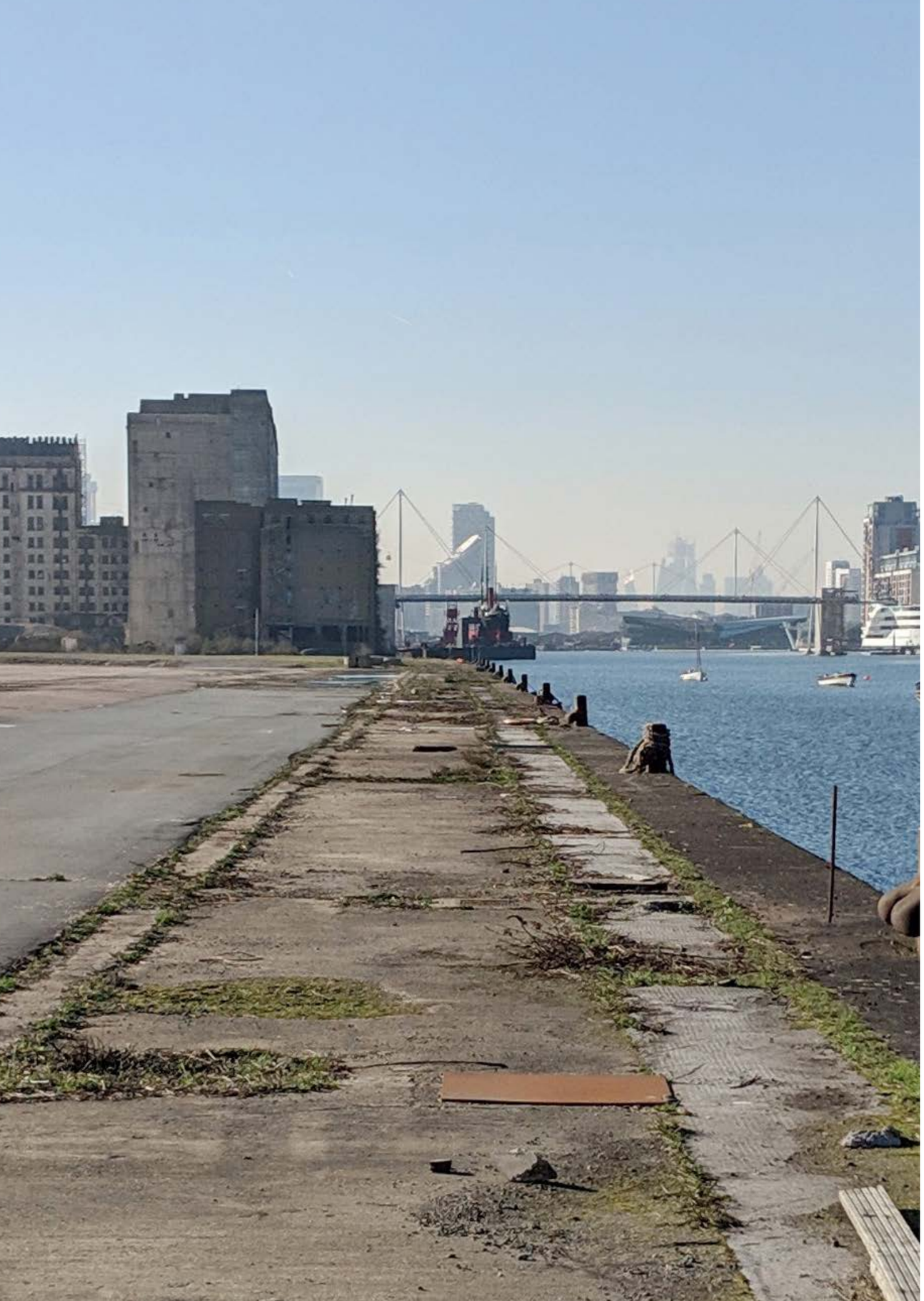
Landscape design guide

Royal Docks

MAYOR OF LONDON

Newham London

Contents



Our public spaces play a fundamental role in ensuring the Royal Docks is a sustainable, healthy and inclusive place, and one that meets the needs of the community and creates a unique place in London.

The Royal Docks Public Realm Framework, published in March 2020, sets out the vision and strategy to ensure the delivery of the Royal Docks' public realm is comprehensive, coherent and connected, while also ensuring a diverse approach. Achieving this vision relies on working closely with a number of stakeholders and partners, so it is important that the principles of the Framework are translated into clear guidance for delivery.

This is why the Royal Docks Team has developed a series of Design Guides, by working with local stakeholders and communities to adopt a user-centred approach. These Guides set out how the design principles of the Public Realm Framework should be applied across the Royal Docks.

The Design Guides support the Mayor of London's Good Growth by Design agenda and the London Borough of Newham's Community Wealth Building agenda. The Guides contribute towards the creation of thriving "15-minute neighbourhoods" that connect communities to critical services and social and civic amenities, supporting the health, wellbeing and prosperity of everyone who lives and works here. The Guides focus on equalising access to public space and prioritising sustainable travel modes through inclusive design principles; and they help fulfil air quality and climate change adaptation commitments.

Three thematic Guides have been created: the Wayfinding, Lighting and Landscaping Guides enhance the character and legibility of the place. They focus on several fundamental and cross-cutting principles, including;

- Creating places that are inclusive and accessible.
- Increasing access to green spaces and local amenities.
- Improving connectivity across the Royal Docks.
- Enhancing access to the water.
- Celebrating the heritage and culture of the Royal Docks.
- Creating a welcoming and safe environment.
- Promoting healthier lifestyles.
- Promoting community participation and co-design.
- Encouraging community stewardship of public spaces.

An Inclusive Design Guide will accompany and support the other three thematic Guides, setting out how national legislation and best practice should be applied to the specific accessibility challenges characterising the Royal Docks' open spaces, so that we can ensure equitable access for all.

The Design Guides constitute an essential resource for anyone who intends to commission design work and public realm projects in the Royal Docks, including public sector organisations, developers, landowners, local businesses and community organisations.

The Guides are intended to sit alongside and support the vision and principles of other strategies, including the Royal Docks Economic Purpose and the Royal Docks Cultural Placemaking Strategy, which are key to shaping the regeneration of the Royal Docks. Taken together, the principles will ensure the Royal Docks becomes a testbed for new ideas and innovation, and a unique place that benefits communities, businesses and visitors alike.

1. Introduction

The design guides

In 2019 the Royal Docks Team worked with 5th Studio to produce the Royal Docks Public Realm Framework (the Framework), which was endorsed by the Enterprise Zone Programme Board in March 2020. The Framework sets out the key principles for future interventions and investment in the area's open spaces.

The Design Guides are the next phase of this project, establishing a unified design code for wayfinding, lighting and landscape elements in the area.

These guides are intended to support the delivery of a coherent, clear and socially inclusive public realm across the Royal Docks. The ambition for the transformation of the Royal Docks is set out in the Royal Docks Public Realm Framework, which was publicly consulted on in 2019 and published in March 2020.

The following pages summarise the key ambitions for the public realm and should be read in conjunction with the more detailed findings set out in the Framework. The summary of engagement, and a 'How to use this Guide' section, are also included here.

Purpose of the Guides

The aim of the Design Guides is to provide a coordinated approach to landscape, lighting, wayfinding and inclusivity and access for the Royal Docks. As set out in the Framework, it is essential that interventions in the area are working towards similar goals and draw from a similar design language. The Design Guides will serve as a common resource to achieve this goal.

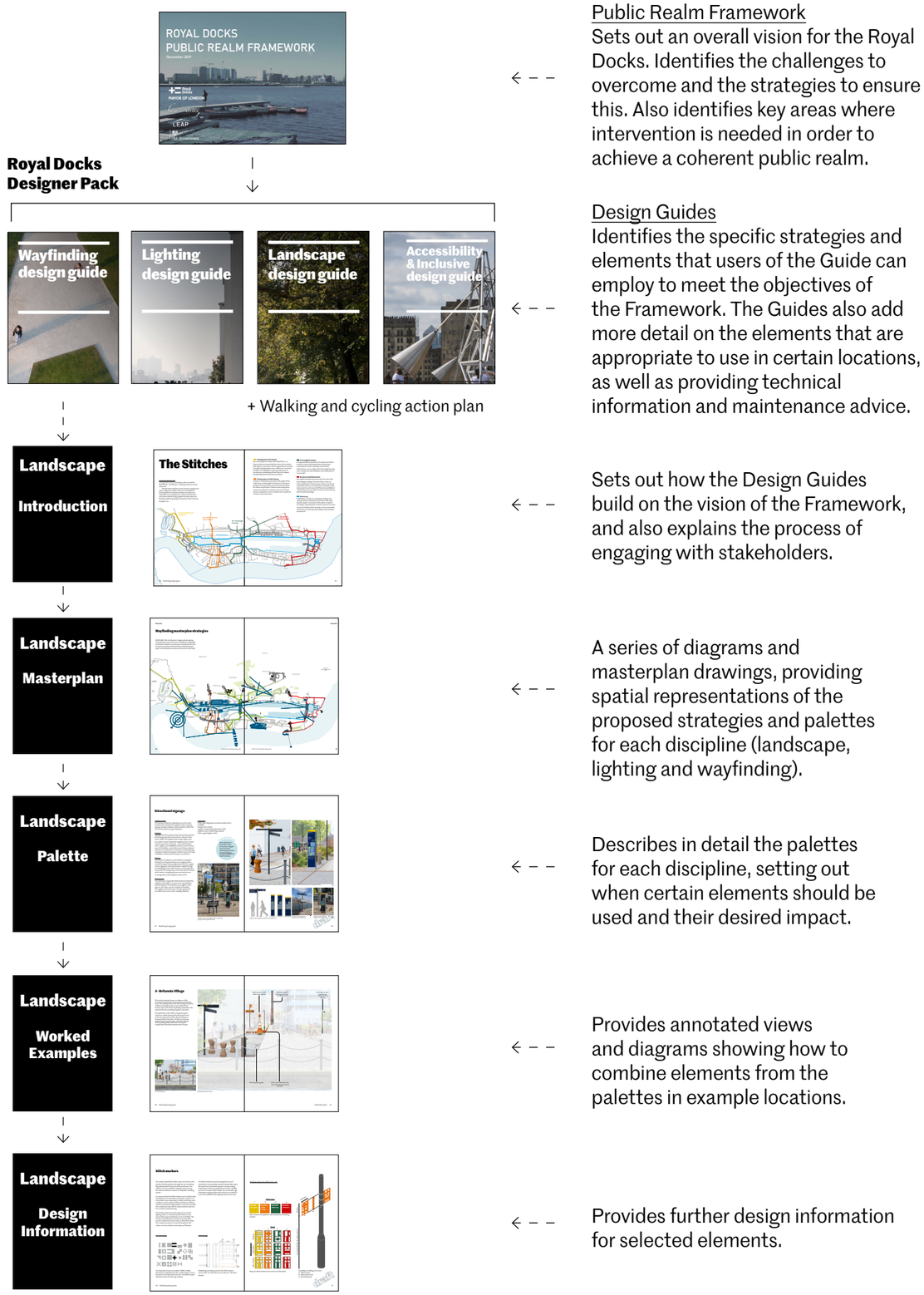
Who are the Guides for?

The Design Guides are primarily for anyone who is thinking of commissioning or designing a project within the Royal Docks. As new development impacts everyone in the area, both existing and future communities, the Design Guides also provide a record of how community groups and key stakeholders have participated in and influenced the process.

Structure of the Guides

The structure of the Design Guides will allow stakeholders, designers and local authorities to understand the vision for the area as a whole, as well as use the specific guidance within the Guides for different areas and conditions. An understanding of the broader picture is vital to all work conducted in the Royal Docks - even if the smaller projects are individual in nature, the value of these individual interventions can be diminished if the spirit of the overall area plan is not taken into account.

At the end of this chapter, a 'How to use this Guide' spread is included to ensure that the Design Guides are used effectively.



Public Realm Framework
Sets out an overall vision for the Royal Docks. Identifies the challenges to overcome and the strategies to ensure this. Also identifies key areas where intervention is needed in order to achieve a coherent public realm.

Design Guides
Identifies the specific strategies and elements that users of the Guide can employ to meet the objectives of the Framework. The Guides also add more detail on the elements that are appropriate to use in certain locations, as well as providing technical information and maintenance advice.

Sets out how the Design Guides build on the vision of the Framework, and also explains the process of engaging with stakeholders.

A series of diagrams and masterplan drawings, providing spatial representations of the proposed strategies and palettes for each discipline (landscape, lighting and wayfinding).

Describes in detail the palettes for each discipline, setting out when certain elements should be used and their desired impact.

Provides annotated views and diagrams showing how to combine elements from the palettes in example locations.

Provides further design information for selected elements.

Stakeholder and Community Engagement Methodology

Royal Docks stakeholders and communities are the people who will use, apply and benefit from the Design Guides, as well as the resulting public realm. This is why their involvement has been critical to developing the Design Guides.

Stakeholders
Landowners, developers, businesses, authorities and communities will use and apply the directions from these Guides in any public realm schemes they implement. Securing the input from these groups means the Guides respect key infrastructure, building or land requirements and restrictions, and this collaborative approach also secures long-term usability of the Guides.

Communities
Local civil society groups, residents and workers are primary users of the public realm. Their input aimed to ensure the Guides were developed in response to people's everyday experiences and needs, as well as considering the needs of a diverse community.

The active participation of stakeholders and communities in the area's regeneration is central to the Royal Docks Delivery Plan and its Communities Strategy. One of our key goals is continuous involvement, which strengthens the existing assets of the area and ensures that people feel invested in and commited to building on the community's resilience for the long term.

As such, this initiative was conceived as part of an on-going process to involve stakeholders and communities in the design and delivery of public realm across the Royal Docks. These Guides build on previous dialogue, with the goal of strengthening relationships and preparing the ground for future collaboration.

A preliminary phase collated and analysed information from previous engagement initiatives since 2018, including the initial 2019 Royal Docks public consultation that contributed to development of the Public Realm Framework. These findings informed the first drafts of the masterplans and fed into the design of how we should approach engagement.

The Design Guides were developed in stages, based on stakeholder and community input:

Phase 1: Strategy, Principles and Masterplans
Drawing on input from stakeholders and communities, we shaped the strategic approach of the Design Guides, their overarching principles and the masterplans for lighting, landscape and wayfinding.

Phase 2: Palettes
Input from Phase 1 and the resulting principles and masterplans were used to develop the approach to Phase 2, key locations and initial Palette proposals.

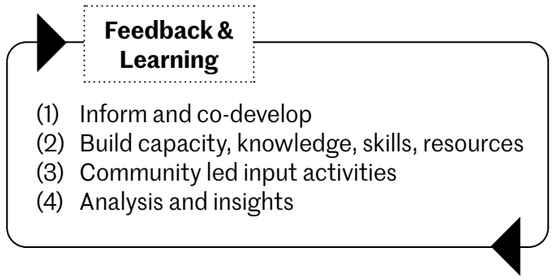
Stakeholders
For Phase 1, we held large multi-stakeholder group discussions to collectively review existing design guidance and the Masterplan proposals, and this enabled us to identify key needs and issues. For Phase 2, we moved to smaller, more focussed sessions to gain recommendations for implementation, as well as drawing on particular perspectives or expertise for how to best manage specific locations and elements of Masterplans and Palettes.

Communities
In order to draw out the wishes, requirements, and relevant expertise of the communities, we used an iterative process that incorporated feedback and learning loops to address gaps and meet changing needs. The process helped communities gain skills and the confidence required to lead their own activities. This created informed and safe spaces for user-centred feedback that drew from groups' own networks, encouraging participation and creative input from diverse sources.

Phase 1
Questions were designed to enable personal and social reaction, so we could capture lived experience and overall attitudes to public space. We also wanted to reflect the impact of Covid-19, as well as to gain specific location-based feedback on the Design Guide disciplines to inform the strategies and masterplans.

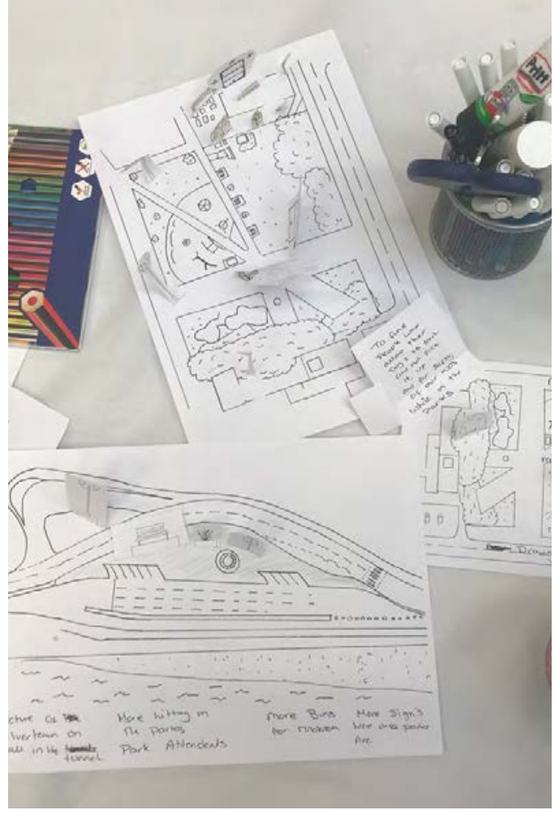
The questions were adapted for different engagement formats. We worked with community organisations to fit their programmes, including an online survey, befriending calls, a video, and online walking tours along the four Stitches in focus groups. Briefing sessions and facilitator packs, including maps and visuals, were developed to enable communities to lead their own activities.

Phase 2
Artist-facilitated creative activities were organised so we could glean specific design input, and use these to shape, adapt and add detail to the proposed palettes for each Design Guide. Sketches of Worked Examples enabled communities to imagine how elements of wayfinding, lighting and landscaping would come to together in a particular place, equipping them to make specific suggestions.



Left: The diagram shows how the involvement of stakeholder and communities followed different streams and used different approaches in order to meet the input and engagement objectives specific to each group.

Right: Creative activities resulted in a wide range of materials



Stakeholder and Community Engagement Outcomes

Summary of stakeholder engagement outcomes
The following points summarise the feedback from stakeholder workshops:

Overall approach
- The proposed structure of the Guides is helpful to navigate and will be a useful resource to work across different landownerships.
- The Guides should establish overall principles, but be flexible and allow for local adaptation and interpretation in specific sites.
- Prioritise accessibility and inclusivity in the guides – they are key in promoting a diverse and connected environment in the Docks.
- Making the place more interesting and attractive is key to encourage more cycling and walking.
- Integrate heritage across the guides, from up-lighting to wayfinding and street furniture.

Locations
- Sites for the Worked Examples were suggested Area-based sessions provided localised suggestions across the three thematic guides.

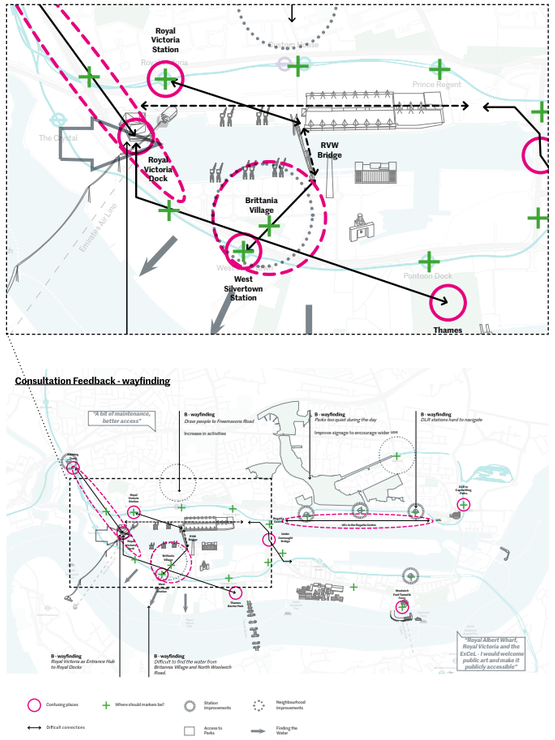
Wayfinding
- Provide a more creative and integrated approach to wayfinding that is embedded in a wider narrative of the Docks as a place. While specific sites may have an internal signage approach, this should be clearly guided by common overarching principles.
- Prioritise navigation from public transport hubs and provide coherent signage between places and amenities.Stakeholders with large wall space are open to conversations about displaying public art and creative wayfinding.

Landscape
- Provide a consistent approach to Dock edge protection, while encouraging the public to get close to the water.
- Set out guidelines for planting and appropriate species in light of local restrictions.
- Integrate elements to counter pollution such as environmental walls. Hard landscaping should provide smooth surfaces to support accessibility for less mobile people, buggies and active travel.
- Guidance around maintenance and use of resources should be an integral part of the Landscape Guide.

Lighting
- Create a consistent approach to lighting to reinforce the stitches and a hierarchy of routes.
- Lighting design should incorporate flexibility to cater for different uses at different times while recognising conflict.

Cross-cutting
- Acknowledge sustainability issues around technological implementation. Explore institutional partnerships for developing innovative solutions.
- Optimise access to the Water for multiple uses.

Community engagement analysis framework
An analysis framework was developed to collect, process and analyse the responses. This incorporated thematic analysis (Braun & Clarke, 2006), and human centred design analysis such as user stories. The framework also incorporated spatial analysis in the form of Landscape, Lighting and Wayfinding Feedback Maps, which plotted key themes along the Stitches to inform their treatment.



Mapping feedback relating to wayfinding

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3, 77–101.

Summary of community engagement outcomes
Survey responses, verbal feedback, annotated maps, drawings, photos, video created a rich feedback picture. Analysis of personal and hyper-local experience was brought into the conversation in the form of area-wide challenges and opportunities to inform multi-scaler strategies for Wayfinding, Landscaping and Lighting.

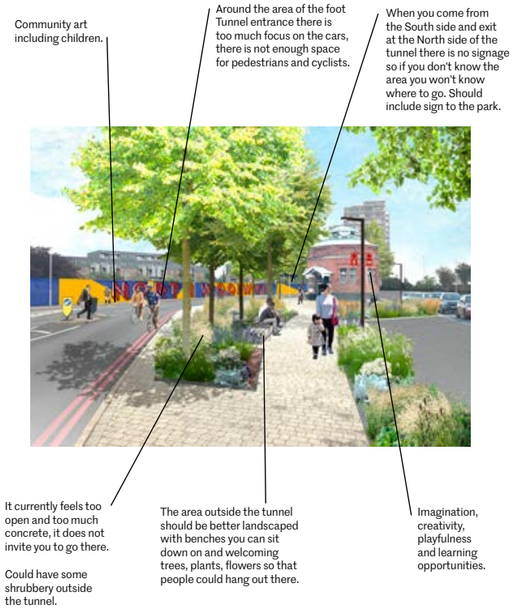
Community feedback highlighted hot-spots of multiple activity outside the Stitches, demonstrating how different strategies work together. This informed the Worked Examples for Phase 2: defining locations and combinations of palette elements to test the viability of approaches amongst stakeholders and communities.

Below are a few examples showing how community feedback analysis informed Strategies, Masterplans and Palettes at different scales and levels.

Landscape
- Priority locations for seating and furniture, proposed location for a community garden included in Masterplan, proposals for community noticeboards or moveable meanwhile planters.
- The principle of Play for all ages integrated into Landscape elements supported by functional Lighting and Wayfinding.
- Threshold mats to gather street furniture and support dock edge wayfinding to encourage different uses and enjoyment of the water.

Lighting
- Different, complimentary lighting solutions through a baseline and accent palette to meet different needs at different times for example to encourage activity or safety at night, while preserving tranquillity and avoiding light pollution.
- Strategy for consistent lighting around dock edge with feature lighting to key objects and buildings.

Wayfinding
- Proposals for interactive maps and information boards. Local locations of severance between amenities, and for signage improvements.
- The application of colour to the Stitches and incorporating sensory elements into Wayfinding to enhance the experience of different places.
- The principle: ‘Inclusive’ includes key moves to design with the input of communities to optimise mobility and access to amenities.

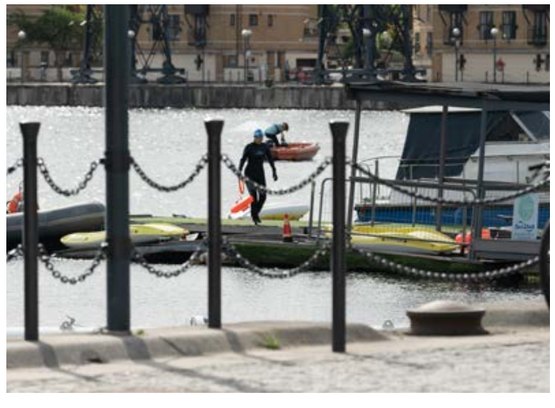


Stakeholder and Community Engagement
Outcomes

Community design principles
The Draft Community Design Principles outlined on this page summarise the analysis of communities' input. By doing so under broad themes, they can be used to support a consistent experience for all Royal Docks locals and visitors, and to promote an accessible and inclusive public realm. The intention is for these principles to be applied across the Design Guides and used by all stakeholders to inform their approach to Public Realm design and delivery.

The next steps will be to work with communities and stakeholders to consolidate these principles, plan ways to put them into action and build accountability around them. This may include community design review panels or other occasions when evidence of a process and an adherence to design principles might be required.

Two interconnected values underpin the principles, reflecting Newham and London's current policy approaches. These are repeatedly evidenced through community feedback:



Diversity and Inclusion
The Royal Docks Public Realm aims for inclusive environments that can be enjoyed by everyone: existing and new residents, people of any ability, age, gender, sexual orientation, race or faith. High levels of public access and varied uses by diverse groups at different times aim to promote integration. The Inclusivity and Access Design Guide provides technical guidance on these issues.

Healthy places
Public Realm can promote physical and mental health, and general well-being. When a variety of inter-connecting principles are applied to place-making, it can ensure that the projects enable social connection, leisure and relaxation; facilitate mobility and active travel; enhance community care and safety; connect to amenities and economic opportunity; and are clean, well maintained and ecologically sensitive.

Community participation and co-design
This is a cross-cutting principle which should be applied alongside other principles. The appropriate level (from information and consultation through to co-design) and form of participation should be planned with communities well in advance of any project, with clear objectives and proper resources. Ensuring a multi-stakeholder commitment to this longer-term process, leaving room to flex and evolve, can yield greater place-making outcomes for all.

Community Design Principles

Ecology
Promote nature-based solutions and low-carbon communities that reduce pollution and waste. Encourage biodiversity, be climate change adaptive, promote people-nature connections.

Play and active design
Integrate play and physical activity opportunities into the public realm for people of all ages with formal, informal and creative measures. Support active travel, to ensure accessibility and awareness.

Sensory design
Incorporate pleasant sensory experiences (sight, sound, smell, touch) throughout the public realm, including art and creative elements to enhance tranquillity, attractiveness, imagination and interconnection with the surroundings.

Living heritage
Bring the area's industrial, maritime and socio-cultural history and infrastructure into play in the public realm to inspire curiosity and feelings of belonging at a human scale by creating inviting spaces and learning opportunities.

Water connection
Consider water as public space, enhancing access for different users with different needs. Encourage views and wayfinding, and support its role in ecology and climate resilience.

Flexible use: multi-functional and adaptive
Maximise opportunities to enable the free use of space by the public. Consider the increased and multiple use of space for social and livelihood activities at different times of day by building in adaptivity across strategies.

High streets and amenity centres
Multiply civic links to local centres with accessible high streets which support daily needs and livelihoods and provide opportunities to meet, talk and celebrate.

Hyper-local networks
Enable and enhance existing networks of care, socio-spatial connections, local mobility, and the exchanges of goods, services, support and knowledge.

Community stewardship
Emphasise and encourage community knowledge and action to maintain and curate public and green space; to drive low carbon solutions, ecological stewardship and local strategies for community resilience.

Innovation at the Royal Docks

With so much unconstrained space, and a blend of public and private sector investment, the Royal Docks are ideally positioned as an urban proving ground, as a site of innovation and experimentation for London. This was identified in the 'Economic Purpose for Newham' report, 2019:

“The Royal Docks Economic Purpose is proposed as a nationally significant hub of enterprise, employment and culture, recognised as a testbed for social, environmental and technological innovation”

This is why we want to work to establish the Royal Docks as a place where innovation is encouraged, and as a place that provides learning for policy makers, practitioners, and communities across London and beyond.

The Public Realm Design Guide has set out key opportunities for this innovative culture, from Smart City investment for creating Healthy Streets, to emerging thinking on new economies, energy and environmental sustainability. The approach supports The Mayor of London's 'Good Growth' approach and the London Borough of Newham’s focus on Community Wealth Building.

Why?
There is a growing demand for urban innovation in cities. In the Royal Docks we have an opportunity to use new technologies and innovative design approaches to the public realm to address challenges such as environmental change, infrastructure provision and the impacts of growing population density and inequality. Some of these are listed opportunities are listed below.

Climate change
The biggest current challenge facing cities is how to mitigate the impact of climate change. This includes how to address flooding risks, provide shade and shelter to improve comfort levels in extreme weather (urban heat island effects) and to address biodiversity loss.

Infrastructure provision
- Provide renewable energy sources.
- Encourage the use of active travel modes.
- Circular economies.

Innovation

Refer to these markers throughout the Design Guides for references relating to innovation, precedent projects and references.

How?
All stakeholders, including Public Realm Designers, have the potential to create new solutions and to use existing infrastructure in new combinations to address these challenges.

Engagement with communities, other innovators, institutions, and research projects, could create funding opportunities and capitalise on knowledge and skills to create innovative solutions. The UK has a strong research base and world-class higher education institutions as well as capabilities across business sectors for urban innovation.

Tactics include utilising digital technology, testing/prototyping, spatial design (including co-design) and physical infrastructure:

Digital technology
- Engaging local communities by using data, for example by monitoring air quality, and providing visual data to illustrate how contaminated groundwater is being monitored.
- Data collection in the public realm, from sensors, digital street furniture, advertising and other new technologies embedded into street furniture.
- Co-design/community feedback loops using community media, audio-visuals and social media.
- Digital signage with real-time information across the area providing live data on transit arrival and departure times, walking times, nearby transit routes, and the availability of shared bikes, cars and scooters, all making it easier for people to navigate their sustainable transport options.
- Mobile infrastructure - small cell data integrated into street furniture.

Testing/prototyping
- Learning lessons from similar projects in other locations, testing approaches that can in turn be rolled out elsewhere in London and using demonstration sites to trial new urban solutions.

Spatial design
- Dockside parks and proving grounds - Temporary landscapes and innovation expos providing places for testing resilience, species, management - a Landscape Laboratory.
- Sustainable Urban Living & Low Carbon Neighbourhoods - Cycle parks, market squares for stalls selling locally produced food and goods by local creatives.
- Urban Ecology/ Food production - Grow and produce food, providing access to locally grown food and a means of bringing the public closer to how food grows and familiarising them with regionality and seasonality. There are also opportunities for farm to table enterprises which can sell either to restaurants or to the public at a farmers market.
- Sustainable urban green spaces - Restored green spaces from brownfield sites, soils and bioremediation and the recovery of contaminated sites by understanding interactions between soil conditions, wasteland vegetation, pollutants, and their exposure and toxicity to animals and people.
- Living Water City - Floating Ecosystems and islands provide refuges for nature and wildlife. ‘Active islands’ can treat urban waste water and run-off. Soil-less agriculture, floating polytunnels, aquaponics, flora that is planted (reeds, lilies, floating forests), growing (greenhouses heated by thermal rays), or oxygenating the water (aquatics, emergents, marginals).
- Shade and cooling - Mitigating the urban heat island effect through technology and the use of landscape interventions. Urban greening through vertical planting, urban trees, green roofs and rain gardens helps reflect light and evaporate moisture, in turn reducing ambient temperature of local microclimates. Cooling and permeable paving solutions, with lighter pigments and aggregates in materials, reflect more sunlight.
- Water management - Sustainable Drainage Systems (SUDS)/surface water run-off, access water and energy consumption data. A strategic approach to SUDS is vital for managing surface water-run off volumes and flow rates, mitigating flooding and improving air quality. SUDS can enhance biodiversity, and create diverse and engaging places for people through integrating social functionality with street furniture and playable public realm elements and wildlife. Areas of reed beds introduced at the dock edge takes surface run-off water and cleans it prior to its entry into the dock basin.

Physical infrastructure
- Streets - Electric charging, wireless electric charging technology for buses and utilities.
- Future Shipping - The Thames and its Docklands have a great history of shipbuilding and marine innovation. There is huge potential for research and development of new forms of zero carbon shipping, powered by wind, hydrogen, and the water itself.
- Airport - Re-wilded infrastructure. Tree planting at London City Airport using robust and non-bird harbouring tree species such as, establishing a birch forest.
- Lighting - Central control system. Granular control, reducing lighting levels, control for events, Internet of Things (IoT) integration. Incorporating advanced lighting sensors to account for ambient / spill lighting from private sources.
- Structures - Integrating technology into lighting columns; power/water/wifi/electric vehicle charging.
- Power generation - Kinetic pavements and on-grid solar lamp columns might be considered: large open areas, such as the ExCeL car parks, could be pilots for solar columns. Using the dock water as an energy source, this could power a circulation system to keep the water in Victoria Dock oxygenated and fresh.
- Encourage economic growth - Empower local businesses and connect communities. Attract hubs for innovation and technology by providing vibrant outdoor environments and removing the need to use cars. Create socio-economic opportunities for job and skill creation particularly around digital upskilling.

The design guide proposals put innovation at the centre of public realm improvements. The dock edge worked example above illustrates network infrastructure integrated with wayfinding elements, biodiverse urban planting in the basin, a lighting environment controlled by a 'central management system' and the physical and cultural activities made possible by providing greater access to the water.

Building on the Framework

The Framework, published in Spring 2020, sets out the vision for the public realm within the Royal Docks. This vision is based on an overall philosophy - Occupy the Docks - as well a series of guiding principles focused on places, the water, movement and landscape.

Occupy the Docks

The overarching principle, 'Occupy the Docks' refers to an ambition to make the Royal Docks a more varied, rich, and well connected place - a successful piece of city.

The Framework identifies two key tactics that should be employed in order to achieve this:

The Framework

Above: A series of pontoons in Amsterdam North create a more sheltered and welcoming environment to encourage access to the water space of the docks.

Above: Similar investment in the Isle de Nantes, France have established this former dockland as a centre of excellence for animatronics and cultural event structures.

1 - Transform infrastructure into city!

For the Royal Docks to be successful as part of the diverse and international fabric of Newham it needs to be stitched in and connected. The intervention proposals within the framework are essential to bind this place together successfully.

The high level proposals within the Framework set out a path to ensure that the Royal Docks flourishes. They guide how historic infrastructure barriers can be overcome to develop as a new multi-layered joined up part of London: distinctive, active and inclusive.

2 - Foster a culture of innovation!

With a range of spaces that (compared to other places in London) are relatively unconstrained, and a blend of public and private sector investment, the Royal Docks is ideally positioned as an urban test bed - as a site of innovation and experimentation for London.

The Framework sets out some key opportunities for this innovative culture to create Healthy Streets, to accommodating emerging thinking on new economies, energy and environmental sustainability.

Key issues identified within the Framework

Access to green open space
The area suffers from poor access to green open spaces. The provision of new green spaces, as well as improving access to existing spaces, is an underpinning strategy of the framework.

Inconsistent approaches to lighting and wayfinding
The presence of a number of redundant elements across the docks severely hampers effective lighting and wayfinding, as well as creating a cluttered street scene. At night a number of key spaces and landmarks are not adequately lit.

Under-use of the dock water
Using the water for recreational use is currently difficult, due to a number of restrictions. There is also a lack of structures that bring you to the water.

Poor connectivity and local severances
The urban structure is dominated by east-west movement (along road corridors like North Woolwich Road and Royal Albert Way, and the DLR lines). There are significant severances due to large impermeable areas like the docks, airport, rail corridors, and industrial sites.

The following pages set out the Framework's 'Guiding Principles' that respond to the issues listed here. These principles set out the strategic moves that should be taken to overcome the issues in the Docks to make it a successful and integrated piece of the city.

Water and public spaces

Accessible and sustainable spaces
The unique water spaces of the Royal Docks are the area's biggest asset and main characterising element. The water will provide a focus for the development of the area. The role of the dock water should be re-imagined in order to activate the dock edges and bring the water space into public use.

Active Water Uses
Active water uses, ranging from destination experiences to club sports, should be encouraged while also maintaining moments for the public to get close to the water, pause, and freely enjoy this expansive and unique natural feature.

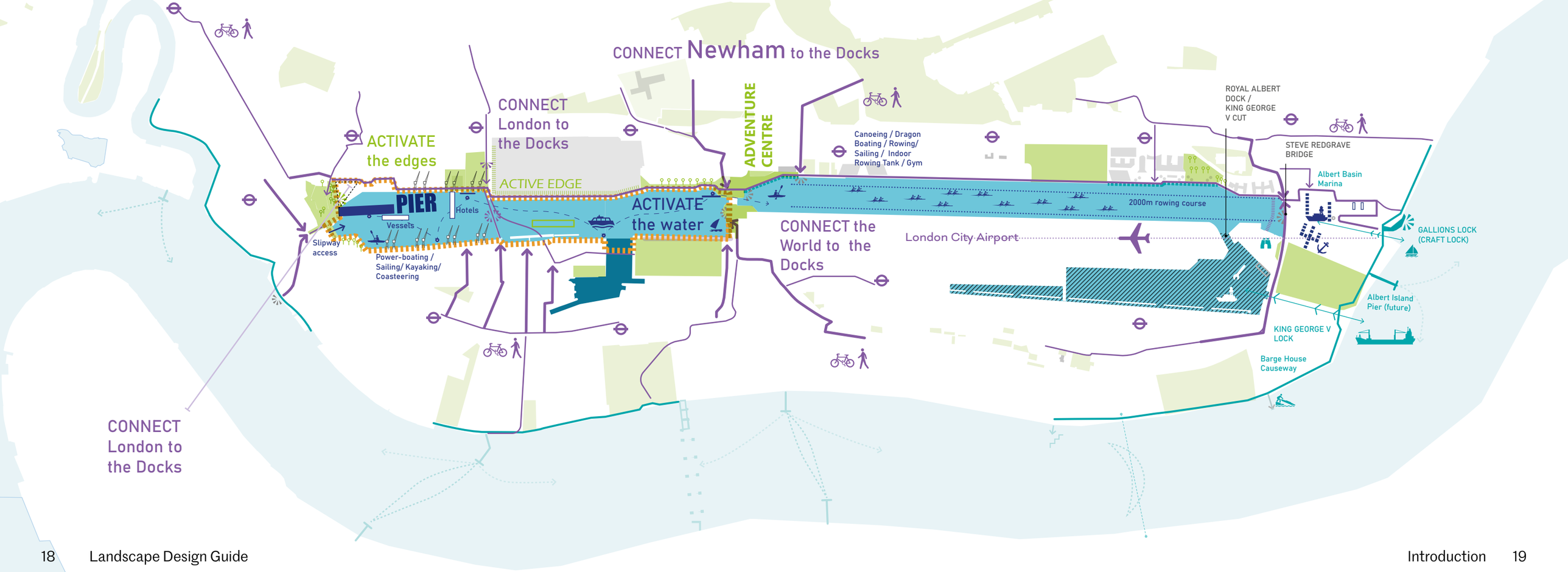
A Publicly Accessible Dock Edge
A publicly accessible dock edge should be developed in a manner which is coherent and clear across the various land ownerships that the dock edges sit within. Access to the dock edge should be supported by a network of routes with utility and recreational value – connecting communities and green spaces.

At the dock edge there should be a focus on evidence of the area's cultural heritage, embracing the unique cultural and heritage setting of the Royal Docks, including visible maritime objects, and projects such as illuminating the dockside cranes.

New Routes
New routes including a continuous route around Royal Victoria Dock, would release the potential for the Royal Docks to become an amenity for local communities. Improved access to the dock edges with walking and cycling routes could provide health and social benefits.

Creation of Safe, Active, Popular and Inclusive Spaces
The Public Realm Framework supports the creation of active, popular and inclusive spaces in and around the Royal Docks which can generate revenue, all the while supporting the broader business case for investing in the public realm. Uses around the dock edges should cement the reputation of the Royal Docks as a place which is enterprising and industrious, supporting education and training for Newham residents.

Enhancing the Dock Landscape
The blue landscape should be adjusted to embed climate adaptation solutions. Examples include the Solar Farm on the Queen Elizabeth II reservoir, which is Europe's largest solar panel installation on water, and the Dobberend Bos (Floating Forest) in Rotterdam South.



Places

Active, diverse places

The Royal Docks is home to a diverse range of places, each with their own distinctive activities and uses. Celebrating this diversity within a coherent, well-designed public realm will be key to the success of this area.

The Public Realm Framework identified a series of distinctive places around the Royal Docks which are characterised by current or future proposed activity. These places have a particular economic or cultural offer operating at global, national and local scales.

Proposed new spaces should be designed to meet the requirements of the area and be designed to support a range of uses – for example to meet anticipated cultural programming. They should be ambitious, relating to the acknowledgment that there is difference across the Royal Docks – the area is made up of a set of 'distinctive places'.

Royal Victoria Dock West - A Destination

The western end of the Royal Docks offers a series of visitor attractions and public spaces that sit within the wider sub-regional scale of East London.

This place is a focal point for the regional visitor economy within the Royal Docks with the potential for new interpretation and cultural spaces. Public spaces around Royal Victoria Dock West should be designed to accommodate large numbers of people to allow for the proposed cultural programming in this location.

Royal Albert Dock - International Enterprise

Royal Albert Dock is a centre for international business and enterprise capitalising on its proximity to London City Airport. Significant change is proposed here, the first phase of commercial space within Royal Albert Dock provides 460,000 sq ft of office space.

North Woolwich/ Canning Town/ Custom House/ Beckton - Local Communities

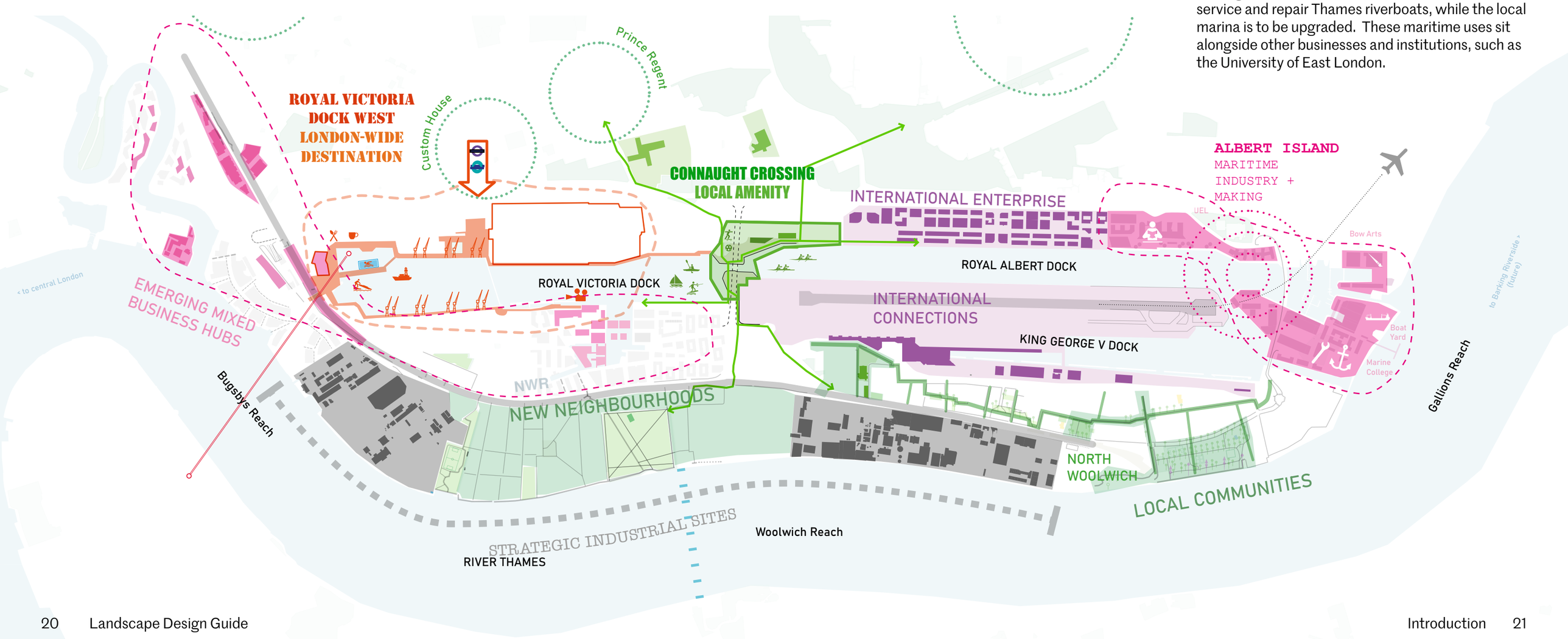
New residential developments in the Royal Docks will create new communities sitting alongside the established communities in North Woolwich, Canning Town, Custom House and Beckton. Activity to support local people in these locations must be physically, economically and socially connected.

Connaught Crossing - Local Amenity

Connaught Crossing is one of the few places where you can cross the Royal Docks from north to south, connecting Newham, via the 'green bridge' over Royal Albert Way down to North Woolwich to the south. This axis supports local community activity in spaces including the Asta Community Hub and the Royal Docks Academy.

Albert Island - Maritime Industry and Making

Albert Island at the very eastern edge of the Royal Docks is a place with a focus on industry and making. A new shipyard is proposed which will service and repair Thames riverboats, while the local marina is to be upgraded. These maritime uses sit alongside other businesses and institutions, such as the University of East London.



The Stitches

Connective landscapes
Through improvements along key routes around the Royal Docks – the Stitches – we can overcome how industry, roads and the water have historically created severances between the areas that make up the Royal Docks.

Through improving these areas and signposting key crossing points, a generous public realm can be established, ensuring that all community members and visitors are supported in accessing the area. This broad network of connections will also unite the water spaces of the Royal Docks, bringing them together with the growing communities to the north and along the river.

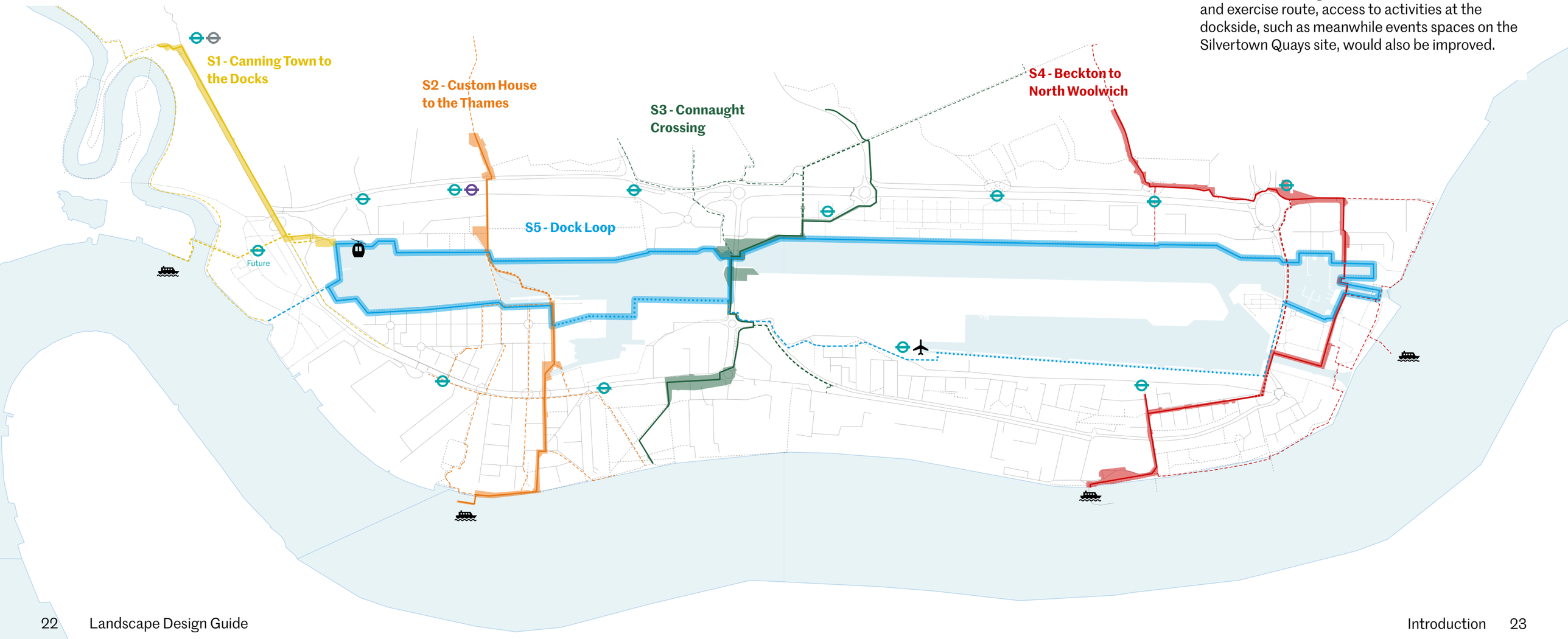
Canning Town to the Docks
By connecting the Leaway to the Royal Docks, via Canning Town and eventually the Limmo, the Lea River Park's green connections can be enjoyed by more people. Through completing this route, a traffic-free connection between two of Newham's major growth areas can be achieved, establishing off-road links to the Queen Elizabeth Olympic Park and Canary Wharf.

Custom House to the Thames
Centuries of infrastructural works at the edges of the docks have created significant barriers to movement between the communities around Freemasons Road, the Docks, and the River Thames. Overcoming these severances will lead to a diverse series of connected spaces and greater access to cultural and recreational activities around the docks.

Connaught Crossing
An improved offer of leisure and recreational activities, as well as connectivity improvements which seek to humanise the scale of existing road and DLR infrastructure, can reconfigure the Connaught Crossing as an 'armature for local amenities' and a destination in its own right.

Beckton to North Woolwich
Poor quality infrastructural environments such as the Steve Redgrave Bridge, Woolwich Manor Way and Factory Road hinder a strong sense of place, north and south of the docks. Local connections and public realm improvements could ensure that these two established communities have a renewed connection to the Thames and its maritime heritage.

Dock Loop
Establishing a continuous, well-signed walking and cycling loop around Royal Victoria Dock would vastly improve people's connection to the water. As well as providing an opportunity for a fitness and exercise route, access to activities at the dockside, such as meanwhile events spaces on the Silvertown Quays site, would also be improved.



Character areas

Biodiverse landscapes
The landscapes of the Royal Docks are heavily informed by the area's history. Across this vast area, underlying latent landscapes can be revealed and celebrated in order to improve cohesion and identity, as well as providing high quality public spaces.

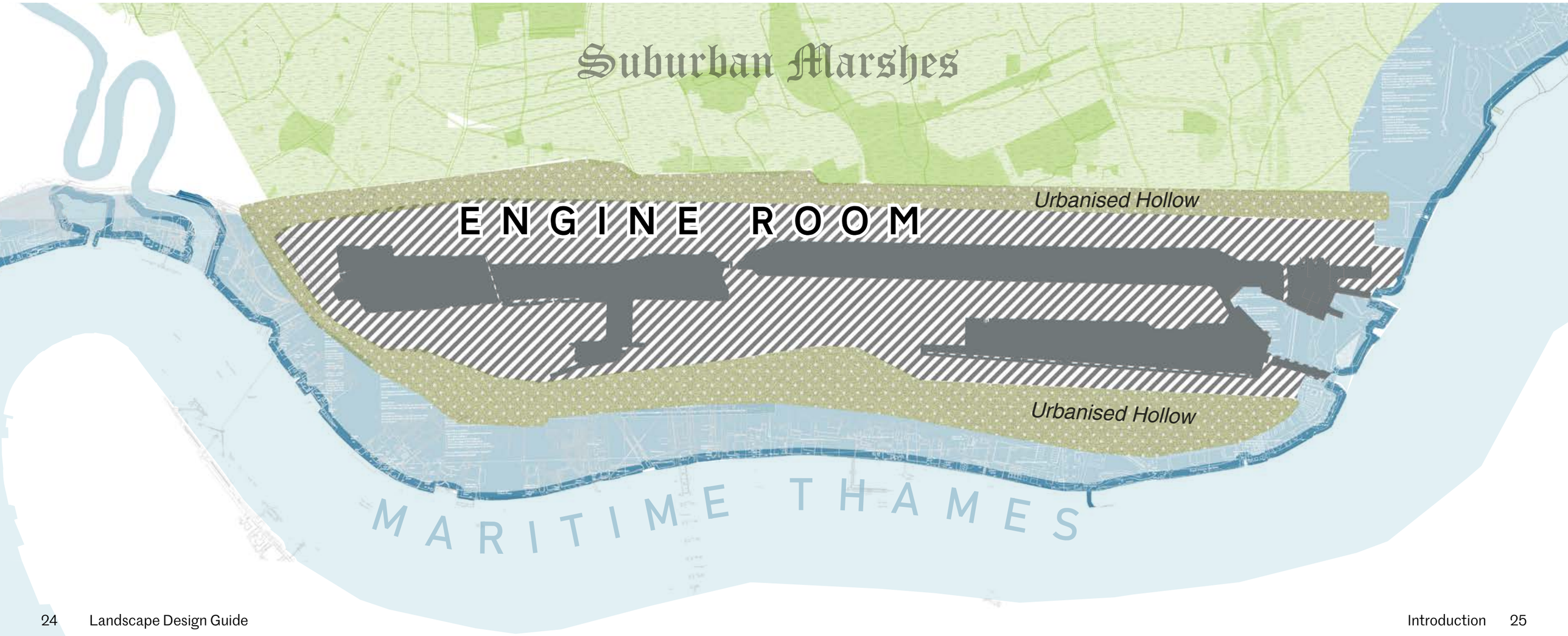
These historic characteristics can inform how new and existing public realm and landscapes can evolve or be adapted. These hints back to history are a tool to support a coherent landscape attitude across the Royal Docks, and helps us create a common atmosphere that is scalable and rooted in place.

Suburban Marshes
This landscape area is defined by the former Plaistow and East Ham Levels: large expanses of former marshland which were drained and managed originally to create arable land, and from the early 19th century, a sequence of residential areas. Despite the distinctly suburban developments of the 20th century, the remnant traces of the former marshlands are still evident. Green spaces, drainage channels, allotments, and mature trees provide a unifying character.

Urbanised Hollow
The embankment of the docks and the raising of the river edge against flooding has created a low point or 'hollow' between the Thames and the dock basins and again north of the dock basin on the boundary of the residential area.

Engine Room
Developed through the 19th and early 20th Century, the Royal Victoria, Royal Albert and King George V docks are the largest area of man-made impounded water in the country. As such the docks themselves are a singular and purposeful landscape, equivalent to approximately the area of Heathrow.

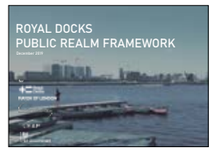
Maritime Thames
The Thames edge suffers from a common condition seen across London, where the need to ensure valuable wharves and riverside warehouses are kept secure has physically prevented the public from accessing the riverside. Access is generally halted one block back from the riverside, and tantalising glimpses of the Thames are given occasionally between buildings that front the water. The character of the Thames edge is defined by its exposure to the river, creating a strong tie to the changing tides, weather, wildlife and long views out to wider London.



How to use this Guide

This guide is structured to give users a broad range of information to assist them with designing public realm in the Royal Docks. The diagram opposite shows how users can engage with the guides in a simple and effective manner.

Using the Design Guides



Landscape Introduction

What is the overall vision for public realm?

What is the vision for my area?

What key principles should I consider when producing designs for my site?

By first referring to the **Public Realm Framework**, users can understand the overarching vision for transforming the Royal Docks. The **Design Guide Introduction** then presents a refined set of principles which should be used when designing in the area.

* refer to **Accessible Design Standards** and **Walking and Cycling Action Plan**

Landscape Masterplan

Landscape Palette

How do I know which palette(s) to use on my site?

What elements make up each palette?

The **Masterplan** chapter provides a spatial overview of the proposed palettes, as well as other key considerations. Users will be able to quickly locate their site, and then refer to the **Palette** chapter to view the range of suggested elements for their specific location.

Landscape Worked Examples

How do I use multiple elements from the palettes together?

How would they look on site?

The **Worked Examples** chapter will demonstrate how the palette elements can come together, using annotated rendered views from diverse locations across the Docks.

Landscape Design Information

What are the technical specifications for certain elements?

How will I maintain certain elements?

Maintenance advice and technical specifications for key elements from the **Palette** chapter will be documented in the **Design Information** chapter.

Accessibility and Inclusive Design Guide

Walking and cycling action plan

*to be published after the Design Guides

What are the accessibility standards?

What are the planned improvements for cycling and walking?

The **Accessibility and Inclusive Design Guide** will set the benchmark for accessible design across the Docks. Specific interventions to assist walking and cycling will be documented in the **Walking and Cycling Action Plan**.

The following chapter describes the landscape masterplan split into two parts; a series of landscape design principles and the overarching landscape masterplan.

The **landscape design principles** highlight the thematic opportunities present across the Royal Docks. The detailed design of all interventions should be developed with reference to current best practice and these design principles.

The **landscape masterplan** has been developed to:

- Emphasise the unique positive characteristics of the docks' culture and heritage.
- Steer the delivery of a coherent public realm across the Royal Docks.
- Reinforce the legibility and utility of the stitches which connect the area's communities.

This chapter should be read in conjunction with the accompanying lighting, wayfinding and inclusivity and access design guides which make up the Royal Docks public realm designers' pack. Illustrative views of how the masterplans inter-relate are illustrated in chapter 4, Worked examples.

2. Landscape Masterplan

Design principles

1 A Greener and Bluer Royal Docks

Landscape design in the Royal Docks should help create a more sustainable 21st century community, rooted in place and meaning, that stitches together a network of green spaces, waterways and s Sustainable Drainage Systems (SuDS) features, In combination, this creates a circular system for movement, growing food, flood management, ecology and recreation.

Key moves:

- Improve green and blue infrastructure networks.
- Increase air quality and biodiversity.
- Provide SuD and extensive uban greening to demonstrate innovative examples of climate resilience.
- Encourage community ownership of green and blue infrastructure.
- Address deficiencies in green spaces by re-wilding urban areas, maximising urban greening, significantly increasing the tree canopy cover and protecting existing green spaces.

2 A Participatory Environment

Engaging with communities is key understanding specific opportunities for co-producing projects and resident-run facilities, directly responding to community initiatives and requirements. This can support a sense of ownership of the public realm, thereby encouraging stewardship and shared maintenance.

Key moves:

- Identify where landscaping can support existing communities and activities in the Royal Docks.
- Use landscape workshops to enhance common understanding between communities, stakeholders and designers.
- Incorporate growing spaces and edible landscapes.
- Enable community led experimentation and support 'joyful testing' interventions that explore long term strategies through temporary installations.
- Use a wide palette of sensory elements and strategies to enhance people's connection to the public realm.
- Ensure that the particular needs of all members of society are taken into consideration in the design process.

3 An Enjoyment of Wildness

It is important that demands for accessible and formal open space are balanced against the need to maintain areas of wildness. This applies to biodiversity but also a sense of freedom and landscape that feels less programmed. Designs should encourage wilder, windswept and exhilarating spaces that give a sense of freedom and exposure.

Key moves:

- Protect 'wild' areas around the docks, and exploit opportunities to introduce urban wilding and a degree of informality.
- In certain locations, allow nature to intervene and recolonise spaces.
- Incorporate 'wildness' into public spaces and play areas.
- Landscapes should be easily maintained, and repairable, helping to reduce obsolescence and waste, and meanwhile uses should have a longer strategic purpose, such as tree nurseries.
- Temporality, process and change should be embraced through design, retaining layers of history while allowing for flexibility and reconfiguration.

4 A Place to Celebrate

The Royal Docks are steeped in culture and character, shaped by industry and nature. Designs should make visible the docks rich layers of history and celebrate the global role of the docks in distribution, trade, transport and food production, as well as the communities that lived and worked in the area.

Key moves:

- Use landscape interventions that reference the historical processes that have shaped the Royal Docks.
- Use landscape interventions to highlight latent landscape characteristics, such as marshes and Thames edge conditions.
- Curate views that reveal the broad industrial and natural history of the area.
- Embrace the unusual, sensual, experiential and unique aspects of the Royal Docks, especially wide open spaces, long views and open skies and places of shelter and comfort from the elements.

A

B

C

D

E

F

A The Leaway, London
B The Crystal public realm, London
C Royal Victoria Dock, London
D Thames shingle beaches, London
E Community tree planting, London
F Armada Green, London

Landscape masterplan

The landscape masterplan for both the hard and soft landscaping is split into three layers illustrated in the diagram opposite. These layers work together to balance continuity to the landscape across the Royal Docks while introducing variation based on the stitches and the areas unique landmarks. When combined, the aim is to create a rich public realm with an identifiable yet varied landscape.

Accent landscape palette - Creating legible connective stitches
Landscaping can be effectively used to highlight the 'stitches' at all times of the day; to achieve this an accent palette has been prepared for these routes. This will require co-ordination across multiple land owners, but will be key to ensuring that the key routes across the Royal Docks feel legible and socially inclusive.

The accent landscape palette sets out the opportunities for using bespoke street furniture, colour, marker trees, and thematic planting to identify the individual stitches, and further strengthen their identities.

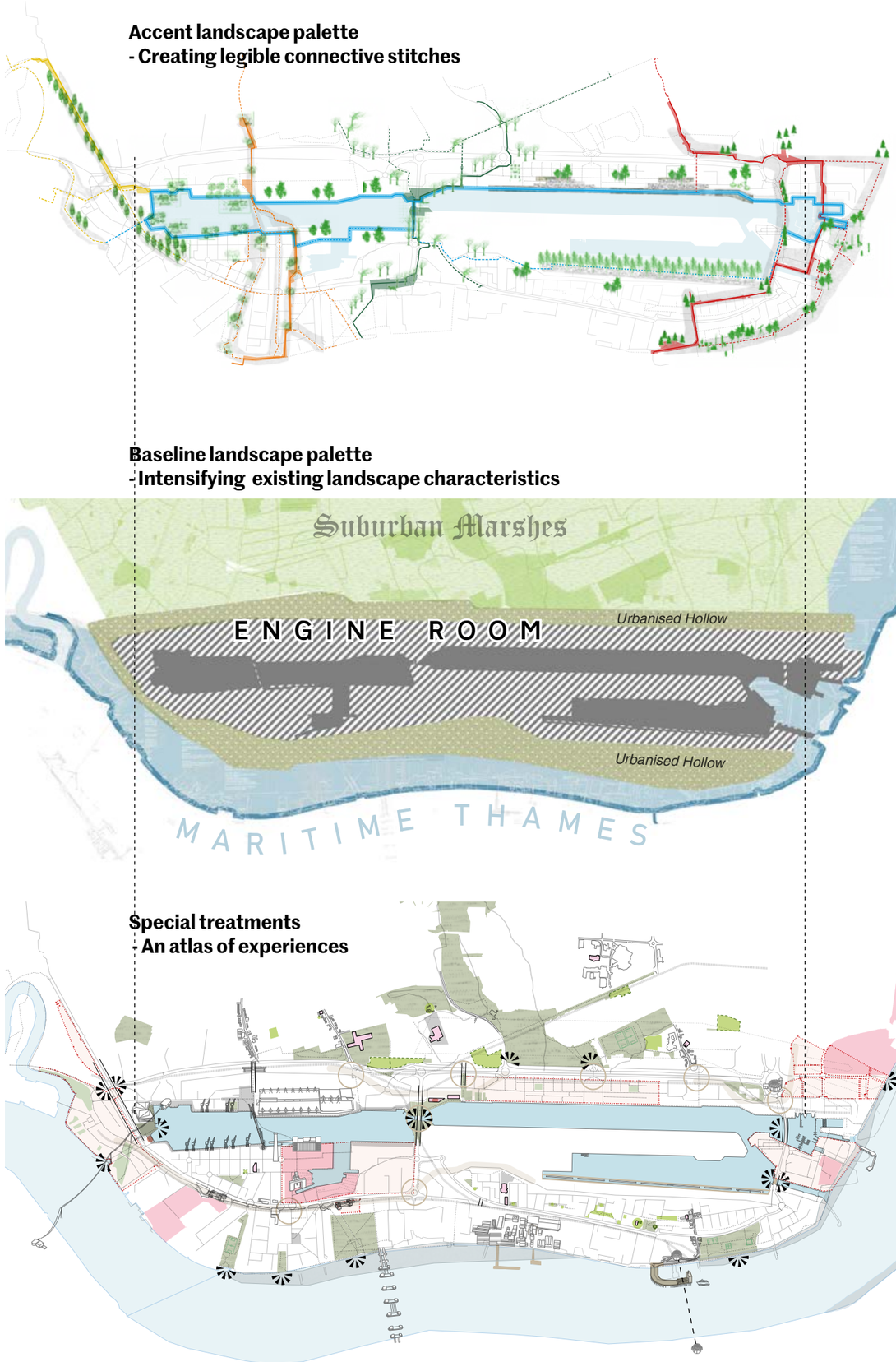
Baseline landscape palette - Intensifying existing landscape characteristics
Across the Royal Docks area there is the ambition to create a more coherent look and feel to the public realm. Key to this is the development of a baseline landscape palette.

This palette describes the approach to a range of street and public space typologies, including approaches to soft landscaping, tree planting, street furniture and hard surfaces. Within this baseline palette variation is introduced based on the landscape characters that have been identified, intensifying the reading of the context.

Special treatments - An atlas of experiences
A landscape shaped by industry and nature, the Royal Docks are ingrained with narratives and remnants of the past, whether this be the remaining crane tracks along quaysides, the runway approach lights, or the ancient trackways across the marshes. With this comes a range of experiences, dramatic moments, industrial monuments, urban arteries, viewpoints and memories which are there to be enjoyed and celebrated.

Refer to the chapter 3, Palettes, for detailed guidance on the masterplan strategies >

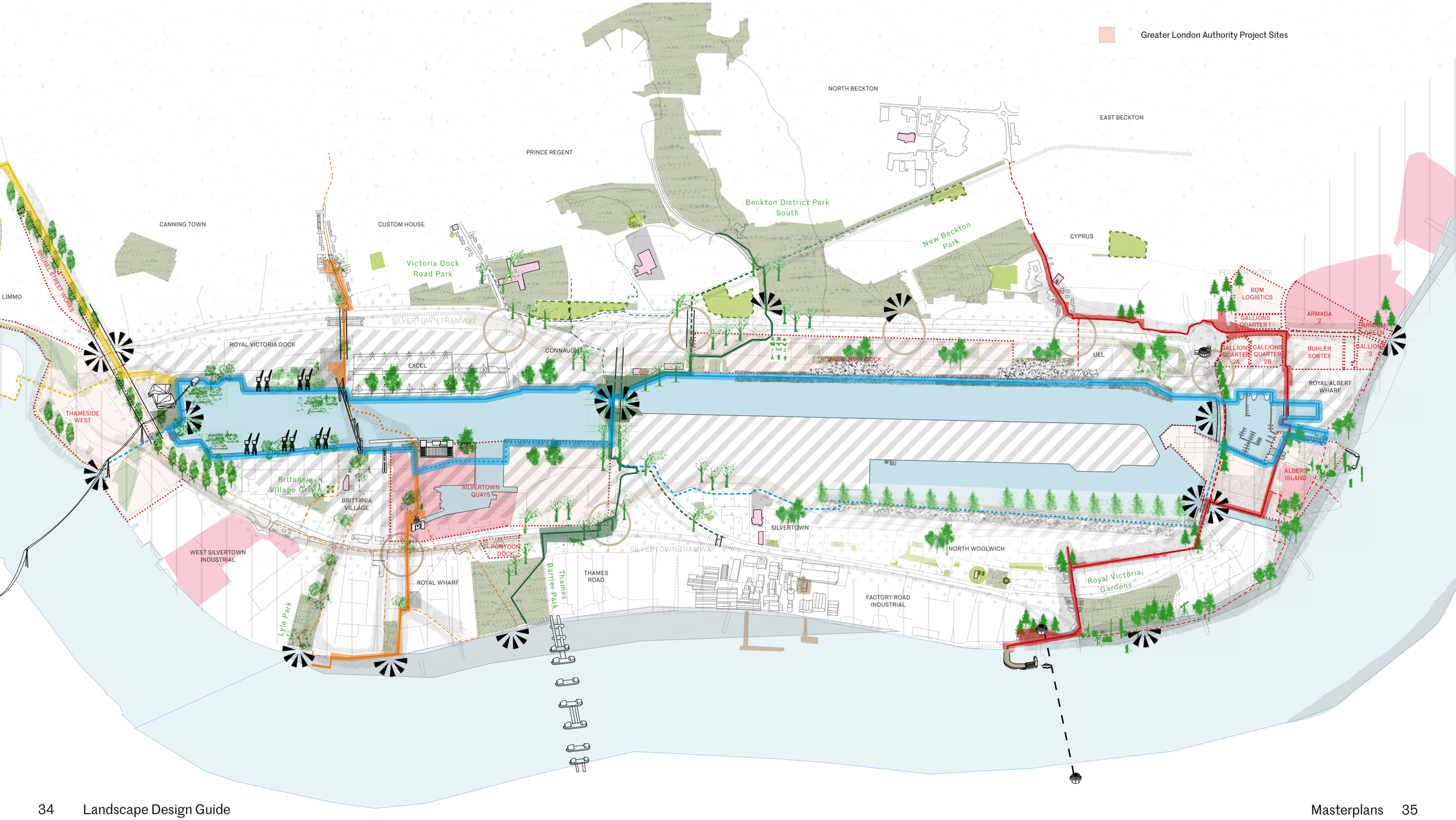
Refer to the detailed masterplan appendices for the locations of public realm proposals >



Landscape masterplan

The masterplan below illustrates the range of approaches for improving the landscape within the Royal Docks. The drawing shows how the palettes are strategically deployed across the site.

The following pages provide zoomed-in versions of this drawing, so that users of this design guide can identify their site and see which palettes and strategies should be employed in their location.



Landscape masterplan

Area Description

A number of key stitches bisect the docks here, with connections to the rivers Thames and Lea, the local centre at Customs House and the existing and emerging communities to the south of the dock water. Many grand historic structures and spaces characterise the area, while forthcoming large-scale developments will open up areas that have been 'off-limits' for decades.

Masterplan key:

Accent landscape palette - Creating legible connective stitches

The accent landscape palette establishes a landscape identity to key routes, the 'stitches', within the Docks. User's of this design guide should refer to the accent landscape palette section if their site is located on one of the following stitches:

- Stitch 1: Canning Town to the Docks
  Stitch landscape characterised by poplars as route markers and 'exotic wild' colourful planting.
- Stitch 2: Customs House to the Thames
  Stitch emphasising linear landscape and human scale, embracing historic thresholds and sensory planting.
- Stitch 3: Connaught Crossing
  Stitch landscape celebrates exposure to the elements with trees and planting receptive to the wind; a wild link.
- Stitch 4: Beckton to North Woolwich
  Stitch landscape references historic routes highlighting Victorian parks and piers, and expansive views.
- Stitch 5: Dock Loop
  Stitch landscape characterised by water. The 'floating world', referencing the Dock's global history.

The dotted lines illustrate sections of the route that are currently inaccessbile. The dashed lines illustrate secondary stitch routes. Locations on these routes can use the accent palettes.

Baseline landscape palette - Intensifying existing landscape characteristics

The baseline landscape palette enhances the existing landscape character areas found within the Docks. User's of this design guide should refer to one of the following baseline landscape palettes underlying their site:

- Suburban Marshes
  Large expanse of remnant marshland
- Engine Room
  Former docks industrial zone
- Urban Hollow
  The low point between the Thames and dock basins
- Maritime Thames
  Area exposed to the Thames and wider London

Accent landscape palette - Feature elements

Range of proposals to be used on stitch routes. The locations of the accent landscape palette feature elements are indicative.

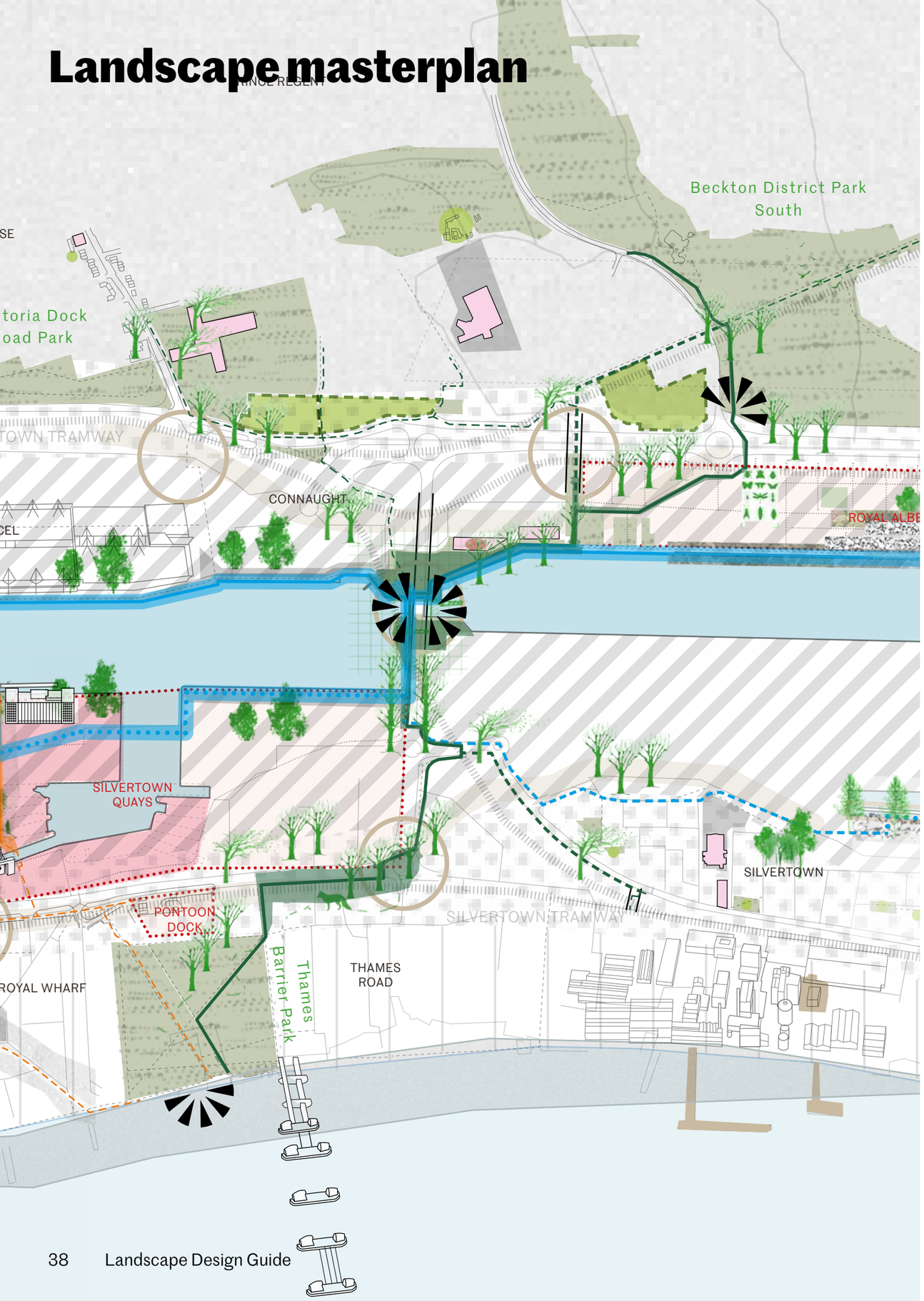
- Marker trees - stitch 1
  Place makers and markers, providing height and framed vistas.
- Community green spaces - stitch 2
  Productive landscape interventions and growing spaces.
- Fruiting trees & mini orchards - stitch 2
  Informal edible landscape of orchards, berrying hedges and community growing
- Pollarded trees - stitch 3
  Pruned trees for dense undergrowth
- Trees responsive to wind - stitch 3
  Aspens that react to the wind
- Urban wild - stitch 3
  Inviting nature and wildlife into the urban realm.
- Birch groves and pine forests - stitch 4
  Mix of coniferous species in groups providing shelter.
- Maritime artefacts - stitch
  Curated objects that enhance the character of the area
- Birch Groves in rubblefields - Dock Loop (east)
  Drawing in the Thamesmead wilderness character
- Exotics in cargo piles - Dock Loop (west)
  Exotic trees tell stories of the Docks trading past.
- Exotics in greenhouses - Dock Loop (west)
  Exotic plants recall the operational history of the Docks.
- Planting in the basins - Dock Loop
  Ecological islands, pontoons and reed beds

Special treatments - An atlas of experiences

The special treatments palette recognises the important value of the Royal Docks' existing landscape conditions. Users of this design guide should incorporate the existing topographical and experiential qualities of the Docks and its layered history into their designs:

- Enjoyable infrastructure
- Wasteland/ meanwhile opportunity
- Water access point
- Dramatic viewpoints and moments of exposure
- Historic landscape traces
- Allotment cultivation
- Community green spaces
- Existing parks
- Community facilities
- Public space

Landscape masterplan



Area Description

The key north-south connection provided by the Connaught Crossing characterises this area, providing links to the historic marshland of Beckon Park, as well to existing communities around Prince Regent, Silvertown and Thames Barrier Park. The hulking presence of the Tate and Lyle refinery, as well as the airport and the views across vast expanses of dock water, give this area a super-scaled quality, reminiscent of the scale of operations that used to exist in the docks.

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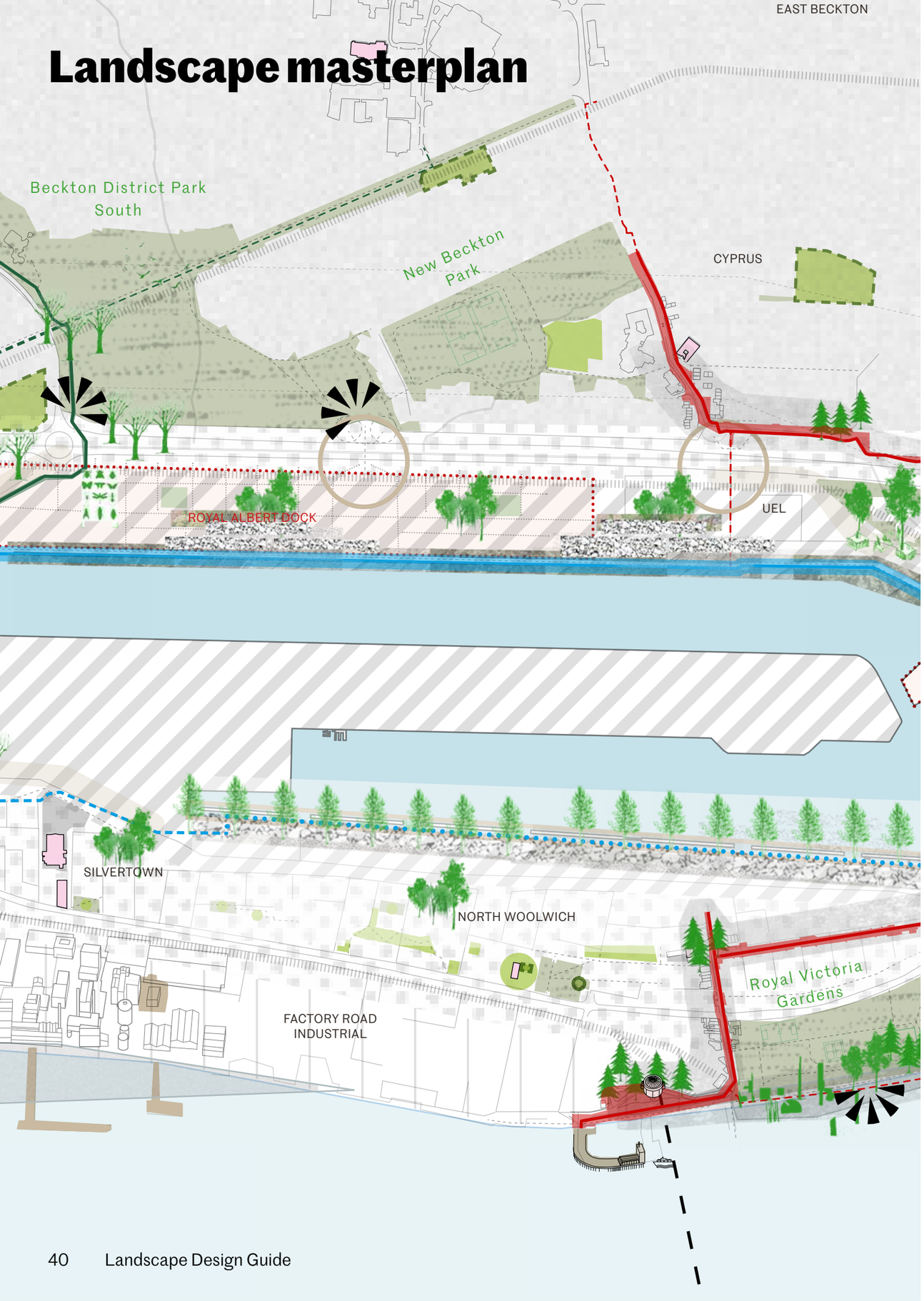

Area Description

To the north and south of the dock water lie two very different conditions. To the north, the new development along Royal Albert Dock will establish a new urban condition on a currently vast and empty space – opening up the dock edge as well as connections to Beckton Park. To the south, the existing communities of Silvertown and North Woolwich lie between a working industrial Thames edge and the airport.

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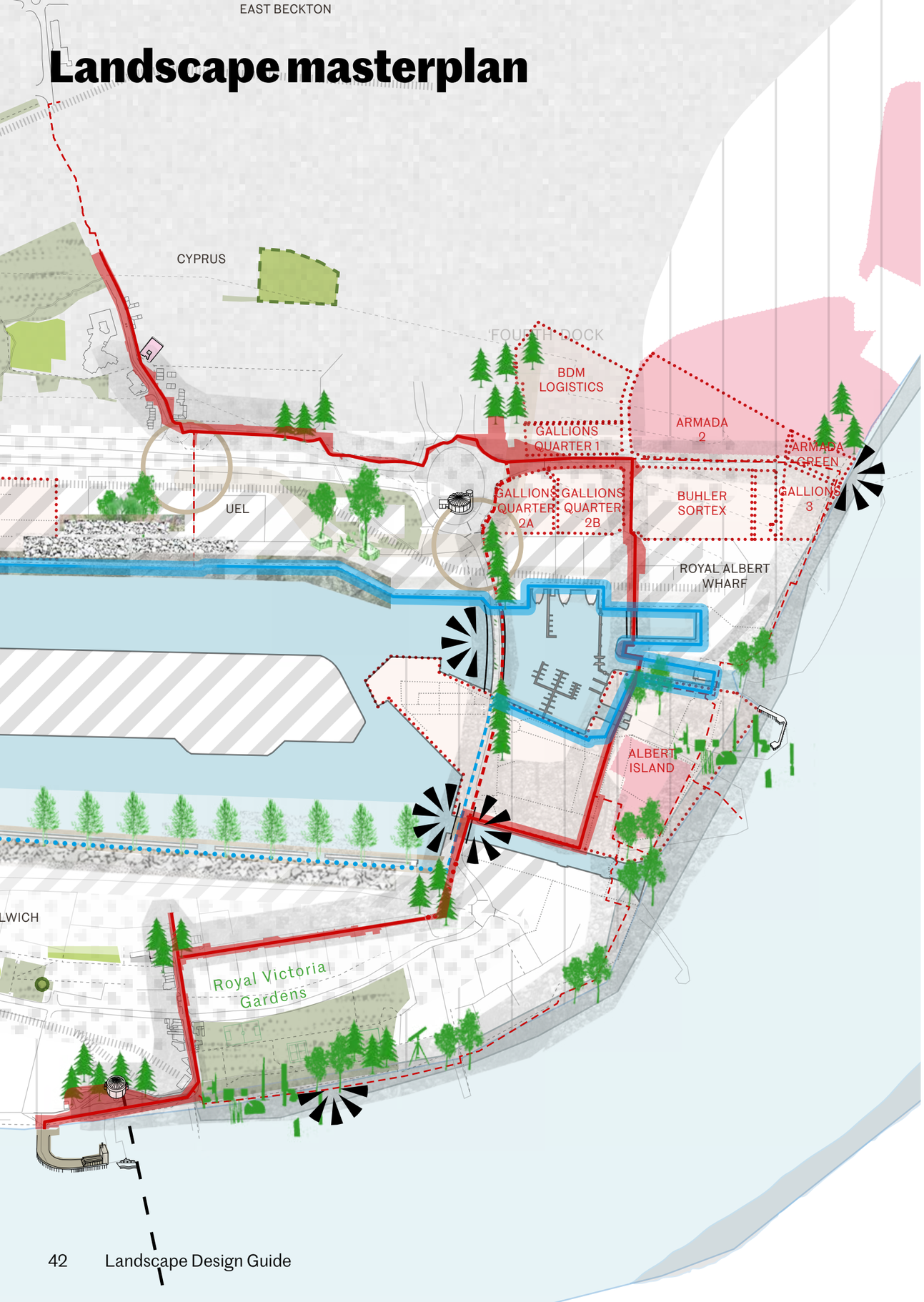

Area Description

This area is characterised by its connection the Thames, with emerging communities to the north with their proximity to the dock edge, the planned development on Royal Albert island establishing a strong maritime presence on the Thames, and the historic area of North Woolwich, with its ferry, pier and pleasure gardens.

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  Ecological islands, pontoons and reed beds

Special treatments - An atlas of experiences

The special treatments palette recognises the important value of the Royal Docks' existing landscape conditions. Users of this design guide should incorporate the existing topographical and experiential qualities of the Docks and its layered history into their designs:

- Enjoyable infrastructure
- Wasteland/ meanwhile opportunity
- Water access point
- Dramatic viewpoints and moments of exposure
- Historic landscape traces
- Allotment cultivation
- Community green spaces
- Existing parks
- Community facilities
- Public space

The following chapter describes the landscape palette. This consists of a site wide approach, a baseline palette and an accent palette, alongside the guidelines for special treatments of existing assets.

A site wide approach ensures consistency and coherence of approach to green infrastructure, trees and planting strategies.

The **landscape baseline palette** outlines a set of 'best' practice responses and green infrastructure 'moves' in the area.

The **landscape accent palette** outlines feature and signature tree and planting species that support the stitches.

Special treatments recognise the important existing landscape qualities and how these can be treated to aid the landscape strategy.

This chapter should be read in conjunction with the accompanying lighting, wayfinding and inclusivity and access design guides which make up the Royal Docks public realm designers' pack. Illustrative views of how the palettes inter-relate are illustrated in chapter 4, Worked examples.

3. Landscape Palette

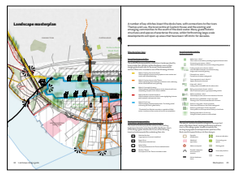
Palette structure and how to use

The landscape palette has been designed to work with the accompanying wayfinding and lighting palettes. This page illustrates the content of the palettes across the three public realm design guides, and how they should be used.

Palettes structure
The table to the right shows the range of palette components across the wayfinding, landscape and lighting design guides, breaking them down into the four approaches; site wide, baseline, accent and special treatments.

How to use
The stages below illustrate how users of this guide should access the palette sections, showing how the Masterplans (chaper 2), Palettes (chater 3), Worked Examples (chapter 4) and Design Information (chapter 5) combine to provide a detailed approach to public realm improvements in the Royal Docks.

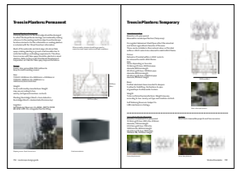
Masterplan
Use the masterplan to identify where your site is located in the Royal Docks. The key indicates which palette section to refer to. Detailed masterplans can be found in the appendices.



Palettes
Read through the relevant palette sections to determine what public realm treatments should be applied to your site.

Worked examples
Refer to the worked examples, using the view with similar characteristics to your site, to see how the individual palette elements come together in the public realm.

Design Information
Find more detailed information on the public realm components outlined for your site based on the masterplans and palettes.



	Site wide approach	Baseline palette	Accent palette	Special treatments
Wayfinding	▪ Street signs ▪ Information boards ▪ Temporary signs for events	▪ Directional signage	▪ The Stitches ▪ The Dock Loop ▪ Stitch markers ▪ Area signs ▪ Public space beacons	▪ Landmarks ▪ Views ▪ Co-opting existing structures ▪ Public art
Landscape	▪ Hard surfacing ▪ Seating ▪ Street furniture ▪ Green Infrastructure ▪ 'Green Moves' ▪ Trees ▪ Planting ▪ Airport safeguarding	▪ Hard surfacing ▪ Play ▪ Trees ▪ Planting	▪ The Stitches ▪ Trees ▪ Planting ▪ Hard surfacing ▪ Street furniture	▪ Water's edge boundary ▪ Planting in the basins ▪ Exposure ▪ Shelter ▪ Wildness ▪ Playfulness ▪ Cultivation ▪ Colonisation
Lighting		▪ Public routes ▪ Local roads ▪ Major roads	▪ The Stitches ▪ The dock edge ▪ Dock edge objects ▪ Coordination with wayfinding palette	▪ Diverse places ▪ Buildings and structures ▪ Public spaces ▪ Darkness

Site wide approach

The ‘site wide approach’ sets out principles and guidelines for hard surfacing, street furniture and landscape treatments that are to be used in all areas within the Royal Docks. This approach aims to introduce consistency across the area, complimenting the diversity already present in the Docks and the proposals to enhance the landscape outlined in the baseline and accent palettes.

The site wide approach to landscape introduces:

- Hard surfacing
- Street furniture
- Green Infrastructure Strategy
- Rewilding the Docks
- Protecting Green Assets
- Edible Landscapes
- Improving air quality
- SuDS and Waterscapes
- Meanwhile landscapes (Recovering brownfield sites)
- Trees
- Planting
- Airport safeguarding

Hard Surfacing

The Royal Docks contains significant areas of hard surfacing. The prevalent dock edge treatment of exposed aggregate concrete pavers and granite setts was established in the 1980s through the London Docklands Development Corporation. This palette was updated through the Royal Docks Local Transport Design Guidance (RDLTDG), authored by Peter Beard Landroom.

Both palettes have been well adopted over the years in a number of different locations, and contain hard-working, economical and practical elements. There is however little guidance for more 'special' treatments, or surfaces that respond to the specific characteristics of a place.

In our 'Site Wide Approach' (opposite), we have updated the RDLTDG palette to include some alternative surfacing options, such as brushed concrete and resin-bound chippings. The 'Site Wide Approach' should be the first point of reference, and provides a number of materials that respond to different situations. The specific performance of surfaces in different locations has been considered, with the notes underneath each element providing guidance of where these surfaces are appropriate.

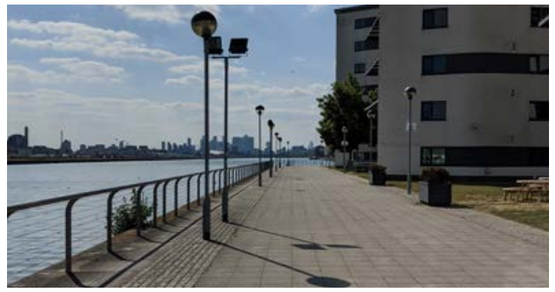
The 'Baseline Palette' section sets out a logic for specifying more area-specific hard surfaces, responding to the underlying landscape character areas of the docks.

In the 'Dock Edge Accent Palette' we have provided more specific advice for the dock edge to show how different elements should be set out in combination with street furniture, lighting and wayfinding. This includes a design for a bespoke paving mat to be deployed around the dock-edge to assist with identity and wayfinding.

Innovation

Kinetic pavements in large open areas.

Existing surfaces



Existing path surfaces outside University of East London

Where existing hard surfaces are currently working well they should be kept and maintained. However there will be some locations, such as new public spaces and the confluence of key routes, where new surfacing should be considered from the palette included in this guide. Where there are accessibility concerns, such as with strips of granite setts crossing the path, these should either be removed and replaced or made accessible through re-pointing.

Kinetic pavements generate electricity from pedestrians' footsteps, and can be integrated into most settings - ideally with high footfall.

Walking and cycling routes - route surface

Stelcon pre-cast smooth concrete slabs with steel cornering
To be used on or off-plot, and specifically on the dock edge. Ensure there is requisite depth for product, especially in areas of false quay.

Spray tar and chip / Resin bound chippings
Off-plot pedestrian and cycle path material, where high degree of flexiblity is required.

Walking and cycling routes - accents and off-path edges

In-situ brushed concrete slabs
On and off-plot use - vary movement joint grid depending on location.

In-situ smooth concrete slabs with slip resistance
On and off-plot use - vary movement joint grid depending on location.

Exposed aggregate concrete slabs
To replace existing only, where wholesale replacement of dock edge paving is not preferable.

In-situ exposed aggregate concrete slabs
To be used on or off-plot, and specifically on the dock edge. Vary movement joint grid dependent on location.

Granite setts
To be used as tactile edge to paths, or other edge detail. Not to be used within path routes to ensure accessibility.

Granite kerb
To be used as edges to paths or planted areas, not for use as general path surface.

Highways

Asphalt
To follow London Borough of Newham highways standards.

Concrete paving slabs
Borough-standard pavers for use on highways only.

Public spaces - general

Self binding / breedon gravel
To be used in locations with low traffic, or soft landscape areas.

Granite paving slabs
To be used where more formal hard surfacing is desired.

Tarmac
To follow borough highways standards.

Concrete block paving
Borough-standard pavers for use on highways only.

Innovation

Cooling and permeable paving solutions, with lighter pigments and aggregates in materials reflecting more sunlight.

Street Furniture: Seating

Seating
Seating serves a number of different purposes across the docks, and careful thought should be given as to what type should be used in specific locations.

Generally, benches should be used in public spaces and perches should be used along pedestrian routes to provide informal places to stop. This should not preclude the use of either in other locations - however, it is important that the needs of all users are taken into account when specifying seating.

Where large planters are required, especially in areas of false quay, seating should be integrated into their design.

The Design for London Docks standard bench, widely adopted in the territory

Benches
The Design for London Docks standard, as shown in the RDLTDG, has been widely adopted across the docks and strikes the right balance between durability, performance and aesthetics. Backrests should always be provided to ensure comfort for all users and coloured treatments should be avoided in order not to obscure the natural finish of the reclaimed timber.

In some instances a more bespoke bench will be required, the design of which should perform as well as the Design for London Docks standard bench.

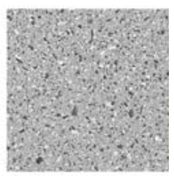
Albert Basin Bench, Furnitubes.

Perches
Perches provide informal places to rest along a route, as well as serving a useful role in wayfinding - generally and along the stitches. Their design draws from the various bollards that used to line the dock edge. Generally perches should be:

- Placed along pedestrian routes (including the dock edge, where they should be set close to the water's edge).
- Spaced at 50m centres along these routes so that there are adequate places to rest along a given route, especially for those who have mobility difficulties.
- Set within a brushed concrete paving mat.
- Placed to avoid impeding movement, including access to buildings.
- Placed alongside more informal seating to allow for different forms of occupation.

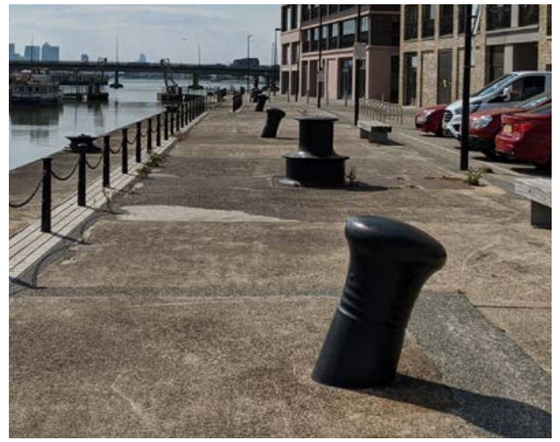
Refer to chapter 5, Design Information, for further guidance on the different perches used for each stitch.

Example of perch and the aggregrate compound giving its finished affect.



The design of the bespoke cast-iron perches references the various mooring posts that used to be found around the docks (some of which still remain). Whilst directly referencing these maritime objects, the form is carefully altered to provide a distinction between the new perches and any existing bollards. Their colour will vary depending on what stitch they lie on, but will be a mid-grey as standard.

Proposed view of perches installed at Britannia Village dock edge, coloured to match the Freemasons Road to the Thames stitch accent colour



Mooring posts at Royal Albert Wharf

Street Furniture: Planter Seating

Large planters will be appropriate in key locations, such as public spaces or areas of the dock edge where planting is challenging due to the false quay. Incorporating seating into their design will help them connect to the surrounding streetscape by providing amenity to passers-by.

Space is not as much of a constraint in the docks as it is elsewhere in London, so planter designs should be of a significant scale. Historically, large piles of crates, sacks and boxes would have lined the dock edge (see below), and the design of the planters presents a good opportunity to reference these activities. Opposite are two designs showing how these planters can incorporate a 'stacked' effect into their designs, whilst also incorporating seating.

Stacked crates forming planters and enclosure. Coffee Project, Melbourne Food and Wine Festival.

Stacked concrete slabs used as informal seating. Strijp S, Eindhoven.

Historic images of stevedores stacking cargo form a fantastic reference for planter design

Timber planter seating

Folded metal planter seating

The designs for the timber planters are simple, taking the same timber sections as the Design for London Docks standard bench and translating them into a 'crate-like' construction method, very similar to raised beds. Overall the construction is robust and straightforward, with the idea that they could be rapidly deployed by a contractor.

Larger planters are needed for tree planting, and where these are placed in prominent locations they should be supplemented with bench seating to contribute positively to the public realm as well as help provide a sense of ownership over certain spaces.

Tree planters may be used, and bench designs should be consistent with those shown throughout this guide.

Street Furniture

Bins

Bins should be bolted or cast into the ground and grouped with other street furniture to minimise public realm clutter, and located off path to prevent obstruction of movement and visibility. Bins should be positioned to allow for easy access and maintenance. The TfL bus infrastructure team should be consulted regarding any proposals for bins near to bus stops. At the dock edge, they should be placed away from the water.

Bins should be of a high material quality, and be of a finish that responds well to their surroundings. Due to the strong winds experienced in the Royal Docks, no open bins should be specified to prevent rubbish becoming dislodged and scattered across the streetscape.

Broxap Kelshall bin

Broxap, Queen Elizabeth Olympic Park

Bollards

Generally, the use of bollards is discouraged and attempts should be made to use tree planting or street furniture to block access. Where that isn't possible bollards should be simple and visible to those with visual impairments, whilst also not drawing undue attention to themselves.

A range should be selected that offers fixed and removable options, and should be pared back in form, such as those shown adjacent.

Plate Steel Bollard

Cycle stands

Where there is an identified need, Sheffield stands should be used due to their simplicity and utility. They should be located in areas with good passive surveillance and should include signage to indicate that they are for push-bikes only.

Sheffield stands

Water fountains

In order to help promote active use of the territory for recreation and exercise, water fountains should be installed.

Fountains should always be placed adjacent to a path, suitable locations include:

- Parks
- Dock edge
- Stretches of the Thames Path and Capital Ring

Water fountains are not purely utilitarian. They should be considered characterful objects in the public realm, as they landscape which also contribute to the wider narrative of water in the landscape. A single fountain model (or range) should be selected that is high quality, durable, low maintenance and has a strong character, such as the Atlantida model (adjacent).

Water fountains should be grouped with other street furniture to reduce public realm clutter and be located off path to prevent obstruction of movement and visibility. Water fountains should be positioned to allow for easy access and maintenance.

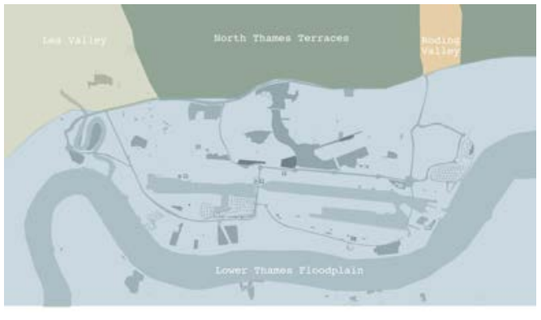
Atlantida cast iron water fountain.

Green Infrastructure

The aspiration of the green infrastructure strategy is to establish an interconnected landscape that enhances access to nature and biodiversity. This goal sits within a wide framed vision incorporating views across and beyond the docks, and proposals rooted in the history, geography and ecology of the area. The strategy aims to bear in mind also future impacts of climate change and the changing city.

Key green infrastructure principles include;

- Responding to existing landscape conditions; addressing specific local issues, bringing in local landscape character and habitats of the Lea Valley, Thamesmead and Thames floodplain.
- Stitching together the green / wild spaces to create a cohesive and connected Royal Docks landscape.
- Allowing for different timescales from short term “meanwhile” interventions from enabling nature to organically colonise disturbed land, to long term successional planting and management strategies and large tree planting for future generations.
- Increasing biodiversity and access to nature. Enhancing and protecting habitats, London Borough of Newham Biodiversity Action Plan priority species and attracting wildlife.
- Planting for the place (mitigating pollution, SuDS, amenity, biodiversity, native, exotic).
- Framing important views (views in and way-finding; views out and framing/safeguarding plus interpreting).
- Addressing environmental conditions on site including mitigating wind, with careful tree selection and placement, while also allowing for continued enjoyment of big skies and the area’s natural weather patterns.
- Connecting and protecting green spaces and corridors following the city’s infrastructure (rail, waterway, road, pylon).



Broader landscape character

KEY

Green Moves

Rewilding the Docks
A transition from grey to green, the docks has the potential to become a greener, wilder and more sustainable district with a rich biodiversity, and a character where nature and ecological concerns are at its core.

- Stitching together the green / wild spaces with tree and planting enhancements, reflecting the natural, the marshland and native characteristics of past and existing landscapes.
- Enhancing existing and forming new greenways and corridors for wildlife movement, connecting the wider network of open spaces. Continuous green links to follow waterways, infrastructural routes and existing corridors to be extended.
- Enhancing and extending the Leaway to Beckton Corridor and the native woodland belts that stretch across Beckton Park, stitching these valuable places into the heart of the docks.
- Ecological interventions including open mosaic habitats, hedgerows, trees and woodlands, green roofs, and SuDS wetlands, allowing for colonisation by ruderal flora that can colonise disturbed lands, and attracting a wide variety of fauna.

Protecting Green Assets
There is an abundance of enjoyable wild, overgrown and green relics which should be preserved and retained as part of the Royal Docks' green heritage. These dramatic and beautiful moments give a strong green character to the area, and in many cases acts as a reminder of past natural and urban uses. These moments are described in more detail in the Special Places chapter.

Edible Landscapes
Growing, grazing and food production is an integral part of the Royal Docks history and the are already has a wide network of allotments and community growing spaces. Proposals should enhance these existing spaces and provide new places for commuities to grow and forage.


Green infrastructural boundary wall


Green, wild and overgrown DLR underpasses


Green, wild and overgrown bridge on Royal Albert Way

The dock basins and the network of open spaces surrounding them provide the opportunity for experimenting with intensive organic agricultural production, shared gardens and educational spaces. There are a number of opportunities to grow and produce food in the area, going beyond providing access to locally grown food to also reintroducing the public to how food grows, the concepts of regionality and seasonality, as well as opportunities for farm-to-table enterprises. This can be accompanied by various informal, wild foraging routes with berrying hedges and local orchards.

SuDS & Waterscapes
A creative and strategic approach to SuDS is vital for managing surface water and mitigating flooding across the docks. Rainwater drainage systems and SuDS should be designed to be attractive and functional, with waterfalls, swale planting, ponds, water tolerant species and various elements such as reed beds and cleansing plants for buffering and purifying the water prior to it entering the docks or local groundwater catchment. Benefits include improving air quality, enhancing biodiversity and creating diverse and engaging places for people and wildlife.

Floating ecosystems and islands in the docks water will provide refuge for wildlife, helping break up open water surfaces and provide, shelter and shade under water.

Meanwhile Landscapes - Open Mosaic Habitats
There is an opportunity to create biodiverse habitats in meanwhile spaces across the Royal Docks:

- Creating open mosaic habitats on brownfield sites, developer sites and sites currently on hold.
- Open mosaic habitats on industrial areas have a very high biodiversity value, and include rare plants, mosses, lichens and a large number of rare invertebrates, most notably bees, wasps and beetles.
- Temporary and longer-term flower-rich meadows support the streaked bombardier beetle (threatened with extinction) and can also support populations of lizards and other reptiles that exist at a number of sites in Newham.


Community Orchards


Carr woodland - Westerpark, Netherlands


Open Mosaic habitat

Trees

Key Principles

Tree planting proposals for the Royal Docks should respond to the baseline and accent character palettes, while allowing for a site specific approach that provides diversity and resilience. Opportunities for large trees should be maximised where space permits, as focal points, way-markers and valuable habitat.

Planting palettes should give preference to native and species found locally, such as Downy Birch (Betula pubescens).

However a variety of species including appropriate non natives should be included to maximise resilience in the face of climate change and potential diseases.

Tree planting should be maximised site wide, including to areas around the airport with the aim to create an 'airport forest' of native Birch trees to surrounding infrastructure, verges and approach routes.

Tree planting projects should wherever possible allow for community involvement, both through planting and long term maintenance.

Further design considerations such as rooting volumes, sightlines and microclimates are outlined in chapter 5, Design Information.

Increasing Urban Canopy Cover

Urban trees bring many benefits, such as removing carbon dioxide and pollutants from the air, providing habitats for wildlife, providing shade and shelter, reducing the urban heat island and creating attractive, enjoyable and healthy places to experience. The Docks should continue to increase the tree coverage in the area to maximise these various benefits and meet local targets for urban greening and improving air quality.

Airport safeguarding requirements and the need to prevent bird strike is a key consideration when planting and specifying trees. All proposals will be subject to a coordinated approach and need to be reviewed with London City Airport. Refer to pages on Airport safeguarding for further information.

Innovation

Shade and cooling - urban greening through vertical planting, urban trees, green roofs and rain gardens help reflect light and evaporate moisture reducing ambient temperature of local microclimates.

Community tree planting

Birch woodland

Planting

Key Principles

Planting strategies and species should derive from the baseline and stitches palettes to establish a rich diversity of types which contribute to a range of habitats, whilst giving each area its own unique sense of place and identity.

Species selection should be tailored to encourage gains in urban biodiversity across the Docks and restore the areas relationship with nature and create valuable habitats for wildlife and people.

Planting interventions will stitch together the ecological corridors, creating a network of green spaces for all species including our own, extending the wild landscape that forms a continuity with the Lea, Beckton Parks and Thames.

There should be an emphasis on planting palettes which give preference to native and species found locally, improving the chances of long term survival, as well as species that target priority species in the London Borough of Newham Biodiversity Action Plan(BAP). These may also be supported by non-natives for additional nectar, pollen and diverse habitats.

Shrub, perennial and ground-cover planting plays an important role in providing diversity of planting and habitat. Designers should look to rewild and introduce naturalistic and wild planting proposals where possible.

Flowering and fruiting plants should be specified for colour and seasonal variety, attracting invertebrates, pollinators, and bird species

Generally, species should be selected to provide seasonal interest, structure, remnant marshland qualities, colour, texture and form, scents, visual, and tactile qualities. Planting should take advantage of the variety of typologies appropriate to the site and existing wider landscape conditions, such as swales and wetlands, vertical, rooftop, layered woodlands, wildflower meadow and varying forms of open mosaic habitats and gravel flora that works with the Docklands brownfield and urban conditions.

There are various opportunities to enhance the urban infrastructure. In road-side and more urban and exposed environments robust and pollution tolerant species should be selected.

Further design considerations are outlined in chapter 5, Design Information.

Innovation

Rainwater drianage systems & SuDS - improve air quality, enhance biodiversity, manage surface water and mitigate flooding across the docks

SuDS & Swales, Bridget Joyce Square, White City, London

Open mosaic habitat

Airport Safeguarding

Airport Safeguarding Requirements

The presence of the airport means that there are some restrictions to the usage of the water and landscape interventions in the docks. The presence of birds has the potential for uncontrolled risks and hazards when they move through the aircraft take off and approach paths or across the airport. Large birds and flocking species present the highest risk. The need to prevent bird strike is a key consideration for landscape proposals. Landscaping and structures around the airport should be designed so as to minimise any increased attractant for hazardous birds that might result in increased local populations or movements of hazardous birds. Proposals and developments that have the potential to attract flocking birds or larger birds in the vicinity of the airport should be assessed for their potential risk, and mitigation measures should be considered at all stages of the design.

Examples of landscape types and potential to attract hazardous birds include:

- Waste management (e.g. landfill, recycling, treatment).
- Concerns: feeding opportunities for scavenging birds e.g. gulls, starlings, pigeons and corvids.
- Water and Wetland (e.g. planting in docks, nature reserves, ponds, drainage swales, standing water, reed beds, marshland, SuDS schemes).
- Concerns: may provide diversity of feeding, breeding and roosting opportunities for waterfowl, waders, gulls etc.
- Green roofs / Brownfield sites.
- Concerns: Various human factors and environments providing food and shelter for urban species such as pigeons, gulls, corvids.
- Tree planting & Hedgerows.
- Concerns: presents nesting opportunities and berry, fruit or nut provision providing food for various species such as thrushes, starlings, pigeons etc.
- Landscape planting has the potential to result in additional food resources (such as berries or fruit, or easy access between the water and areas of short grass for grazing) and in roosting or breeding habitats (especially taller dense canopied trees such as Scots Pine, and floating structures).
- Lighting structures and signs can be used as a perch by Feral Pigeons and gulls and open bins or dropped litter can attract scavenging species such as Starlings, gulls and corvids.
- Feeding of birds by members of the public can also result in birds becoming attracted to the sea and should be avoided. Water attenuation can attract hazardous birds if the area has regular open water or becomes a wetland habitat.

Biodiverse habitats, Schiphol Airport, Amsterdam

A Co-ordinated Approach

The landscape palette has been developed through consultation with the various stakeholders, Royal Docks Team and discussions with London City Airport to ensure that tree and planting species, and methods of planting mitigate and manage risks posed by birds in areas surrounding the airport. Where a proposed development has the potential to attract birds, the developer will be expected to have undertaken a comprehensive bird hazard assessment and produce a Bird Hazard Management Plan. These should be reviewed and approved by the airport. Relevant covenants shoud also be considered. Discussions between developers and London City Airport are encouraged prior to the submission of planning applications to ensure that biodiversity is maximised whilst managing the risk to aerodrome safety.

It is also recommended that design should be in accordance with the following guidance materials:

- London City Airport_Guidance on Biodiversity & Safeguarding.
- CAA publications 772 and 168 (from www.caa.co.uk).
- AOA Advice Note 3 Wildlife Hazards around Aerodromes.

Any large planting schemes need to get approval from the Bird Strike mgmt - www.birdstrike.co.uk.

Landscape Palettes

The risks posed by birds can be reduced through the implementation of effective habitat management, careful species selection and active deterrence measures. The landscape palettes therefore have taken into consideration the following;

- Trees are to be chosen so as to minimise opportunities for roosting, and planting is to discourage the types of fauna on which those birds would feed. E.g. marker trees, are well spaced and selected with a more fastigiate form to limit nesting opportunities.
- Foraging routes have the potential to result in an attractive wildlife corridor if species such as Bramble, Elderberry and Crab Apple are used. This should be limited and kept to the western end of the docks area.
- There are a lower proportion of fruiting/flowering/nectar producing species around the dock edge. Sterile flowering species can be used as alternatives where suitable to achieve similar visual qualities.
- SuDS planting should be based on a free-draining build up and species chosen which can deal with a range of conditions and environmental stresses.
- Green, brown or biodiverse roofs have the potential to attract and support nesting large gulls. To avoid this, any such roofs will require a bird management plan to deter gulls attempting to breed.
- Hedgerows and climbers: Dense or sheltered vegetation has the potential to become a starling roost. To avoid this, plants should be staggered in rows or spread out to prevent roosting.
- Robust maintenance: Regular checks to monitor wildlife activity and nests, tree trimming and essential maintenance of the site is required.

Dense planting of birch trees at Schiphol Airport, Amsterdam

- Planting in water: waterfowl should be discouraged from congregating in the dock water area.
- It is not envisaged that ecology islands and potential bird attracting planting in water will be proposed directly within the landing path.
- Open mosaic / brownfield habitat creation around the docks mainly attract insects and reptiles rather than larger or high-flying flocks of birds.
- Avoid extensive gravelled areas and dense vegetation on roofs to discourage roosting.; open mosaic method is more suitable.
- All outdoor eateries should have a regular cleaning regime to avoid food being left out for birds to eat. All bins should also be locked and vermin proof.
- Signs near waterbodies requiring “no feeding the birds” should be installed and water should not be stocked with fish which may attract birds to feed. Ongoing management of the site post-development to deter bird species.

There are various other ways to enhance biodiversity whilst not increasing bird populations. For example:

- Installation of bat boxes and small bird boxes for non-flocking species.
- Creation of habitat for small reptiles and amphibians.
- Creation of habitats for small mammals. Installing small ornamental water bodies.
- Urban beehives although numbers should be limited and monitored to avoid competition with wild bees.

There is the opportunity to expand upon these ideas, beginning with ‘Baseline ecology surveys’ of the current landscape to develop a better understanding of how bats, birds and other fauna utilise the area informing decision-making and landscape proposals/parameters. Research into types of bird species which may be attracted to the various planting and tree types being proposed. e.g. Open mosaic habitats & airport precedents set elsewhere in terms of design and approach.

Schiphol Airport is a good example where Birch forests (Betula pubescens) have been introduced for their hardiness, adaptability, ease of management and non bird attracting qualities.

Baseline palette

The landscape 'baseline palette' presents a combination of principles to be applied to each landscape character area to create a holistic, recognisable, biodiverse, healthy, joyful and accessible approach to the Royal Docks area as a whole.

These principles take into consideration:

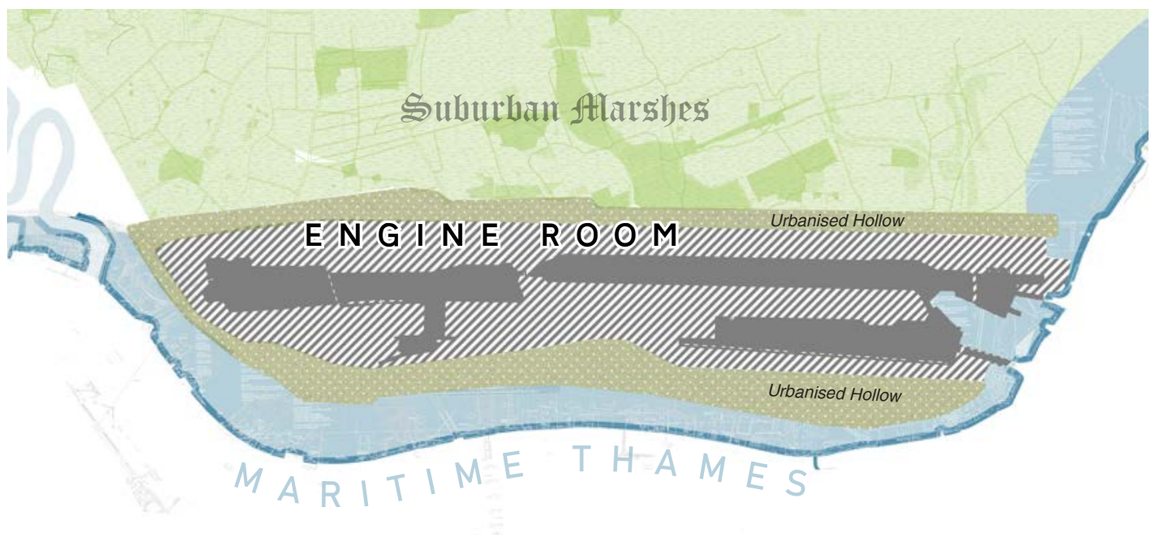
- Existing character of the area.
- Broader landscape character designation and typologies.
- Existing communities and local green spaces.
- London Borough of Newham, Biodiversity Action Plan.
- Airport management and safeguarding requirements.
- Existing habitats and ecologies.
- Stakeholder landscape management requirements.

Suburban Marshes

The landscape is defined by a wild remnant marshland character with wet woodlands, alder carrs, natural scrubland, woodland corridors, community allotments and wet meadows. These areas are traversed by long green corridors, grazing routes, edible hedgerows, waterlogged terrain and long stretches of native woodlands creating a suburban marshland.

In places this palette is represented by a 'ghost', or a sense of the past that can be reimagined through landscape interventions.

Baseline palette masterplan



Urbanised Hollow

A linear, sunken, infrastructural landscape where the natural meets the engineered. This area forms a cohesive and characterful landscape focused on enhancing the urban infrastructure, including generous SuDS landscapes accompanied by tree planting and swale grasses bringing back the sense of the marshes, softening the scale of the road and DLR viaduct, and enhancing the pedestrian environment and residential pockets that over time have become embedded within the Docks infrastructure and bands of industry.

Proposals should also draw on local character and uses with incidental pockets of the green space providing a more relaxed environment with mown paths through meadow, growing spaces with fruit trees and edible berrying hedges.

Engine Room

To the West, planting surrounding the dock and within planted greenhouses will comprise of species reminiscent of the exotic and in particular, the trade links from the docks' history through the use of plants originating from countries around the Cape route and the Pacific route. A hedonistic sense of fun is found through colour and experimental urban food production, as well as from growing of exotic foods with the help of hydroponics and aquaponics.

To the East, on the Royal Albert Dock side, the landscape palette is defined by its relationship to the wild, riverbank-adjacent and shingle landscapes associated with Thamesmead and the waterfront.

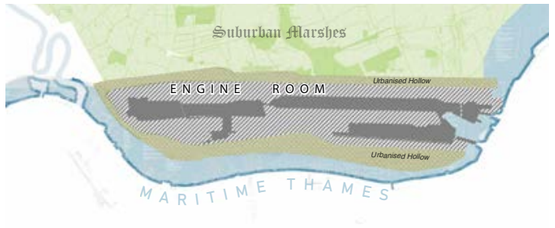
Maritime Thames

The landscape palette is defined by a shingly, marshy landscape that may also be described as "Jarmanesque"- in the spirit of artist Derek Jarman, whose dreamy garden in the shadow of the Dungeness nuclear power station was built from driftwood, shells, and items discarded from life. The Royal Docks have moments of Victorian civic pride and legacy, taking its cue from the remnant Thames beach habitats with their distinctive flora and fauna, and sense of strangeness and wilderness. At the same time there is the brute force of the tidal river, and rapidly changing wind and weather conditions that make this an exhilarating and powerful landscape.

Species selection reflects a wilder and more windswept character to the East, embracing existing bleakness, Victorian legacy, curiosities and the harsher elements and expansive views.

Hard surfacing

In certain locations it will be necessary to use more unique treatments than those shown in the site-wide approach. The materials shown here have been selected to fit within the broader palette, whilst sensitively responding to the landscape character areas and different types of spaces.



Materials located in this section should be in accordance with the landscape character areas

Engine Room - formal / informal

Across the Engine Room there is a diverse range of different places, however they all share a proximity to the dock edge.

More formal, set-piece style public spaces could benefit from specifying hard surfaces that are more urban in character such as clay paviors with pre-cast concrete slabs. These materials have been selected for the contrasting scales and tonality they provide, and can also be combined with the materials set out in the site-wide approach.

Where spaces are less formal, such as around the Connaught Crossing, the use of gravel can be used to preserve and enhance the wild character of the space.

Top: Zolhallen Plaza, Freiburg. Stelcon slabs used in combination with soft landscape.

Middle: Wirral Metropolitan College, Birkenhead. Clay paviors, metal-trimmed concrete slabs and gravel combined for a relaxed waterside treatment.

more formal spaces ⟷ **less formal spaces**

Clay paviors
On and off-plot use - vary movement joint grid depending on location.

Stelcon pre-cast smooth concrete slabs with steel cornering
To be used on or off-plot, and specifically on the dock edge. Ensure there is requisite depth for product, especially in areas of false quay.

Self binding gravel
To be used in locations with low traffic, or soft landscape areas.

Maritime Thames

Along the Thames edge, rougher materials can be used confidently, drawing from historic gravel banks and wharfs. A successful example of this is at Armada Green, where large exposed aggregate concrete slabs with embedded timber lengths are used to great effect - enhancing the exposed, slightly wild, nature of the site.

Gravel surfaces are also highly suitable here, although they should be avoided where the surface will be used regularly by cyclists due to the risk of rutting.

In-situ exposed aggregate concrete slabs with timber lengths set-in
Vary movement joint grid and arrangement of timbers dependent on location.

Self binding gravel
To be used in locations with low traffic, or soft landscape areas.

Suburban Marsh & Urbanised Hollow

Within these areas, planting guidance focuses on water - with marshy grasses, SUDs and water-loving tree species. Hard-surfacing in these areas would do well to follow the 'Site Wide Approach', however in some areas it may be appropriate to use surfaces that are more permeable to water.

Pre-cast concrete cattle slats can be integrated well into off-path areas, or within the path themselves in limited amounts, to assist with drainage. Off-path, carefully spaced small format pavers can be used to 'blur' the edge between soft and hard landscape.

Small format pavers set in free-draining substrate

Pre-cast concrete cattle slats

Play

Play provision is crucial for healthy neighbourhoods, and every opportunity should be sought to provide play in every form imaginable, and not just fenced-off areas with swings and slides. Sites that encourage play should be integrated into the very fabric of the docks, including along pedestrian routes (so long as they do not impede route users). Opportunities for play should also be located in places that are easy to access and have good passive surveillance.

The design of play also brings an opportunity to enhance the identity of an area through the use of equipment and structures that reference its character, geography and history. There is an opportunity to channel the landscape character of an area through inventive play designs that use elements familiar to these territories.

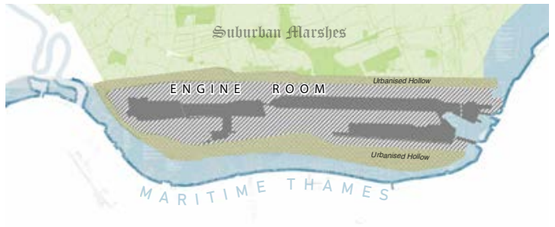
Suburban Marsh

The Suburban Marsh is characterised by mature woodlands, large open green spaces and species that thrive in marshy territories. The well established, and connected, parks in the area could benefit from the provision of informal play trails, connected to potential ecological routes. Embedding 'wild play' elements, such as tree trunks, into the landscape is a way for children to actively engage with their natural surroundings in a way that isn't always possible in the city.

Urbanised Hollow

Here the landscape is dominated by infrastructure, at multiple different levels, which can create exciting spaces under and between these enormous structures. Play provision should look to exploit these leftover spaces, including linear routes dotted with play equipment and appropriated structures that follow the path of suspended rail lines or highways.

Activity based play is also suitable in these locations, and designers should look to provide games pitches, table tennis tables, areas to skate and cycle as well as structures that can be appropriated for climbing and clambering.



Play areas should respond to the landscape character areas, as well as the maritime and trading history of the docks

Maritime Thames

In the Maritime Thames, there is the exciting prospect of playing close to the water. Whilst there are established sites in Lyle Park, Thames Barrier Park and Royal Victoria Gardens there are many spaces along the Thames which would benefit from regular small sites for play, which could incorporate historic and maritime objects into their design.

Engine Room

The Engine Room represents a fantastic opportunity to embed a wide range of play equipment and appropriated structures around the docks, creating a playable landscape whilst also significantly contributing to its identity by referencing maritime objects.

Allowing access to the dock water, where barges laden with play equipment could be moored, would greatly increase interaction with the unique landscape of the docks.

Along the dock edge, small sites for play could be situated to help activate this route. Where there is opportunity for larger areas for play, skateparks, outdoor gyms and sports equipment should be considered, so that play is not limited just to children.

Suburban Marsh & Urbanised Hollow

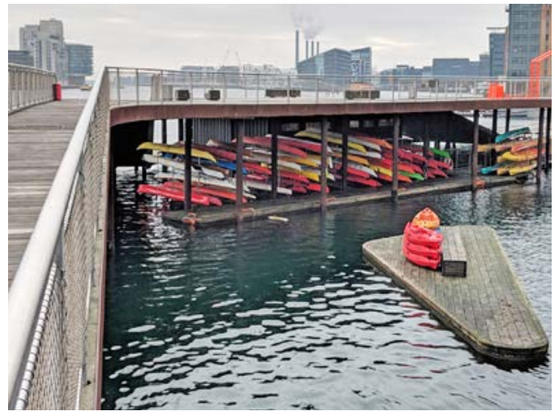
Table tennis tables at Three Mills Green

Play equipment integrated into landscape, Three Mills Green

Skatepark beneath highways infrastructure, Bentway, Toronto

Engine Room & Maritime Thames

Play connected to the character and history of a place, Geopark, Stavanger



Provision for use of the water as play, Kalvebod Waves, Copenhagen

Play barges, which could be moved all over the docks

Trees and planting – Suburban Marshes

Trees

Main typologies: Wet Woodland, Natives, mixed broadleaf woodland, pendulous and weeping trees.

Key Principles;

Area should be defined by an abundance of trees with wetland and marshland character.
A large proportion of native species with composition of tree species supporting wildlife and biodiversity.

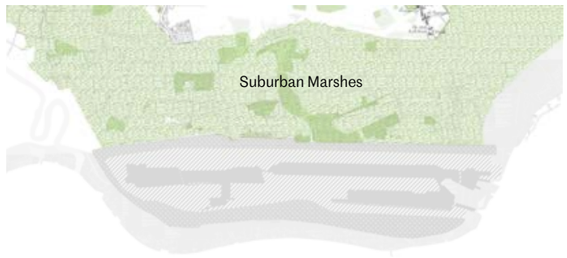
Woodland species should relate to hydrological conditions ranging from wet carr woodland in marshy/SuDS areas to dry habitats at elevated levels, providing a variety of habitats and experiences.

Various species of willow should be used as 'placemarkers'. Large species such as willow and poplar can be pollarded or coppiced to manage size, provide a timber resource, reduce attraction of birds in areas closer the the airport and allow light to reach the understorey.
An extension of the Lea Valley region character with inclusion of tree species such as alder, birch and willow. Climax species such as black poplar which have been in decline, are to be re-introduced into the area.

Signature Tree Species

Salix alba (White willow)

Betula pubescens (Downy birch)



Key Plan

Salix alba 'Tristis' (Golden weeping willow)

Betula pendula (Silver birch)

Populus nigra (Black poplar)

Salix caprea (Goat willow)

Pollarded Willows

Acer campestre (Field maple)

Corylus avellana (Common hazel)

Alnus glutinosa (Alder)

Planting

Main typologies: wet meadow, native meadow, native shrub mixes, swale grasses / water tolerant species, native hedgerows, woodland flora

Key Principles;

Planting comprises a mosaic of grassland and woodland habitats, giving emphasis to species that thrive in damp and dry grasslands, meadows and wet and dry woodlands.

A combination of native and non-native species enhances the natural character and Lea Valley and Thames Estuary context.
Species such as Deschampsia and Panicum sway in the wind and add drama and year round structure.

Innovation

Ecological continuity and ideal places for attracting wildlife, with interventions such as hedgerows, waterbodies and mature tree lines providing habitats for birds, bats,invertebrates / various other species.

Signature Planting Typology

Wild grasses and wet meadows

Signature Habitats

- The streaked bombardier beetle (threatened with extinction) is supported by flower rich meadows, in particular ox-eye daisy and common knapweed. These can also support lizards and other reptiles that live at a number of sites in Newham.
- The water vole could be attracted through the common reedbed habitat, supplementary planting of preferred food sources e.g. branched bur-reed, hard rush or sedge species. This habitat also provides for birds breeding, sheltering and feeding.

Native wildflower meadow

Stachy palustis (Marsh woundwort)

Juncus effusus var spiralis (Corkscrew rush)

Carex pseudocyperus (Cyperus Sedge)

Prunus spinosa (Blackthorn)

Centaurea nigra (Common knapweed)

Thelypteris palustris (Marsh fern) Woodland flora

Allium ursinum (Wild garlic)

Swalegrasses e.g. Deschampsia cespitosa (Tufted hairgrass)

Trees and planting – Urbanised Hollow

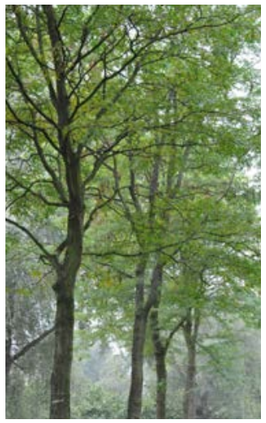
Trees

Main typologies: swale / riverine, orchards, infrastructural

Key Principles

- Trees and planting should emphasise enjoyable infrastructural places with monoculture blocks of grasses, figurative trees and urban orchards set out on grids.
- Existing structural avenue planting that follows DLR routes and 'urban corridors' is to be celebrated and added to with deciduous (annually shedding) species such as the Platanus x hispanica (London plane).
- Wetland trees such as Alder and Birch should be planted within swales and hollows to create informal barriers to road and DLR corridors.
- Neighbourhood greens and pocket parks are characterised by orchard and flowering species, creating attractive and calming moments within the linear, infrastructural and industrial surroundings.
- Residential streets are each characterised by a single tree species, with narrow habit and maximum visual interest such as Gingko biloba and Pyrus 'chanticleer'.

Signature Tree Species



Gleditsia triacanthos (Honey locust)

Betula pendula (Silver birch)

Key Plan

Gingko biloba (Maidenhair)

Platanus x hispanica (London plane)

Alnus incana 'Aurea' (Grey alder)

Juglans regia (Common walnut)

Prunus dulcis (Sweet Almond)

Cydonia 'Isfahan'(Quince)

Pyrus calleryana 'Chanticleer' (Callery pear)

Prunus avium 'Plena' (Plena cherry)

Sorbus aucuparia (Rowan)

Planting

Main typologies: water tolerant meadow flora, infrastructural, swale flora, edible woodland edge

Key Principles

- Shallow vegetated swales, hollows and low points, sown with grasses and perennials and wetland flora collect, treat and attenuate road and footway runoff. Swale grasses such as Deschampsia cespitosa tolerate periodic inundation, whilst providing evergreen structure and a relaxed natural aesthetic.
- Generally all planted areas will be lower than the adjacent hard surfaces to act as rain gardens and collect surface run-off.
- Relaxed lawns and borders with mown paths, edible herbs and berrying plants.
- Where possible there should be an abundance of wild patches of roses and edibles such as Fragaria vesca (Wild Strawberries) to provide food source and interest for wildlife and people.

Signature Planting Typology

Wild vegetated shallow swales and hollows

Signature Habitats

Native climbing species support invertebrate and birds e.g. Lonicera periclymenum (honeysuckle) & Clematis vitlba (Travellers joy).

Infrastructural

Stipa tennuisima (Mexican feather grass)

Calamagrostis x acutiflora 'Karl Foerster'

Euphorbia palustris (Marsh spurge)

Swalegrasses e.g. Deschampsia cespitosa (Tufted hairgrass)

Residential

Prunus spinosa (Blackthorn)

Rubus idaeus 'Ruby Beauty' (Rasberries) & Fragaria vesca (Wild Strawberries)

Viburnam opulus (Guelder rose)

Rosmarinus officinalis (Rosemary)

Humulus lupulus (Common hops)

Trees and planting– Engine Room (West)

Trees

Main typologies: exotics, edibles, greenhouse varieties, tropical forest

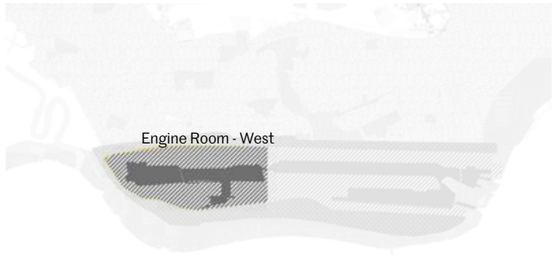
Key Principles;

- A selection of exotic trees based on the historic cargoes that used to arrive at the docks including sugar maple referencing the sugar industry and the Tate & Lyle factory.
- Trees should be selected which make reference to the trade history, such as the Koelreuteria paniculata a medium sized, deciduous tree from Eastern Asia. Despite its tropical character it is tolerant of urban conditions and gives an attractive multi-stem structure.
- The majority of trees in this area will be towards the dock edge where it is not possible to plant in-ground. Therefore species should be suited to smaller rooting volumes within planters, be smaller growing and mainly include a variety of multi-stems.
- Exotic species should be planted within landscape arrangements that provide shelter in exposed locations.
- More exotic fruits such as Pomegranate, Passion Fruit or Kiwi bring a diverse character and may be less attractive to some bird species (although they may be eaten by Ring necked Parakeets).

Signature Tree Species

Koelreuteria paniculata (Golden rain tree)

Acer saccharum (Sugar maple)



Key Plan

Koelreuteria paniculata (Golden rain tree) tree)

Parrotia persica (Persian ironwood)

Punica granatum (Pomegranate Tree)

Eleagnus angustifolia (Russian olive)

Cornus mas (Cornelian cherry)

Maackia amurensis (Amur maackia)

Musa basjoo (Japanese Banana)

Ficus carica (Common fig)

Planting

Main typologies: exotics, edibles, ferns & grasses

Key Principles;

- Planting surrounding the dock and within greenhouses will comprise of species reminiscent of the exotic, in particular the trade links from the docks' history, by using plants originating from countries around the Cape route and the Pacific route.
- A selection of exotic plants including palms and lilies, cotton and wool, indian rain, tobacco plant, cayenne chilli and silk tassel bush.
- To ensure year-round structure, texture and interest designers should, where achieveable, include a selection of ferns and evergreen species.
- Exotics and edibles grown in greenhouses.

Signature Habitats

This habitat is typified by alien species, introduced and self-colonised, that represent a wide variety of regional and global habitats. They include plants introduced through trading connections, through itinerant communities who settled in the area, through the warmer city climate and the wide range of substrates and ecological niches available in the post-industrial landscape.

Glasshouses to Dock Edge

Innovation

Urban Ecology/ Food production. Access to locally grown food and a means of reintroducing the public to how food grows, regionality and seasonality.

Garrya elliptica (Silk tassel bush)

Solanum melongena (Aubergine)

Calamagrostis brachytricha (Korean feather reed grass)

Eriophorum angustifolium (Cottongrass)

Nicotiana Sylvestris (Tobacco plant)

Cayene chilli (Red pepper)

Canna phaison (Indian shot bulbs)

Knifophia (Red hot poker)

Polystichum sp. (Soft shield fern)

Asplenium scolopendrium (Hart's tongue fern)

Hosta Empress (Plantain lily)

Lonicera japonica (Japanese honeysuckle)

Trees and planting – Engine Room (East)

Trees

Main typologies: birch forests, alpine, riverine

A gravel and shingle landscape is proposed across the rooftops and raised dock edges, creating a corridor of open mosaic and biodiverse landscape with significant habitat value.

Key Principles

- Tree strategies should replicate successional environments, evolving over time to create an easily managed urban wildscape.
- Successional and fast growing species with light foliage such as birch, alders and willows define the area and pick up on the wider Thamesmead character.
- The signature for the area is the birch, this could be planted in linear rows within gravel beds, or grouped in dense copses.

Innovation

Re-wilded infrastructure. Tree planting at London City Airport using robust and non-bird harbouring tree species, establish a birch forest.

Signature Tree Species

Rows of Birch and Poplars planted in gravel fields - Shoreline Park, Gothenburg, Sweden

Key Plan

Planting

Main typologies: gravel flora, biodiverse roofs, shingle landscapes, open mosaic habitats.

Key Principles

- Planting strategies should replicate many of the brownfield vacant plots and in-between spots within industrial spaces and subsequent environments, using existing gravels and substrates where possible.
- Re-use of demolition materials and creation of open mosaic habitats. Substrate chemistry and site-specific hydrological conditions should be taken into account when selecting the species mixes, to maximise habitat value. Designs should maximise opportunities for plant species to colonise site naturally, and be flexible to change.
- Biodiverse roofs are designed to create a wide range of different habitats. This includes undulating substrates, piles of stone and dead wood, bare sandy areas and dew ponds. This matrix of different habitat allows the broadest range of flora and fauna to thrive.
- A mix of species ideal for city environments. The plants chosen are able to absorb pollution and CO2 and give a suitable environment for insects and invertebrates.

Signature Planting Typology

Gravel meadows and self colonising environments

Signature Habitats

Mosaic habitat beds for invertebrates including the streaked bombardier beetle.

Innovation

Soils & Bioremediation: recovery of contaminated sites by understanding interactions between soil conditions, wasteland vegetation, pollutants, and their exposure and toxicity to people and animals.

Salix caprea (Goat willow)

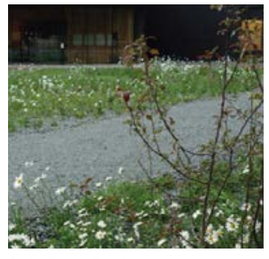
Pinus nigra (Black pine)

Alnus glutinosa (Alder)

Betula pendula (Silver birch)

Gravel Biodiverse Roofs

Ruderal communities
Composed mainly of taller annuals, biennials or short-lived perennials and typical of slightly more nutrient-rich, or less disturbed conditions than the annual communities.
Species such as:
Daucus carota, Linaria vulgaris, Medicago lupulina or Reseda luteola



Slate Gravel Planting
Species such as:
Deschampsia cespitosa, Great Burnet, Sanguisorba officinalis, Betony, Stachys officinalis, Ox eye Daisy, Leucanthemum vulgare

Urban mosaic habitats
Species such as:
Jersey Cudweed, Gnaphalium luteoalbum, locally characteristic of Lea/Docklands, very rare, found at Silvocea Way. Purple toadflax, Linaria purpurea
Red Valerian, Centranthus ruber, Flowering Sea Kale, Crambe cordifolia

Trees and planting – Maritime Thames

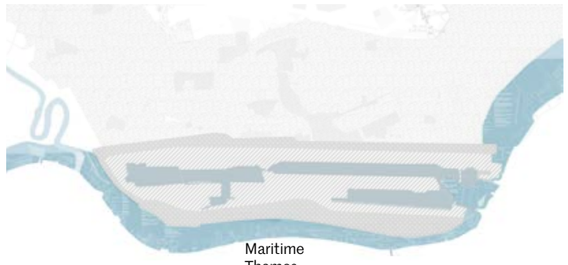
Trees
Main typologies; coastal, victorian legacy, pinetum, riverine

Key Principles;
Tree and planting palettes should take cue from the remnant Thames beach habitats, with their particular flora and fauna, and sense of strangeness and wilderness.

Tree species have been selected to create a strong tie with the elemental conditions, wildlife and expansive views across the Thames. For example the Pinus pinea (Stone pine) provides a windwept coastal character, in addition to the large numbers of existing pine trees in the area, including large groves of Austrian Pines at Gallions Reach.
Where there is the opportunity, the pines can be accompanied by other confierous species such as yews and junipers to create small pinetums.
The waterfront itself, particularly to areas surrounding Royal Victoria Gardens should embrace and celebrate the strangeness and sense of the past. This can be achieved by introducing Victorian legacy trees, large, old canopy volume trees commonly used in London during the 19th century to identify key places of Victorian heritage and strangeness. Species include Tila cordata (Common limes) in bosques and Platanus x hispanica (London planes) creating mature avenues.

Signature Tree Species

Pinus nigra (Black/ Austrian pine)



Key Plan

Pinus pinea (Stone pine)

Taxus baccata (Common yew)

Juniperus communis (Juniper)

Betula pendula (Silver birch)

Victorian Legacy

Platanus x hispanica (London plane)

Tilia cordata (Common lime)

Acer campestre (Field maple)

Acer Platanoides (Norway maple)

Planting
Main typologies; gravel flora, hedgerows, native garden flowers, coastal grasses

Key Principles;
- A shingle landscape, made up of coastal grasses, shrubs and wildflowers.
- Opportunities for greening the river walls should be developed, with intertidal terraces and habitat restoration projects.
- New green spaces should create further connections to the water space of the river, helping to activate the riverfront, and using the emerging Thames path to create a continuous green chain of open spaces.
- Planting arrangements should feel random with plants interspersed with driftwood and shingle accumulations, and objects which feel like they've been found on the nearby shoreline.

Signature Planting Typology

Prospect Cottage, Dungeness, Derek Jarman (Jarmanesque)

Signature Habitats
- Open loose sandy soil is great to support burrowing bees and wasps.
- Riverside attracts insects including: dragonflies, mayflies, caddis flies, mosquitoes and midges – providing an ideal food source for bats.

Shingle landscape - coastal grasses, shrubs and wildflowers

Echium vulgare (Viper's bugloss)
Coastal wildflowers

Crambe maritima
(Sea kale)

Glaucium flavum
(Yellow horned poppy)

Cytisus scoparius (Scotch broom)
Coastal Shrubs

Euphorbia (Marsh spurge)

Pulsatilla vulgaris (pasqueflower)

Stipa tenuissima & Verbena bonariensis

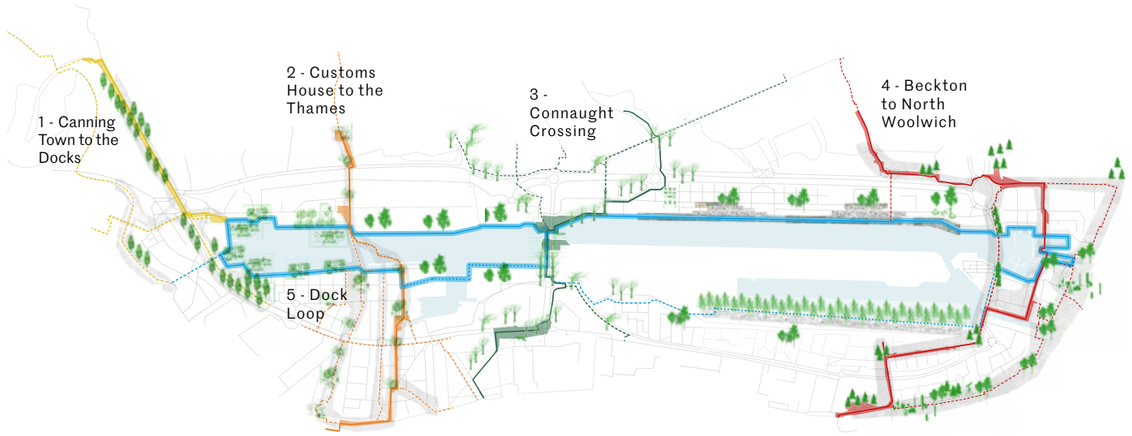
Accent palette

The landscape ‘accent palette’ highlights key routes - the Stitches - across the docks improving connectivity between Newham’s existing and emerging residential neighbourhoods to the Royal Docks and the River Thames.

The ‘Stitches’ are identified by the use of signature tree and planting species to create a clear and individual identity for each route.

The wayfinding and lighting stitch themes are amplified through the use of tree and planting species with distinctive scent, colour, flowers, fruits, sense of movement, sounds, form, structure and tactility creating enjoyable, animated and unique places.

Accent palette masterplan



Stitch 01 - Canning Town to the Docks
Signature trees: aspen & white poplar
Signature planting typology: grass verges & swale

Stitch 02 - Customs House to the Thames
Signature trees: wild cherry
Signature planting typology: Edibles and informal meadows

Stitch 03 - Connaught Crossing
Signature Trees: pollarded willows and aspens
Signature planting typology: wild grasses and open mosaic habitats.

Stitch 04 - Beckton to North Woolwich (North)
Signature trees: pines & birches
Signature planting
Typology: wild grasses

Stitch 04 - Beckton to North Woolwich (South)
Signature trees: london planes & limes
Signature planting typology: Shingle landscape

Stitch 05 - Dock Loop (West)
Signature trees: birch
Signature planting typology: wild thamesmead

Stitch 05 - Dock Loop (East)
Signature trees: sugar maple and golden rain tree
Signature planting typology: exotics

Trees and planting – Canning Town to the Docks

Trees

- White poplars and Aspens act as place markers and provide height & animation.
- Trees will sit alongside and below the flyover, their canopies sitting in line with the infrastructure giving the feeling of being up in the canopies.
- The aspen leaves make noise in the wind and their pale white and grey tones shimmer in the sun, amplifying the elements.
- These boulevard tree species will not trap pollution below their canopies, so are appropriate for roadside conditions.

Key Plan

Planting

- Generous SuDS landscapes accompanied by tree planting, bring back the sense of the marshes and soften the scale of the roads and DLR viaduct, whilst enhancing pedestrian environments at lower level.
- Below the flyover towards North Woolwich Road there is opportunity for wild reedy grasses accompanied by robust highlight species tolerant of this urban condition, such as Rudbeckia, Ox-eye daisy and Leucanthemum vulgare.
- Tall dune grasses and prarie planting, species that are tolerant of a dryer environment. These would provide a protective layer and move around in the wind, animating the road side.

Signature Tree: Populus tremula (Aspen) & Populus alba (White poplar)

Foliage

Rounded leaves with large irregular blunt teeth.

Bark

The white bark is key in this species as it carries out photosynthesis.

Colour

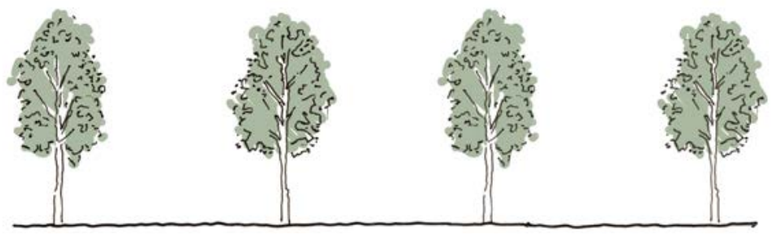
Leaves coppery coloured turning green in summer. Towards autumn these turn a vibrant yellow.

Flower

Found between March and April, female catkins produce small fluffy seeds in summer.

Populus tremula (aspen)

Populus alba (white poplar)



Tree Character - Avenues & Markers

Signature Planting Species & Character

Calamagrostis x acutiflora 'Karl Foerster'

Deschampsia flexuosa (wavy hair-grass)

Festuca ovina (sheep's fescue)

Rudbeckia (coneflowers)

Worked example - Silvertown Way

Trees and planting – Customs House to the Thames

Trees

- This stitch brings together the residential and parkland spaces through community growing and a cultivated, productive landscape.
- A flowering and fruiting palette of cherry trees planted in clumps act as markers and placemakers.
- Orchard grids identify key moments and gathering spaces.
- The positioning of fruiting trees needs to take into consideration surrounding footpaths and slip hazards caused by falling fruits.

Key Plan

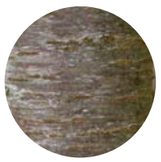
Planting

- The aim is to create an edible a sensory landscape with edible plants, reminiscent of a smaller scale community garden.
- This stitch's main characteristic is its sensory qualities, with vibrant, strongly scentful planting such as Viburnum opulus (guelder rose) creating a memorable and attractive route.
- There should be various opportunities for foraging with wild patches and berrying hedges. Fruiting shrubs include wild strawberries and redcurrants (Ribes rubrum).
- Community growing spaces should be introduced with vegetable gardens and orchards.

Signature Tree: Prunus avium (Wild Cherry)

Foliage

Oval green toothed leaves measuring 6- 15cm with pointed tips and two red glands on the stalk at the bottom of the leaf.



Bark

The shiny bark is a deep red brown with prominent cream-coloured horizontal lines (lenticels).

Colour

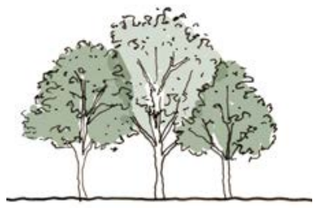
Leaves fade to orange and deep crimson in autumn.

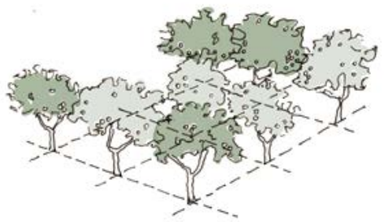
Flower

Cherry trees are hermaphrodite. White cup shaped 6-15cm flowers with 5 petals appear in April, they hang in clusters of two or six.

Prunus avium 'Plena' (Plena cherry)

Groups of Cherry trees as 'Markers'





Tree Character - Clumps and Orchard Structure

Signature Planting Species & Character

Rubus (Blackberries)

Ribes uva-crispa (Gooseberries)

Fragaria vesca (Wild Strawberries)

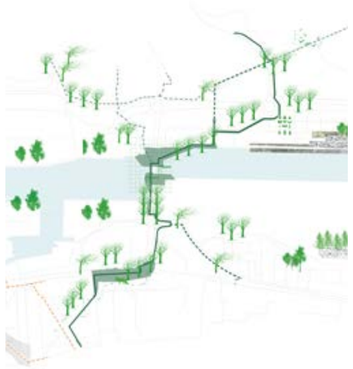
Viburnum opulus (Guelder rose)

Worked example - Britannia Village

Trees and planting – Connaught Crossing

Trees

- This route stitches the Thames to the remnant marshland spaces to the north, via meanwhile landscape interventions and special moments where the true expanse of the Docklands can be appreciated. This route focuses on the 'Urban Wild'.
- The marshland character is carried through the heart of the docks, through planting of pollarded willows which echo the historic pollarding and coppicing that occurred throughout the Lea Valley and Thames Estuary.
- Aspens work with the environment and animate the landscape. Trees and shrubs provide protected areas and wind breaks. Especially along the Connaught Crossing, a sense of exposure and shelter is amplified.



Key Plan

Signature Tree: Salix alba (Pollarded willow)

Foliage

Slender, oval leaves are paler than most other willows due to fine, silky white hairs on the underside.

Bark

The bark is grey-brown, and deeply fissured in older trees.

Colour

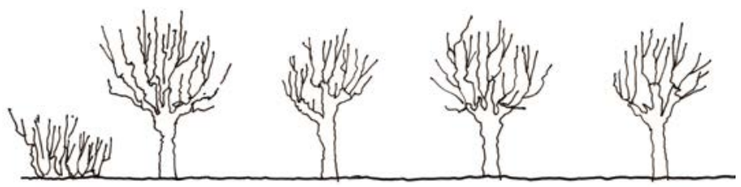
Bright red and yellow winter stems

Flower

The White willow is dioecious. Catkins appear in early spring.

Salix alba (Pollarded willow)

Populus tremula (Quaking aspen)

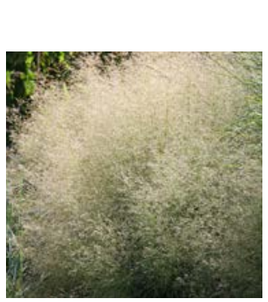


Tree Character - Salix alba: Wild expression

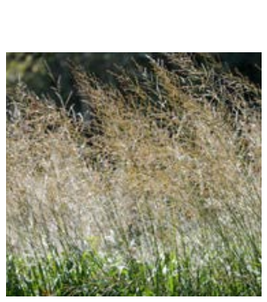
Quaking Aspen: Wild expression

Planting

- A wild and biodiverse landscape, with long wavy grasses and rewilded urban spaces, connects the Thames to Beckton Park and the wider natural context via the Connaught Crossing.
- Ephemeral grasses such as the Deschampsia cepitosa sit well on the misty marshland fields to the North.
- Brownfield interventions are proposed incorporating low fertility soils for meadows and wild grasses. Species should be selected planted for phytoremediation (their ability to clean the soil of contaminants), as well as for a relaxed aesthetic, and a light touch management regime.
- The Connaught Crossing proposals are at the heart of the stitch, as it is a key point where these characteristics are amplified through an urban wilderness of open mosaic habitats, prairie grasses and gravel fields.



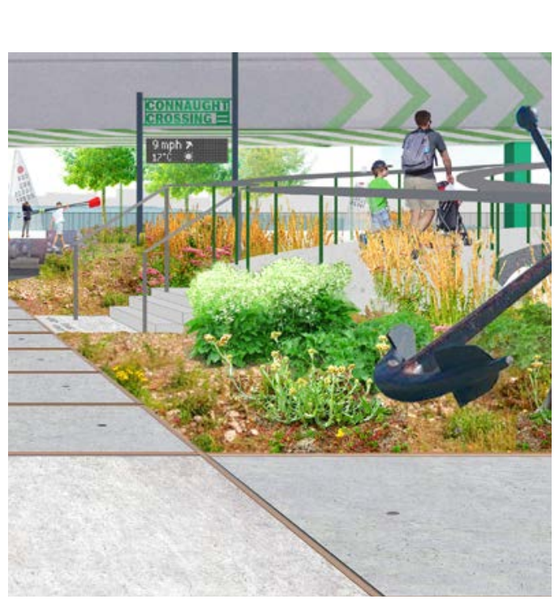
Deschampsia cespitosa (Tufted hairgrass)



Molinia caerulea ssp arundinacea (Purple moor grass)

Linaria purpurea (Purple toadflax)

Open mosaic habitats, species such as: Jersey Cudweed, Gnaphalium luteoalbum, locally characteristic of Lea / Docklands, very rare, found at Silvocea Way Purple toadflax, Linaria purpurea Red Valerian, Centranthus ruber Flowering Sea Kale, Crambe cordifolia



Worked example - Connaught Crossing

Trees and planting– Beckton to North Woolwich (North)

Trees

- The north portion of this stitch is an urban wildscape, characterised by open, exposed urban environments and views.
- Clumps of pine trees have developed in this area for instance around Gallions Reach DLR station. The Pine has become a signature tree and reflects the geology of the poor maritime soils. Its evergreen structure provides a constant visual and audible marker throughout the seasons, assisting with wayfinding for partially sighted people and people with learning difficulties.
- The birches speak to the wild, open and expansive character of the farthest East part of the Royal Docks. Betula pubescens (downy birch) is a natural pioneer and should be planted in abundance. They are hardy and adaptable to various growing conditions and do not attract many birds, making them well suited to areas surrounding City Airport (as has been shown by Schiphol Airport in Amsterdam).

Key Plan

Planting

- A successional environment with substrate meadows, low shrubs and flowers set within gravel, creates a sense of wildness.
- A mixture of low succulents and low grasses are suited to growing in gravel areas.
- Naturally dispersed and self-colonising species, which over time naturally re-wild and recover brownfield sites, can enhance existing ecologically valuable ‘wasteland’ habitats.
- Mosaic habitat beds support invertebrates including the streaked bombardier beetle. Underplanting is tolerant of the wind & hardy open mosaic environment.

Signature Tree: Pinus nigra (Black/ Austrian pine) & Betula pubescens (Downy Birch)

Foliage

Needles, occuring in pairs, are 10–15cm long and stiff, slightly serrated at the edge, can be straight or curved.

Bark

The bark is rough and grey brown to black in colour.

Flower

Reproductive cones open in May. The females are red and the males yellow.

Pinus nigra (Black/ Austrian pine)

Betula pubescens (Downy birch)

Tree Character - Groves & Grids

Deschampsia cespitosa (Tufted hairgrass)

Molinia c. ssp arundinacea (Purple moor grass)

Linaria purpurea (Purple toadflax)

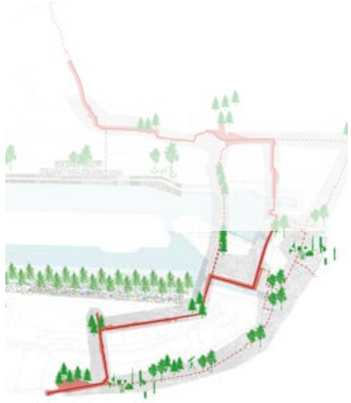
Open mosaic habitats, species such as: Jersey Cudweed, Gnaphalium luteoalbum, locally characteristic of Lea / Docklands, very rare, found at Silvocea Way Purple toadflax, Linaria purpurea Red Valerian, Centranthus ruber

Shoreline park, Gothenburg, Sweden

Trees and planting – Beckton to North Woolwich (South)

Trees

- The southern part of this stitch echoes and enhances the area's Victorian heritage, with trees planted in formal avenues along the waterfront.
- Victorian legacy species such as limes and London planes which are large-growing and good for absorbing pollution, ensure a formal structure and presence.
- Groups of lime trees (lindens) define the Woolwich foot tunnel building. They create focal points and mark key places in this area, and are recognisable from across the river.



Key Plan

Planting

- The planting palette should be very simple, traditional and have a formal and romantic quality. It should celebrate, preserve and enhance the existing Victorian waterfront character.
- Sprawling ivy and spreading rose bushes cover existing walls and railings, creating a lush and verdant setting and attractive green back-drops with climbers to fence and hoarding lines.
- Enhance and grass the verges to soften landscape and approach to Woolwich ferry crossing.

Signature Tree: Tilia cordata (Common lime) & Platanus x hispanica (London plane)

Foliage

Leathery and thick, with 5 triangular lobes. These turn bright orange-yellow in autumn.

Bark

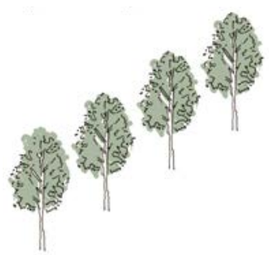
Absorbs pollution and sheds its bark creating the patterned patches of green, cream and browns.

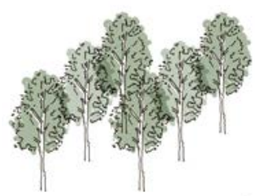
Flower

Its flowers are monoecious, where both male and female flowers are on the same tree.

Platanus × hispanica (London plane)

Tilia cordata (Common lime)





Tree Character - Bosques & Avenues

Carpinus betulus (Hornbeam Hedge)

Viburnam opulus (Guelder rose)

English rose garden

Hedera helix (English ivy)

Worked example - Thames edge

Trees and planting – Dock Loop (West)

Trees

- The exotic palette of trees including the Sugar maple and Indian rain tree, tell stories of the Docks trading past and links such as the Cape Route.
- There is an emphasis on colour and scent along this stitch.
- Interventions on the water are proposed, some of which would be planted with reeds, lilies & floating forests. Floating greenhouses heated by the thermal ray would support exotic growing.

Key Plan

Planting

- A selection of exotic plants, based on the historic exotic cargoes that used to arrive at the docks from the Cape and Pacific Routes, include palms, lilies, cotton/wool plants, tobacco plants, cayenne chillies and silk tassel bushes.
- A selection of ferns, for example the native hart's tongue, sit alongside the exotic plants to give evergreen structure.
- Planting on this stitch should be chosen to provide local shelter from the elements wherever possible.

Signiature Tree: Acer saccharum (Sugar maple)

Foliage

Leaves are dark green and made up of 3/5 lobes with wide spaced teeth.

Bark

The bark usually appears to have long plates that peel along the side edge.

Colour

Leaves turn yellow, burnt orange, and red in the fall.

Flower

Sugar maple is monoecious. Flowers ripen in September and are yellow/ green with long stalks, they grow in keys and hang in clusters.

Acer saccharum (Sugar maple)

Koelreuteria paniculata (Golden rain tree)

Tree Character - Groups with companions

Asplenium scolopendrium (Hart's tongue fern)

Trachycarpus fortunei (Chinese windmill palm)

Garrya elliptica (Silk tassel bush)

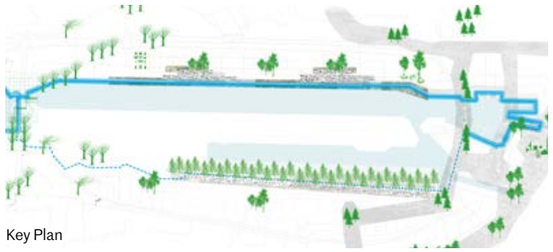
Canna phaison (Indian shot bulbs)

Worked example - Dock edge

Trees and planting – Dock Loop (East)

Trees

- As the Dock loop moves out towards the Thames to the East, the environment becomes much more sparse, wild and exposed and overlaps with the character of stitch 5. This contrasts to the intensive, active West Dock Loop.
- Clumps of Austrian pine and Downy and Silver birch define this stitch and open mosaic habitats can develop at ground level on the brownfield and rubble sites.



Key Plan

Planting

- Hardy gravel flora and planting will cultivate the wasteland and shingle beaches. Green rooftops add additional biodiversity at this level.
- Gravel fields are proposed across the rooftops and raised dock edges along the north side of the docks, creating a corridor of brownfield landscape with enormous habitat value.
- Taking its cue from the Thamesmead wilderness character, this landscape will replicate many of the brownfield vacant plots and in-between industrial spaces currently threatened by development.

Innovation

A Landscape Laboratory - temporary landscapes and innovation expos for testing resilience, species, management. Drawing on research and lessons from organisations such as the Royal Horticultural Society

Signature Tree: Betula pubescens (Downy birch)

Foliage

Triangular in shape, leaf stalks are downy.

Bark

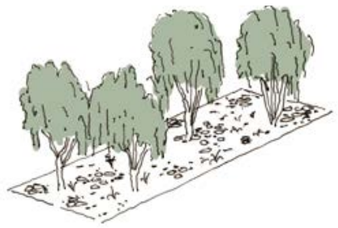
Bark is browny white in colour with horizontal grooves and lacking the papery quality of the silver birch.

Flower

Monoecious, appearing from April to May, male catkins are long and yellow-brown in colour. They hang in groups of 2/4 at the tips of shoots, like lambs' tails; while female catkins are smaller, short, bright green and erect.

Betula pubescens (Downy birch) & Betula Pendula (Silver birch)

Pinus sylvestris (Scots pine)



Tree Character - Linear Woodlands & 'Rubblefields'

Brownfield landscape and open mosaic habitats with high ecological value

Gravel meadows and self colonising environments

Hard surfacing – Dock Loop

The hard surface accent palette focuses on the dock edge. For reference for more characterful treatments in other areas, refer to the hard surfacing 'Baseline Palette'.

The dock edge is currently a well-used public space, providing long expanses of waterside routes for pedestrians, cyclists and runners. The proposed continuous 'Dock Loop' around Royal Victoria Dock will provide even greater access to the water's edge, and requires a high-quality route surface as well as the installation of new public realm elements.

The hard surfacing strategy for the dock edge therefore centres around the provision of regular paving mats (see diagrams opposite and below), where wayfinding, lighting and landscape elements are aggregated. These mats will contribute to an ordered and characterful refreshed dock edge, and around Royal Victoria Dock they will form an essential component of the wayfinding strategy. Refer to the Wayfinding Design Guide for a more detailed description of the Dock Loop.

In line with the 'Site Wide Approach', we are not proposing the wholesale replacement of the existing surface. Instead, where the existing paving slabs and setts are to be replaced, or in new areas of dock edge, steel-cornered pre-cast concrete slabs are proposed as the route surface.

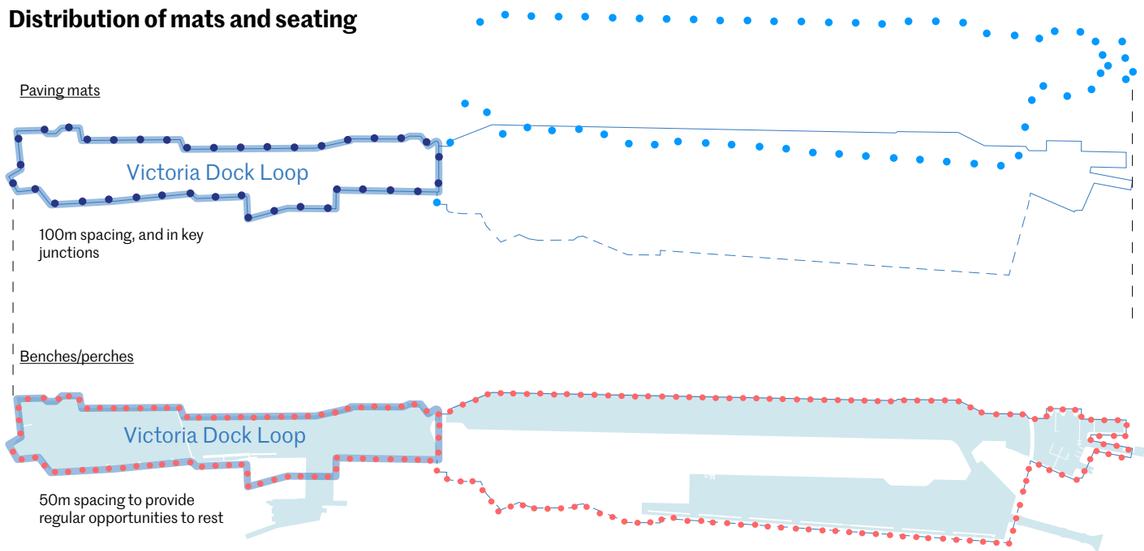
A coherent approach to setting out wayfinding, lighting and street furniture is provided by aggregating these elements around the proposed mats. View shows replacement surface treatment of steel-cornered pre-cast concrete slabs.

Paving mat with Dock Loop marker (Dock Loop only)

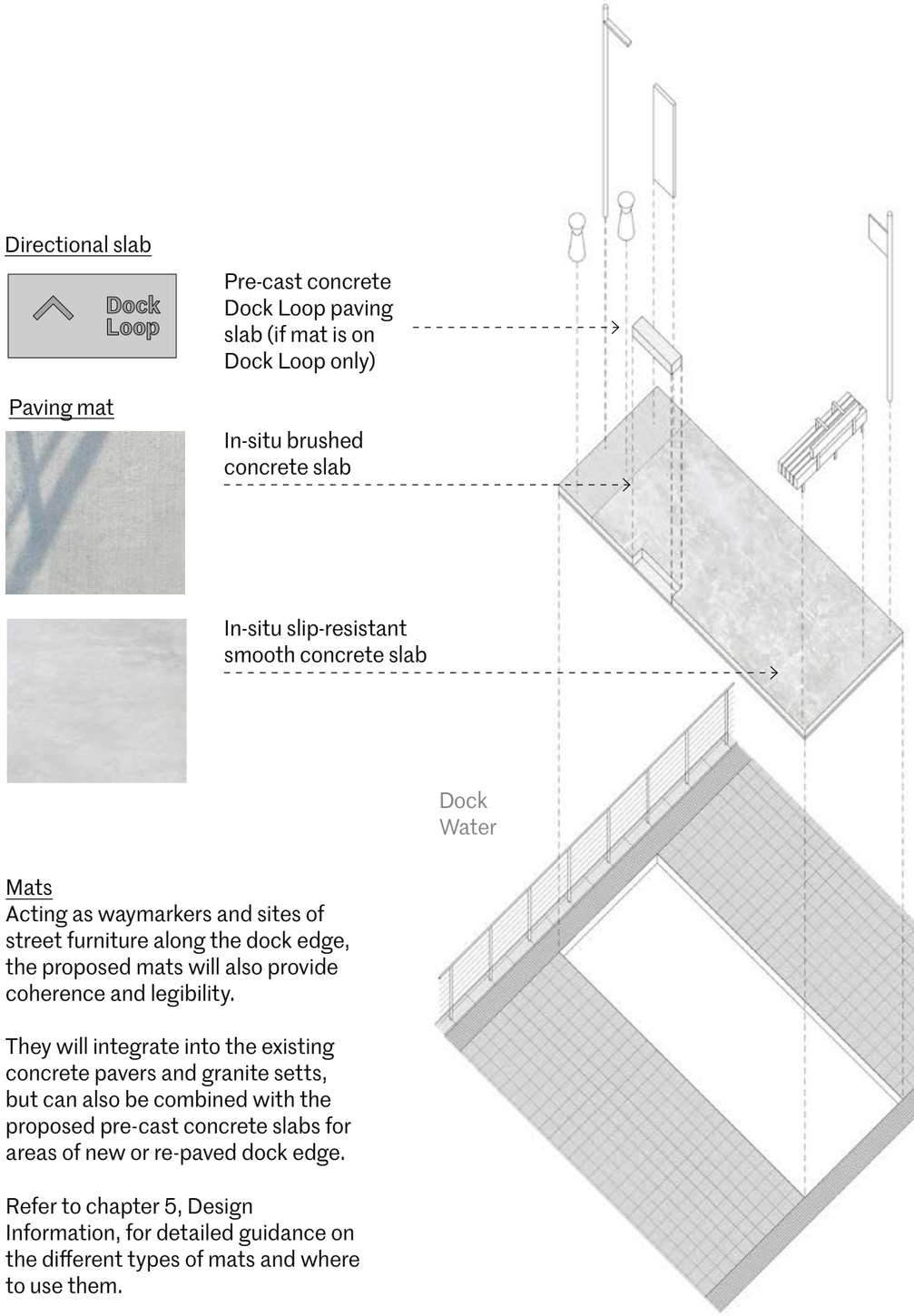
Paving mat without Dock Loop marker

Bench or perch

Distribution of mats and seating



Paving mat concept



Mats

Acting as waymarkers and sites of street furniture along the dock edge, the proposed mats will also provide coherence and legibility.

They will integrate into the existing concrete pavers and granite setts, but can also be combined with the proposed pre-cast concrete slabs for areas of new or re-paved dock edge.

Refer to chapter 5, Design Information, for detailed guidance on the different types of mats and where to use them.

Street furniture – Dock Loop

The dock edge paving mats, as well as helping to give a distinct identity to the route, also provide a logic for setting out street furniture. The dock edge is extensive, therefore having a clear structure for the arrangement of street furniture will be of critical importance and will have a high impact on many different places along its route.

Within the Dock edge paving mat, complimentary elements are clustered together, whilst also allowing for general movement along the route through the centre of the mat, indicated by the bespoke Dock Loop route marker.

By placing items that assist with movement and activity closest to the water, such as Legible London signage, perches, life rings and water fountains, the water's edge will be energised and a sense of movement will be embodied within its character.

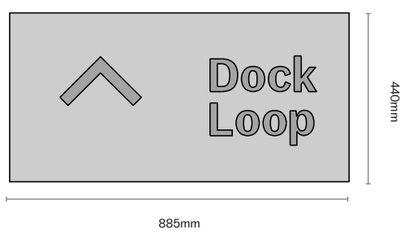
At the far edge of the paving mat, away from the water, elements that encourage users to pause should be placed, such as benches, planters, bike racks and bins. This will allow the dock edge to tie in effectively to adjacent neighbourhoods and will also help prevent views over the water being blocked by having too many elements at the water's edge.

Setting out

Perches, Legible London and active equipment at the dock edge

Bins, benches, bike racks and planters situated away from the dock edge

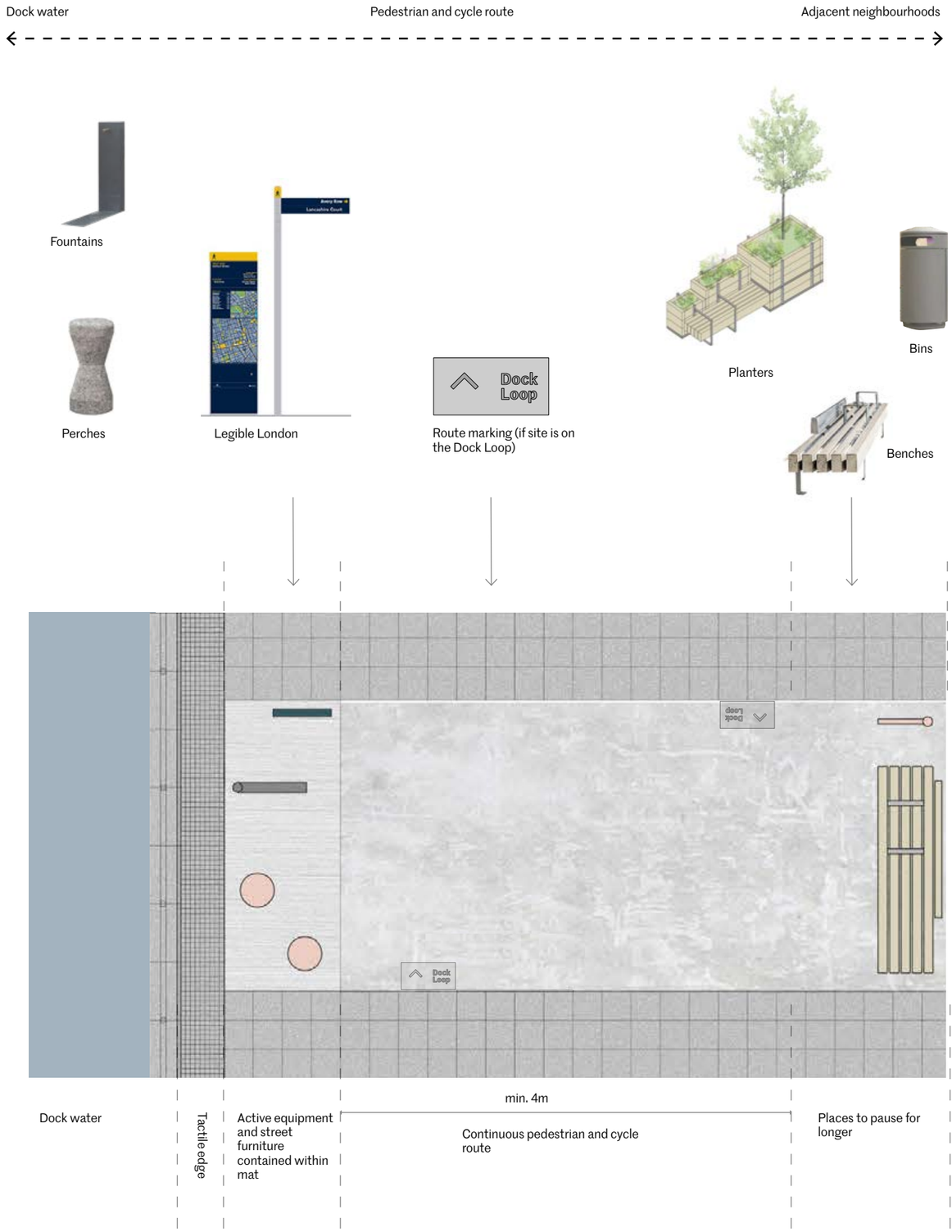
Route marker



The Dock Loop route marker is designed as a paving slab that can be easily integrated into new paving mats, as well as within the grid of existing concrete paving slabs that are so prevalent across the dock edge.

Refer to chaper 5. Design information, for guidance on the different types of route markers, where to use them and the specification details.

Paving mat arrangement



Special treatments

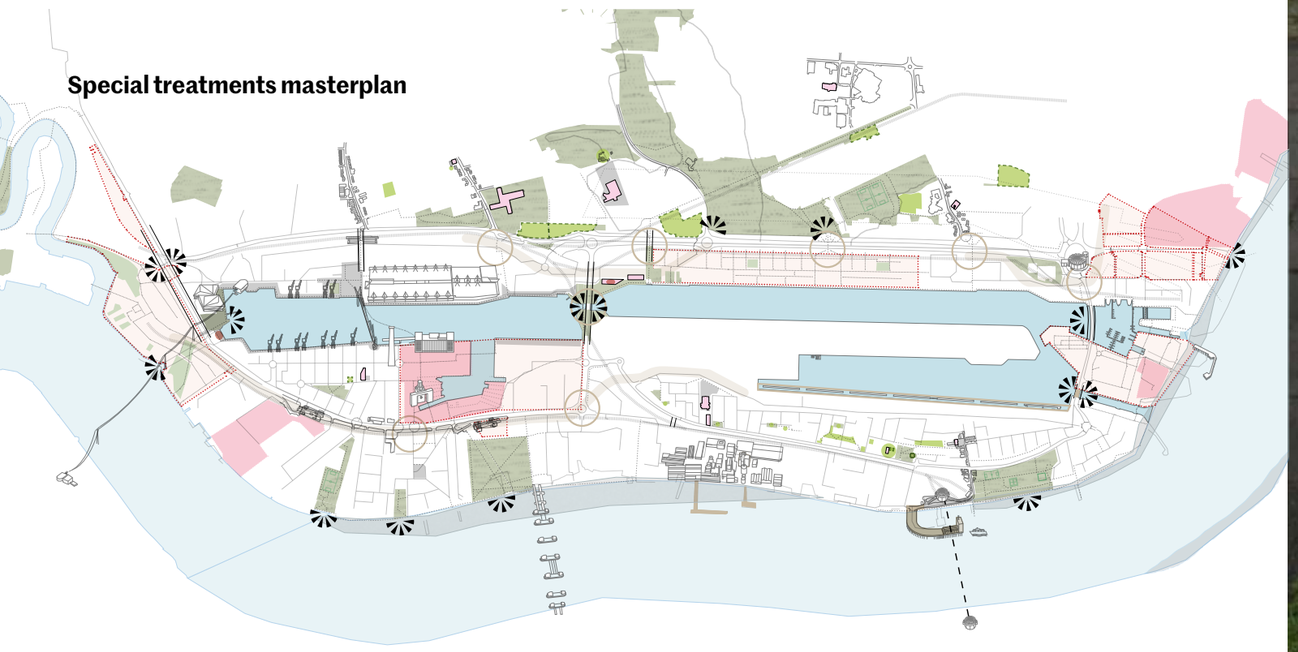
The use of ‘special treatments’ will play an important role in creating distinctive landscape moments that highlight existing qualities found on site. Setting out guidelines for the way these sites are treated aids the overall landscape strategy for the Royal Docks.

The diverse number of sites offer a range of opportunities to apply special treatments that are appropriate and in keeping with existing landscape characteristics, these range from:

- Providing access to the water
- Dock waters & planting in the basins
- Exposure & shelter
- Wildness
- Playfulness
- Cultivation
- Colonisation

These special treatments are proposed to compliment the landscape baseline and accent palettes.

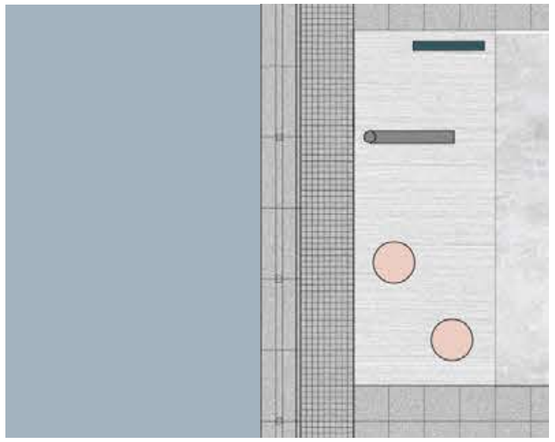
Special treatments masterplan



Water's edge boundary

Thames edge and dock edge treatment
There are currently various treatments in place to the river wall and dock edges. For this reason, similarly to the hard surfacing, it is not practical to suggest wholesale replacement of fences. Still, designers should look to use a treatment that is already in use on site, with the aim of enhancing consistency along these routes.

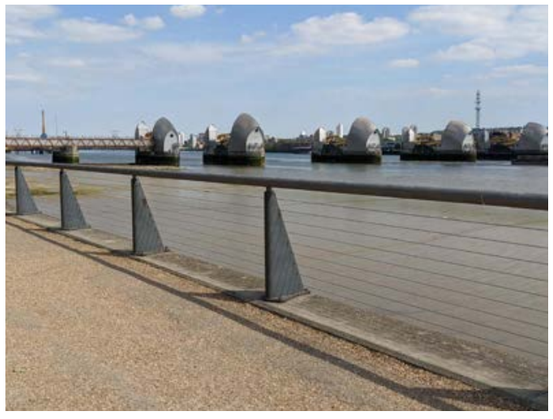
Generally the design of fences should consider the levels of activity in an area, with less permeable treatments used in high activity areas to prevent accidents. The design of dock edge treatments should be done in close collaboration with the Royal Docks Management Authority (RoDMA). Fences should be set out along the capping stones where possible to create consistency.



Fence setting out should follow the design of existing fences at the water's edge

Metal railings to Royal Victoria Dock

Royal Victoria Dock edge treatment - chains and posts



Thames edge treatment - highly impermeable

Providing access to the water
There are some areas of the dock edge where it may be appropriate to provide a lower-level boardwalk to allow people to enjoy being close to the water - something that is currently very difficult to do in the Royal Docks.

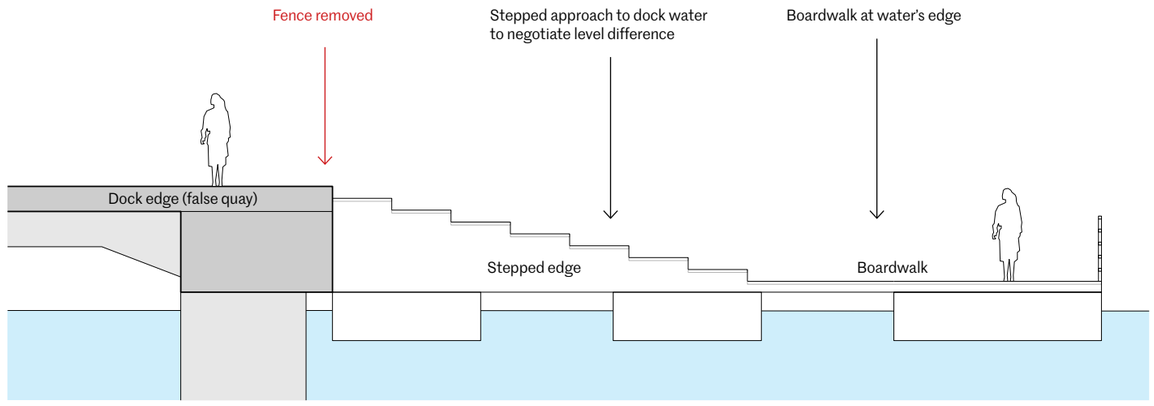
Designs for new structures should take the opportunity to provide exciting public spaces that bridge the gap between the dock edge and the water, taking into account the significant level difference (+2m) as well as ensuring that it is accessible and safe to use.

Designs should be produced in collaboration with RoDMA, and should also ensure that there is adequate lighting and life-saving equipment.

View of Royal Albert Dock with fence removed and lower-level boardwalk provided

Stepped dock edge in Copenhagen

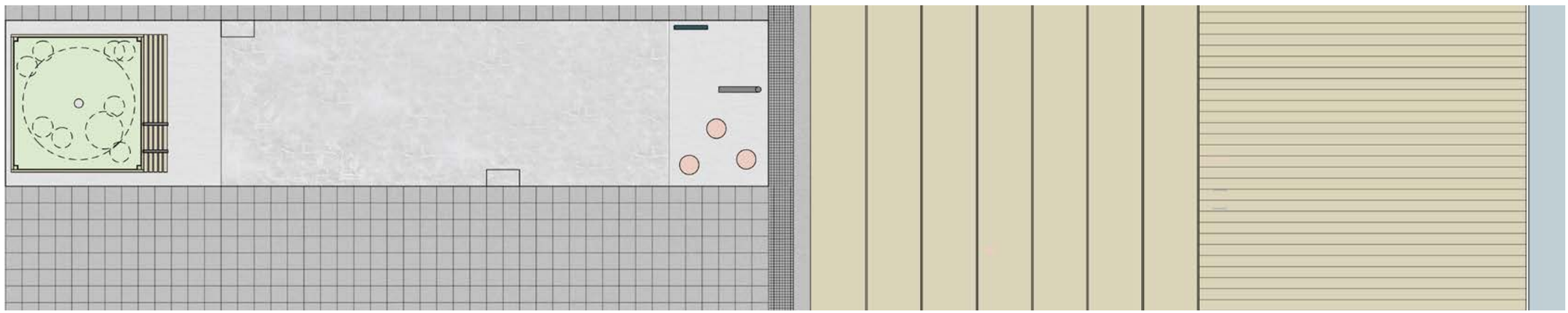
Pontoon at water level



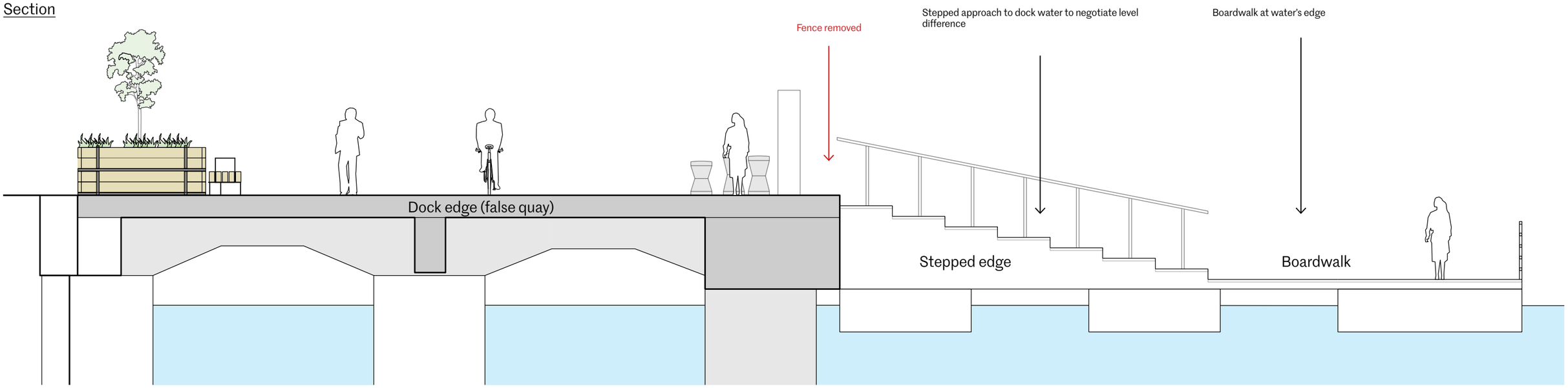
Such a design would vastly improve users' experience of the docks, allowing them to get close to the water. A pontoon/boardwalk like this could also be used as a launch for various craft into the water itself.

Water’s edge boundary

Plan



Section



Planting in the basins

Planting & Innovation (West Dock)

The West basin of the Royal Docks lends itself to an active character enriched through planting in the water and innovative interventions that lend an air of productivity.

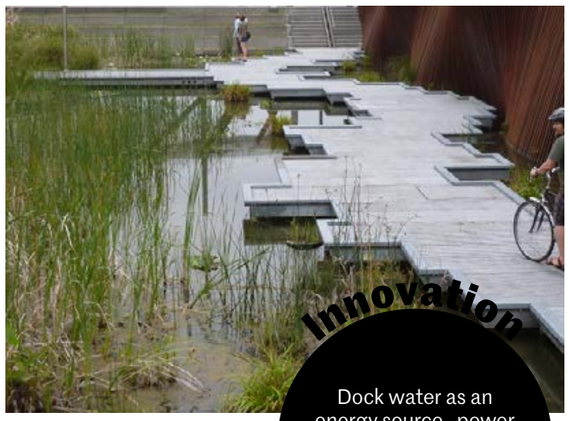
The Royal Docks Team is exploring opportunities to locate a floating garden in Royal Victoria Dock, subject to any necessary approvals. There is the opportunity to introduce a range of visually and ecologically beneficial species, such as rushes, Carex pendula and Juncus maritimus. A layer of flowering and feature plants, such as Lythrum salicaria, are complimented by ornamental plants such as the Darmera peltata (Indian rhubarb).

Floating structures could be extended throughout the basin, as they offer an opportunity for water access and controlled areas of planting. Experimental exotic growing could take place in floating greenhouse and there is also scope for floating markets, events, lidos and boats of all kinds.

Wild oxygenating planting could also sit within moments of the dock water itself, enhancing biodiversity and water quality.

Garden Barges

Floating green barges, Biomatrix, Royal docks



Closeness to water -
Decks with reed beds -
Tanner Springs Park - Oregon

Innovation

Soil-less agriculture, floating polytunnels, aquaponics, planted (reeds, lilies, floating forests), growing (greenhouses heated by the thermal ray), markets. Oxygenating the water (aquatics, emergants, marginals).

Innovation

Dock water as an energy source - power a circulation system to keep Victoria Dock oxygenated and fresh.

Floating farms

Oxygenating plants
Ceratophyllum demersum (Hornwort)

Planting & Innovation (East Dock)

The East Dock becomes more wild in character moving from Connaught Crossing out to the River Thames. Water planting here could be more naturalistic, species can be chosen to encourage and support native aquatic life. The extent of planting will be constrained by airport/ birdstrike limitations, any large planting schemes would need to get approval from the Bird Strike management www.birdstrike.co.uk. Planting interventions should be focused on sheltered locations most favourable for successful establishment, leaving the centre of the dock as open water.

Floating ecosystems and islands provide refuges for nature and wildlife, helping break up open water surfaces and provide shade under water. Plant roots break down pollution and nutrients, giving shelter and feeding ground for small fish. The water purifying function can be aided with adding mechanical aeration or fountains to bring movement and oxygen into the water.

Planting within the dock itself will include aquatics, emergents, and marginal species to oxygenate the water and promote biodiversity.

Newts require aquatic plants on which to lay their eggs, popular species include Tufted forget-me-not, floating sweet grass and water mint.

Royal Albert & King George V Dock

Ecological islands

Innovation

Living Water City - Floating Ecosystems and islands provide refuges for nature and wildlife.

Innovation

'Active islands' can treat urban waste water and run-off.

Reedbeds

Floating planted rafts

Innovation

SUDS/surface water run-off. Access water and energy consumption data. Areas of reed beds taking surface run-off water and cleaning it prior to it's entry into the dock could be introduced at the dock edge

Exposure

There is a sense of openess and big skies that characterises much of the Royal Docks, a rare quality in london, offering exposure and openness to the natural elements.

It is important that views and access to the dock waters and River Thames are retained and improved. The planting for these sites will not only need to be appropriate for the exposed environment e.g. open mosaic habitats and gravel flora, but wherever possible should draw attention to and celebrate the elements.

The expansive views at these sites offer an opportunity for reorientation within the complex super scale of the docks so should be protected and complimented with appropriate planting that might frame or accomodate the view.

Armada Green - embracing sense of exposure, openess to the elements

Connaught Crossing

Dramatic, expansive views across the docks

Shelter

Sheltered spots offer moments of relief from the windswept exposed sites as aforementioned this can be achieved by creating microclimates including:

- ‘Cargo piles’ and greenhouses on dock edges (Royal Victoria Dock).
- Country hedgerows and tree planting alongside city airport to screen the runways and help filter out noise and pollution.
- Pocket parks and community orchards to create moments of calm and gathering.

Existing shelter can be found across the Royal Docks, on the lee of big boundary walls or within sunken topography and protected landscapes; these should be retained and enhanced where necessary through additional planting. Greening boundary walls (Crossrail/ DLR) soften infrastructure while creating green corridors for wildlife, and provides a sense of enclosure.

Sunken, sheltered and protected landscapes on the Leaway

Existing Green boundaries DLR - Newland Street

‘Cargo piles’ offer sheltered spots for people to come together, Melbourne Food and Wine Festival

Wildness

Existing wild sites should be retained, and in order to support and improve local ecology and nature, sites should be left to nature wherever possible. Wildness is meant not just as a measure of biodiversity, but as a sense of exposure to nature and a less urban living environment for the local residents. Moments where the force of the tidal River Thames can be felt are special and unique and should be celebrated.

By allowing structures to become green and overgrown harsh infrastructural boundaries are softened. The same is true when green corridors are improved or created, and streetscapes for pedestrians and cyclists are improved.

Traces of the docks' industrial past, such as old rail tracks, hollows and granite sets should be celebrated and retained wherever possible.

The landscape to the North of the Royal Docks, e.g. Beckton Park, is defined by a wild character remnant of marshland, character which should be enhanced through the planting of wet woodlands, natural scrubland, wet meadows and woodland corridors.

As well as natural and ecological wildness, a new wildness of playful expression and green innovation should be encouraged, particularly surrounding the Engine Room dock area.

Ephemeral, misty view (Beckton park)

Green bridge and vertical planting

Enhancing the wild waterfront

Traces of path - Thames mudflats

Playfulness

The current play provision across the docks is of poor quality and access to the basin waters is limited. It is important that play and water access is improved wherever possible.

Landscape proposals should make reference to the existing narratives of the site for example the Tate & Lyle sugar factory, the historic trading routes, and the history of Royal Victoria pleasure gardens. The Woolwich Ferry and foot tunnel are unique and enjoyable and should be celebrated and enhanced through landscape interventions and planting benefiting pedestrians, cyclists and local residents.

Albert Road offers incidental and unexpected green moments that could accommodate natural play, sugar mountains & mazes relating to the Tate & Lyle Factory and historic layout of Royal Victoria Gardens. Active sports such as kayaking, swimming and sailing should be encouraged through improved and increased access to the basins & cleaner, greener waters.

Foraging trails and bird watching will engage adults and children alike and the improvement of local habitats will support a greater diversity of wildlife to spot.

Sailing in the Dock waters

Tate & Lyle Sugar Mountains

Foraging trails

Historical layout of Royal Victoria Gardens

Cultivation

There are a small number of city farms, community growing spaces and allotments across the Royal Docks. Productive cultivation of the landscape is a way for all local residents to engage and connect to nature.

There should be various opportunities for streetside foraging with wild patches and Berrying hedges, nut trees, edible herbs, rosehips....

Community growing spaces should be introduced with vegetable gardens and orchards.

Edible and sensory landscapes with intimate and accessible community garden character should be sought wherever possible.

Allotments on bombed grounds of St Marys Church
Silvertown 1944

Community growing and allotment spaces

Urban foraging

Colonisation

Existing areas of self-seeded colonisation are of great biodiversity value and should be protected. New interventions, such as brown roofs to new residential developments and interventions such as gabion tree planters made up of recycled rubble, will provide opportunities for colonisation by local vegetation.

The increase in native species will provide a stable natural environment for both wildlife and plants. Supplemented by colonisation by exotic species that have arrived through trade links and the changing climate, these opportunistic colonisers will in turn attract a diverse range of fauna.

The roofscapes offer space that will be uninterrupted by human elements allowing nature to flourish .

Self seeded colonisation requires less maintenance, as its governed not by human processes but by its own management.

Existing self seeded reeds along the Thames waterfront

Brown roofs

Gabion planter

4. Worked examples

The following chapter describes the landscape proposals in six worked examples taken from across the Royal Docks. Each worked example has been masked to reveal the public realm elements applicable to the landscape treatments outlined in the palette section.

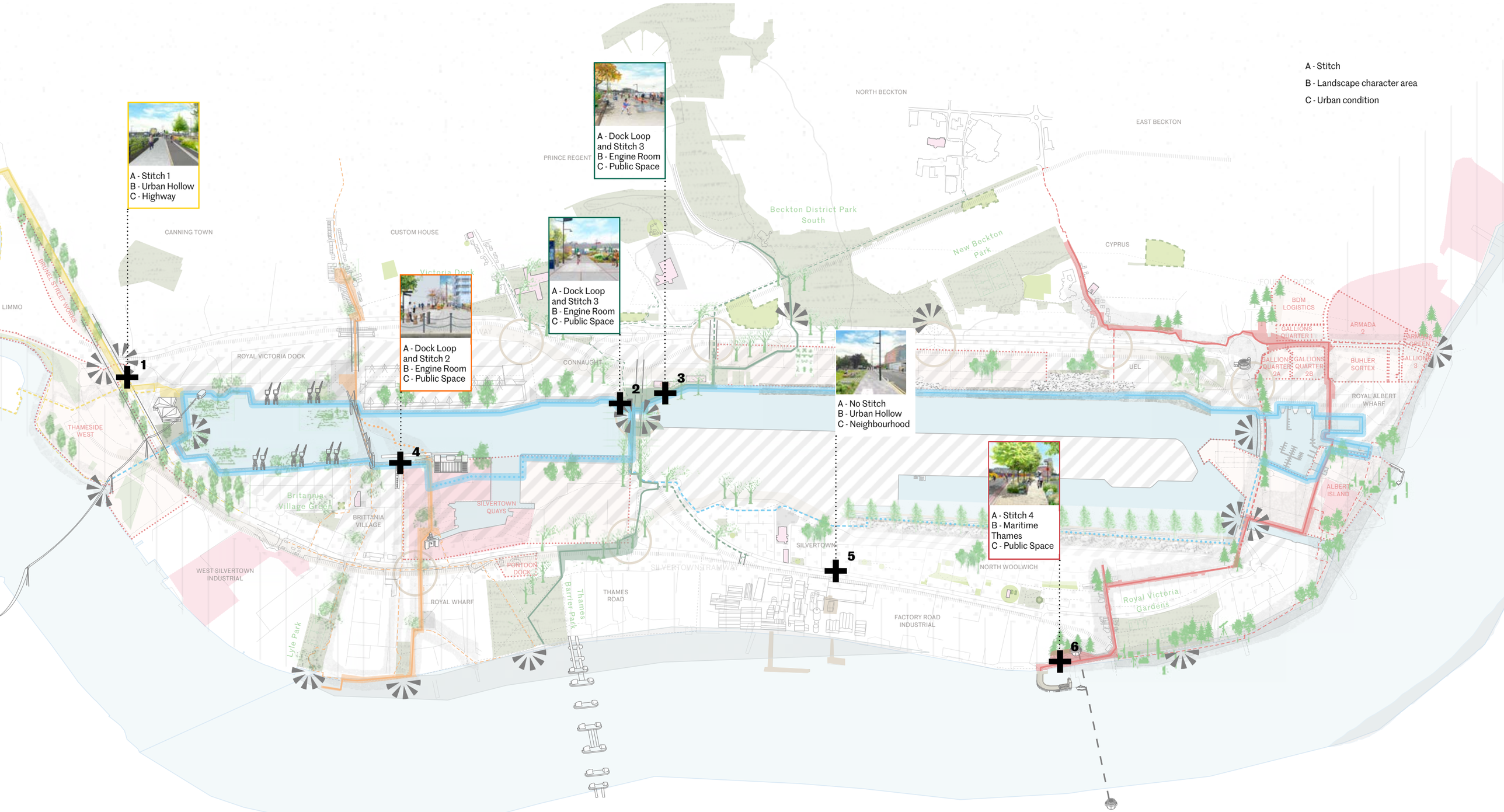
The worked examples are indicative of how the palettes combine to create a greener and bluer Royal Docks, with a participatory public realm that celebrates the place. Users of this guide should use the worked examples as references for how the palette components could be deployed on their site.

This chapter should be read in conjunction with the accompanying lighting, wayfinding and inclusivity and access design guides which make up the Royal Docks public realm designers' pack.

Worked examples

The worked examples have been taken from a cross section of locations across the Royal Docks that best illustrate the range of public realm approaches proposed in the design guides. Users of this design guide should refer to the worked examples as illustrative views of how the palettes might be applied.

The following pages provide detailed worked examples of six locations, showcasing the range of public realm proposals with specific focus on the landscape elements. Please refer to the wayfinding and lighting design guide for further information on the respective approaches.



1. Silvertown Way

This stretch of the Silvertown Viaduct sits on stitch 1 running from Canning Town to the Docks, and is characterised by being elevated above its surroundings, it offers a journey through the canopy of the birch forest below at crossing level.

This area is characterised by the grassing and re-wilding of the viaduct and is defined by robust grasses, White poplars and Aspens which act as place makers and provide height, animation and moderate the scale of urban infrastructure.

SuDS landscapes accompanied by tree planting, bring back the sense of the marshes, softening the scale of roads and DLR viaduct, and enhancing pedestrian environments.

Proposed treatment

Landscape elements isolated

2. Dock Edge

This stretch of the dock edge runs alongside Royal Albert Docks, and has a wild and river-adjacent Thamesmead character. Groups of birch and alders are set back from the dock edge and aspens are planted off grid to provide moments of height, plus they animate and make sounds in the wind. Substrate meadows with varying densities of long grasses occupy areas of open gravel and 'green' active squares sit within granite set grids.

Within sheltered sections of the water, reed beds soften & naturalise the dock edge, leaving the centre of the dock open and exposed for activities.

Proposed treatment

Landscape elements isolated

3. Connaught Crossing

The confluence of the Connaught Crossing stitch and Dock Loop provides an open and exposed environment.
Mosaic habitats of native grasses and wildflowers tolerant of poor soil conditions work with this windswept expansive site and encourage biodiversity and wildlife.
Structured woodlands and forest gardens enhance the existing tree planting and lawn areas, whilst accent trees such as the Aspens and clumps of Birch trees give the area a distinct identity.

Proposed treatment

Landscape elements isolated

4. Britannia Village

This view shows the point at which stitch 2, from Customs House to the Thames, comes together with Stitch 5, Dock Loop. It is characterised by a combination of residential garden spaces which offer community growing and cultivation alongside exotic planting following the dock edge.

Running from Customs House to the Thames, rows of Cherry trees offer a flowering and fruiting palette, and act as community marker trees. Edible planting consists of berrying hedges and wild strawberries. The planting around the West Dock Loop tells stories of the Docks trading past, through species such as the Indian rain tree and the Trachycarpus palm.

Proposed treatment

Landscape elements isolated

5. Albert Road

Although not on a stitch, Albert Road has well established communities and well used public spaces. Landscaping in this area is therefore about enhancing existing green moments and spaces. Generous SuDS landscapes are accompanied by tree planting, bringing a sense of the marshes, softening the scale of the road and DLR viaduct, and enhancing the pedestrian environment.

Incidental pockets of green space are common throughout this area and provide a more relaxed environment with mown paths through meadow, and neighbourhood growing spaces with fruit trees and edible berrying hedges.

Alongside the pavement shallow vegetated swales, hollows and low points are sown with grasses, perennials and wetland flora. They also collect, treat and attenuate road and footway runoff, while enhancing the streetscape for pedestrians and cyclists.

Proposed treatment

Landscape elements isolated

6. Thames Edge

The approach to the Woolwich foot tunnel and Ferry is an important location historically and infrastructurally offering one of two points to cross the Thames from the Royal Docks. A grouping of lime trees speak of the Victorian legacy of this area, and their clear stems also create views and visual permeability. A light and simple understory of wild grasses and shingle beds create a relaxed environment for people to gather or pass through.

Proposed treatment

Landscape elements isolated

The following chapter provides more detailed design information on selected components from the landscape palette. The design information contains useful guidance on the specification, positioning, delivery and maintenance of the selected components.

This chapter should be read in conjunction with the accompanying lighting, wayfinding and inclusivity and access design guides which make up the Royal Docks public realm designers' pack.

5. Design Information

Dock Loop paving mats

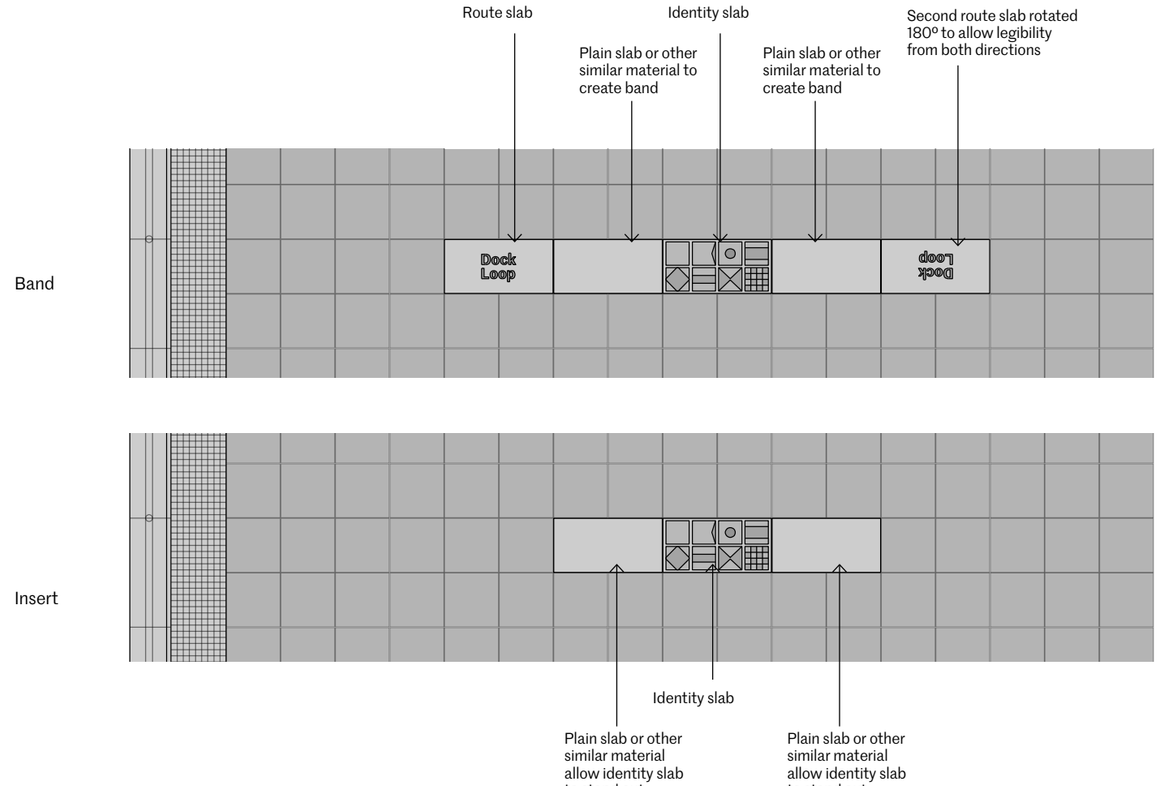
refer to palettes, chapter 3, Hard surfacing - Dock Loop

Acting as waymarkers and sites of street furniture along the dock edge, the proposed mats will also provide coherence and legibility. The mats have been designed to integrate into the existing concrete pavers and granite setts, but can also be combined with the proposed pre-cast concrete slabs for areas of new or re-paved dock edge.

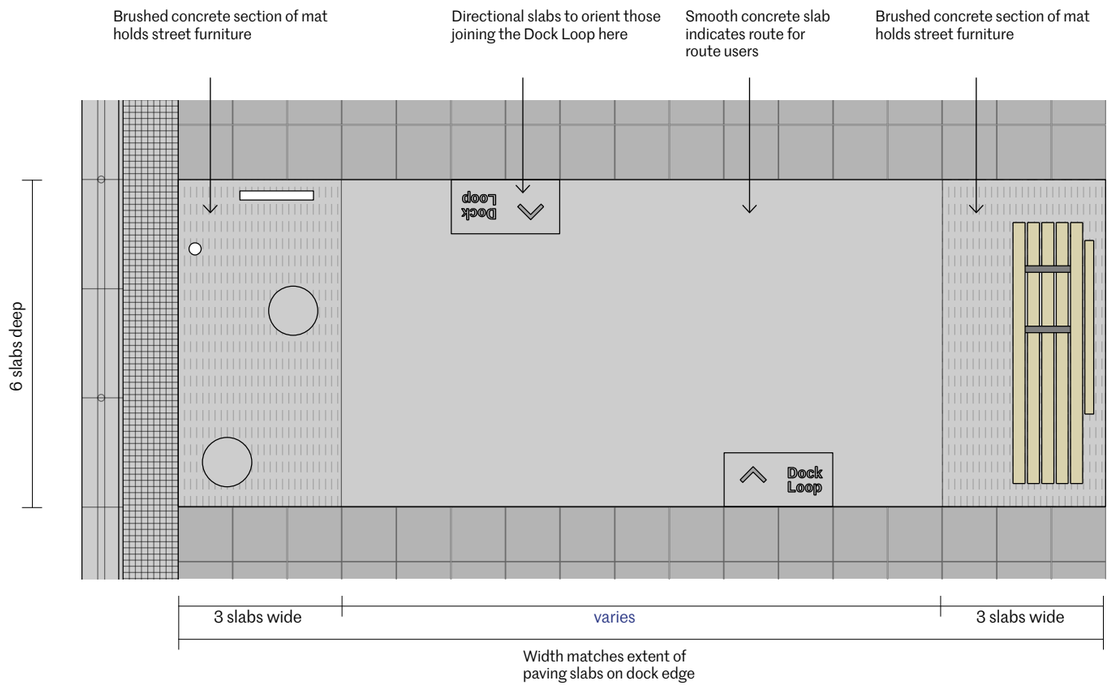
Concrete specification

- Thickness to be confirmed by structural engineer, depth will be determined by expected vehicle loadings.
- Concrete finish (brushed/smooth) applied after installation of street furniture.
- Joint lines to structural engineer's specification to prevent cracking.
- Natural colour concrete with standard surface finish.
- Must meet required PTV value.
- Installed on appropriate sub-base which will be determined by ground conditions and potential vehicular loadings.
- Ground condition surveys must be commissioned, especially on dock edge where false quays may limit slab depths.

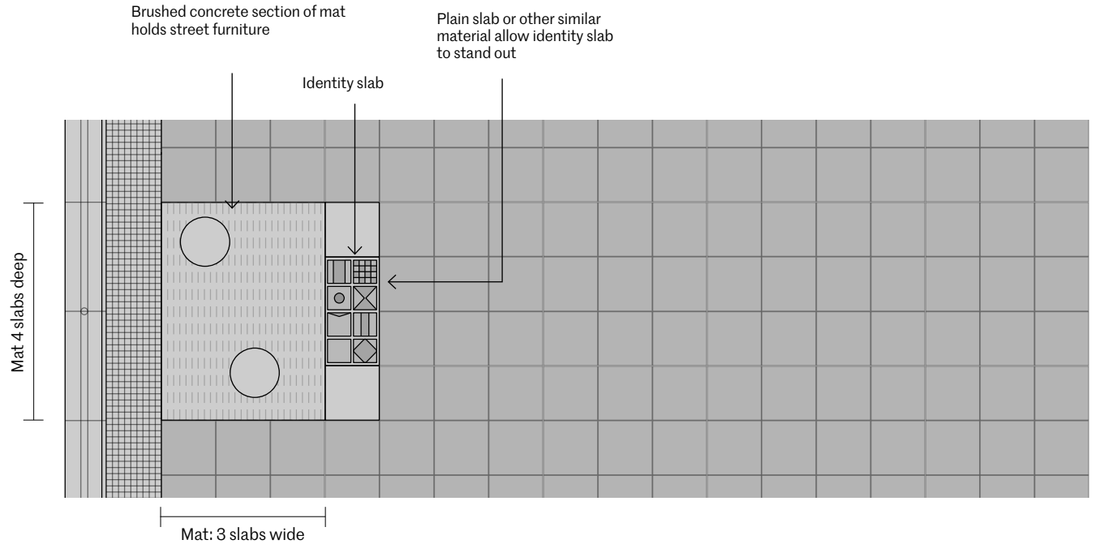
Inset / route markers



Threshold mat



Active mat



Dock Loop paving slabs

refer to palettes, chapter 3, Hard surfacing - Dock Loop

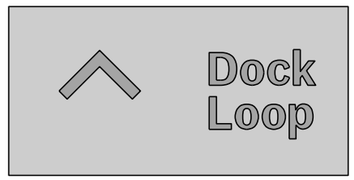
The Dock Loop paving slabs identify the Dock Loop stitch. The paver has been designed to integrate with the existing hard surfacing most commonly found along the dock edge.

The paver has three styles, to be used in different locations along the dock edge. The pavers with Dock Loop lettering are only to be used along the Victoria Dock Loop. The identity sign, incorporating the maritime flags from the Royal Docks' brand identity, can be used in all dock edge areas.

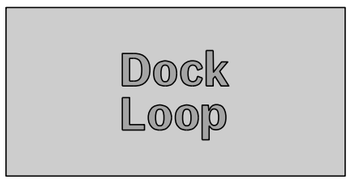
Slab specification

- 440 x 885mm, nominal thickness 75/150mm (to be confirmed by structural engineer, depth will be determined by expected vehicle loadings.
- Natural colour concrete with standard surface finish.
- Must meet required PTV value.
- All cast in lettering to be 5mm deep.
- All symbols to be either 3mm or 6mm deep.
- Installed on appropriate sub-base which will be determined by ground conditions and potential vehicular loadings.
- Ground condition surveys must be commissioned, especially on dock edge where false quays may limit slab depths.

Directional

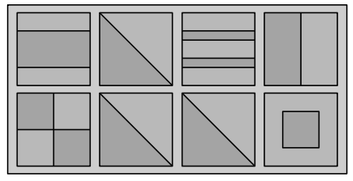


To be used where the route is not apparent and further direction is required

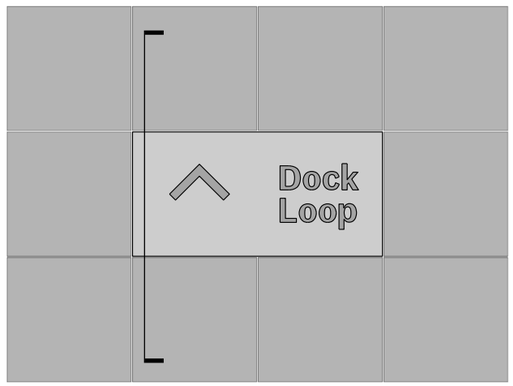


To be used periodically along the route to give identity

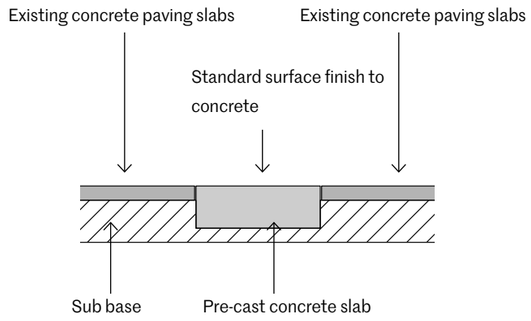
Identity and accent



To be used periodically along the route to give identity, as well as to give accents to active mats



Dimensions of slabs - two paving slabs wide (plus slab gap width) x one paving slab tall

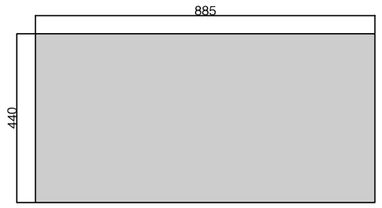


Depth to structural engineer's requirements - will depend on whether vehicles will use route at any time

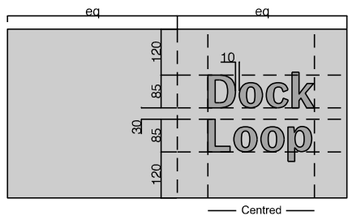
Dock Loop paving slabs

Directional slab

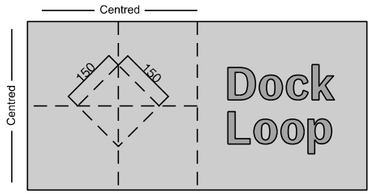
1. Standard slab dimensions:
885mm x 440 mm (depth to Structural Engineer's specification)



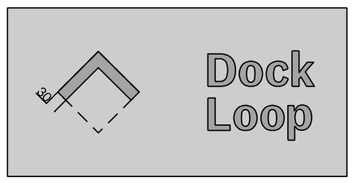
2. Construct text grid and arrange text, 10mm spacing between letters with first letter of each line capitalised. Text to be 5mm deep



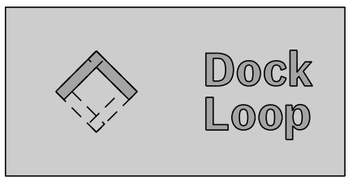
3. Construct arrow grid, 150mm square centred on the left-hand half of the slab



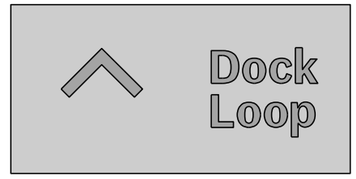
4. Arrange arrow-head as required, 30mm offset from edge of grid. Arrows to be 3mm deep

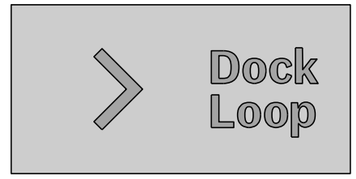


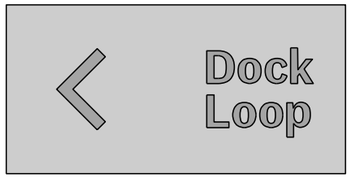
5. Arrows can be rotated around the centre of the grid - arrows should never point backwards/down



Directional slab range



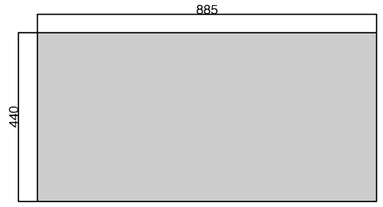




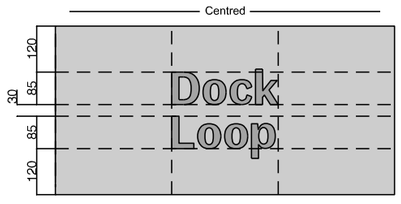
Dock Loop paving slabs

Route marker slab

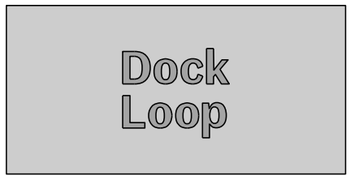
1. Standard slab dimensions:
885mm x 440 mm (depth to Structural Engineer's specification)



2. Construct text grid and arrange text centred horizontally, 10mm spacing between letters with first letter of each line capitalised. Text to be 5mm deep.

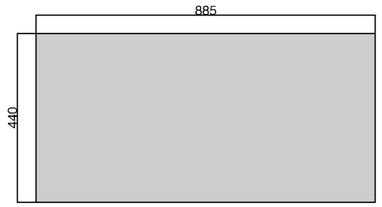


3. Completed slab

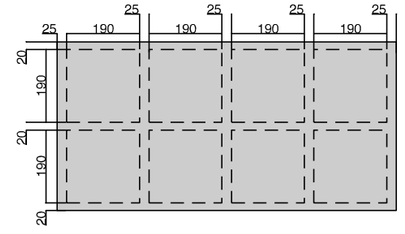


Identity slab

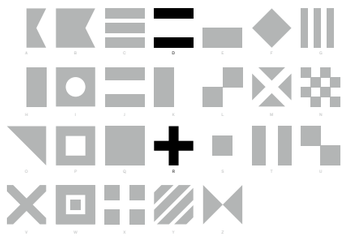
1. Standard slab dimensions:
885mm x 440 mm (depth to Structural Engineer's specification)

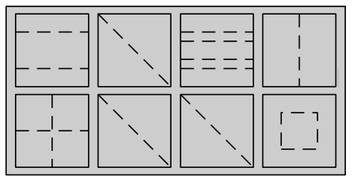


2. Construct flag grid, 190mm squares set appart 20mm vertically and 25mm horizontally

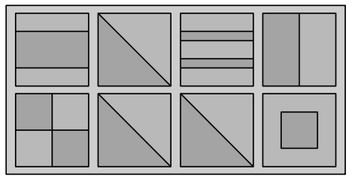


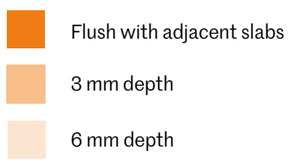
3. Arrange flag designs in order to follow Royal Docks branding. 'Dock Loop' is spelt out in code

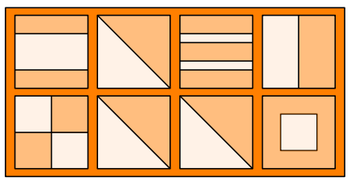




4. Completed slabs (see key below for depth of relief for flags)







Perches

refer to palettes, chapter 3, Street furniture - Dock Loop

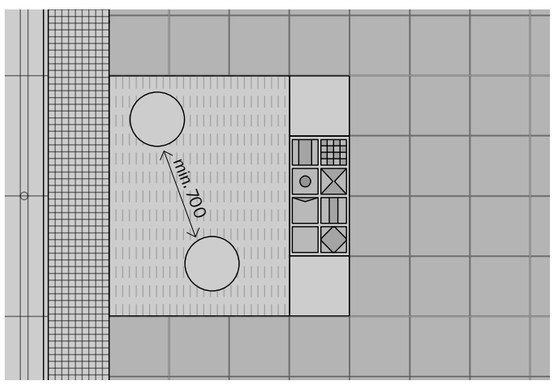
The perches provide less formal resting points along the stitches and the dock edge, as well as giving character through their simple abstraction of a mooring post.

It is proposed that they are made from pre-cast concrete, with their aggregates and additives varied depending on which stitch they fall on. The mix and exposure of aggregates, as well as as any colouration, should be subtle in order that they tie into the surrounding hard surfacing.

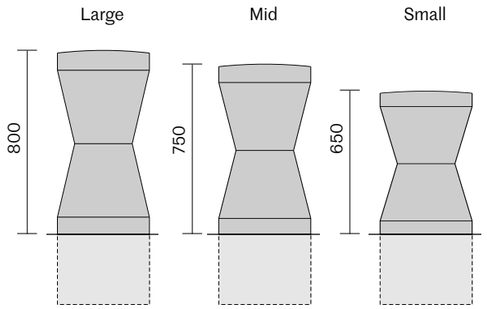
As the perches are bespoke, collaboration with a manufacturer will be required as well as input from a Structural Engineer regarding their stability depth of foundations and their resistance to impact.

Through initial consultation, manufacturers will be able to fabricate the design as a single piece using a reusable mould, which will save time and expense. Manufacturers have also indicated that ordering in bulk will result in significant cost savings and some have said that they will only consider orders for multiple perches.

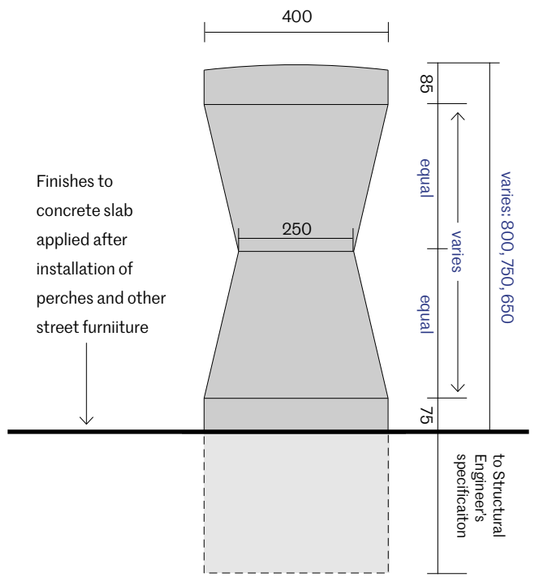
Cement with a high GGBS concrete is preferred due to its reduced embodied carbon compared to standard cement. Opposite are a range of finishes for perches along particular stitches and the Dock Loop, including preferred aggregate, pigmentation and finish. The final specification for each should be produced in collaboration with the manufacturer, and ideally as many as possible should be produced simultaneously to ensure consistency of appearance.



Perches should be placed in active mats to the edges of footways to avoid becoming an obstruction. Around the dock edge perches should be placed close to the water.



Different sizes ensure that perches are accessible to a wide range of users



Key fixed dimensions (black) and those that vary depending on perch size (blue)

Canning Town to the Docks

Material: Pigmented concrete (ideally using yellow/brown sand, but dyes acceptable) with amber/brown aggregate to achieve granular buff effect

Aggregate sizes: 8-12mm

Finish: Acid etched finish or similar

Customs House to the Thames

Material: Pigmented concrete (ideally using yellow sand and brick dust, but dyes acceptable) with warm brown aggregate to achieve granular warm orange effect.

Aggregate sizes: 8-12mm

Finish: Acid etched finish or similar

Connaught Crossing

Material: Dark grey concrete with dark aggregate to achieve geological effect.

Aggregate sizes: 14-22mm

Finish: Exposed finish or similar

Beckton to North Woolwich

Material: Pale red pigmented concrete (potentially using brick dust) with fine pale aggregate to achieve smooth/matt effect.

Aggregate sizes: 6-10mm

Finish: Acid etched finish or similar

Dock Loop

Material: Light grey concrete with mid-size mixture of light and dark aggregate.

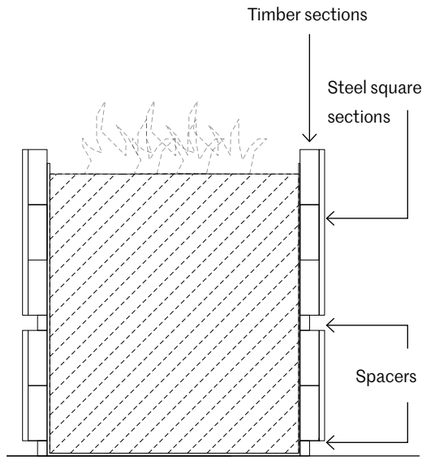
Aggregate sizes: 8-12mm

Finish: Acid etched finish or similar

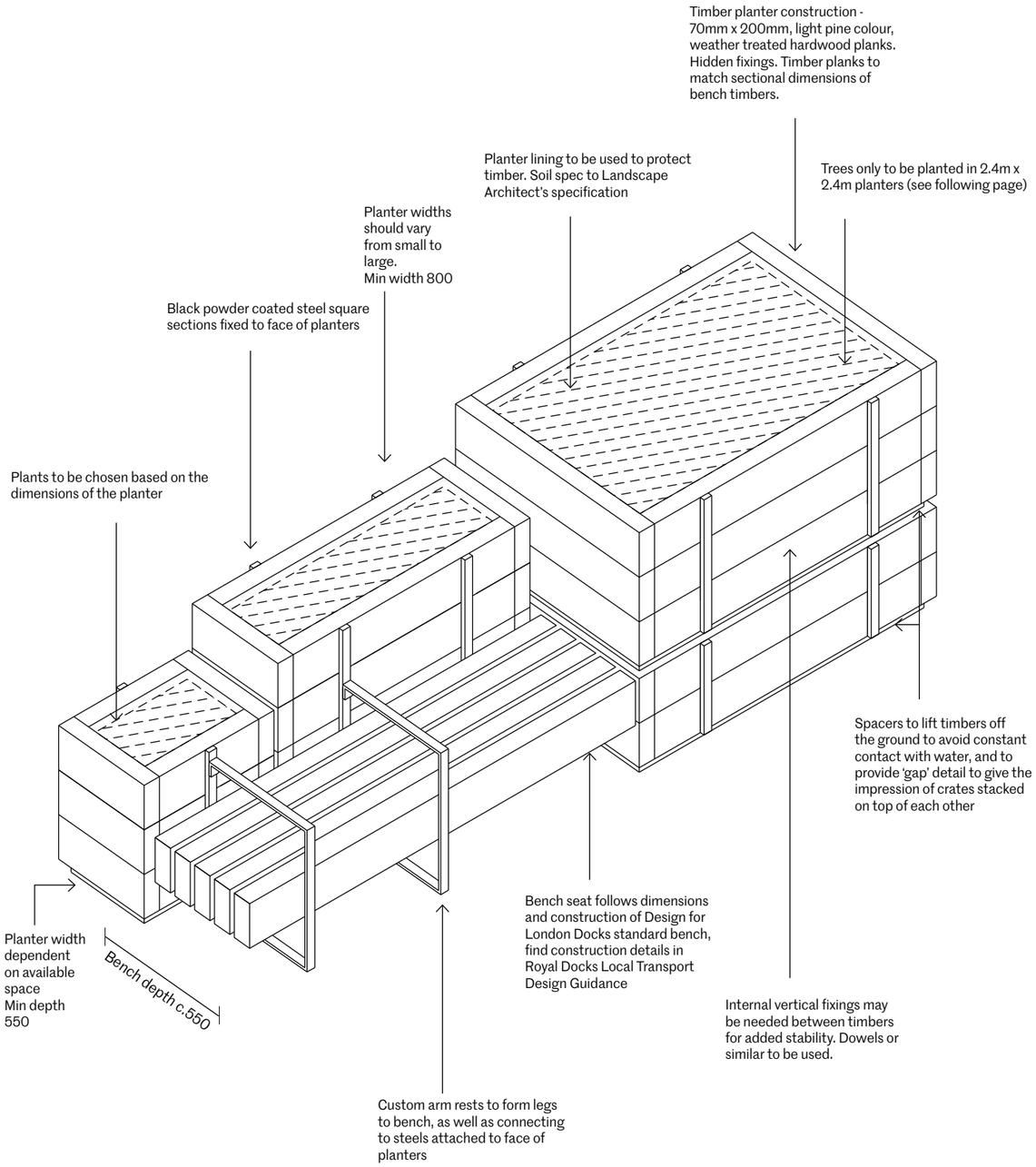
Planter Benches - Stacked

Planter Benches - Stacked
The presence of numerous false quays and services around the docks means that planting in the ground is not always possible. Detail is provided here on how benches can be incorporated with planters to help contribute more to active use of the area.

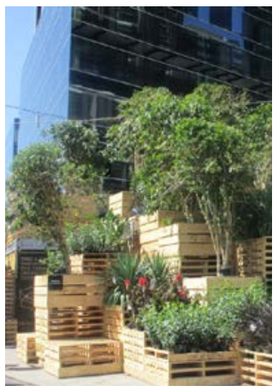
The designs for the timber planters are simple, taking the same timber sections as the Design for London Docks standard bench and translating them into a 'crate-like' construction method, very similar to raised beds. Overall the construction is robust and straightforward, with the idea that they could be rapidly deployed by a contractor. The stacking construction affords shelter, for people and planting.



Section through a typical planter




Historic images of stevedores stacking cargo form a fantastic reference for planter design

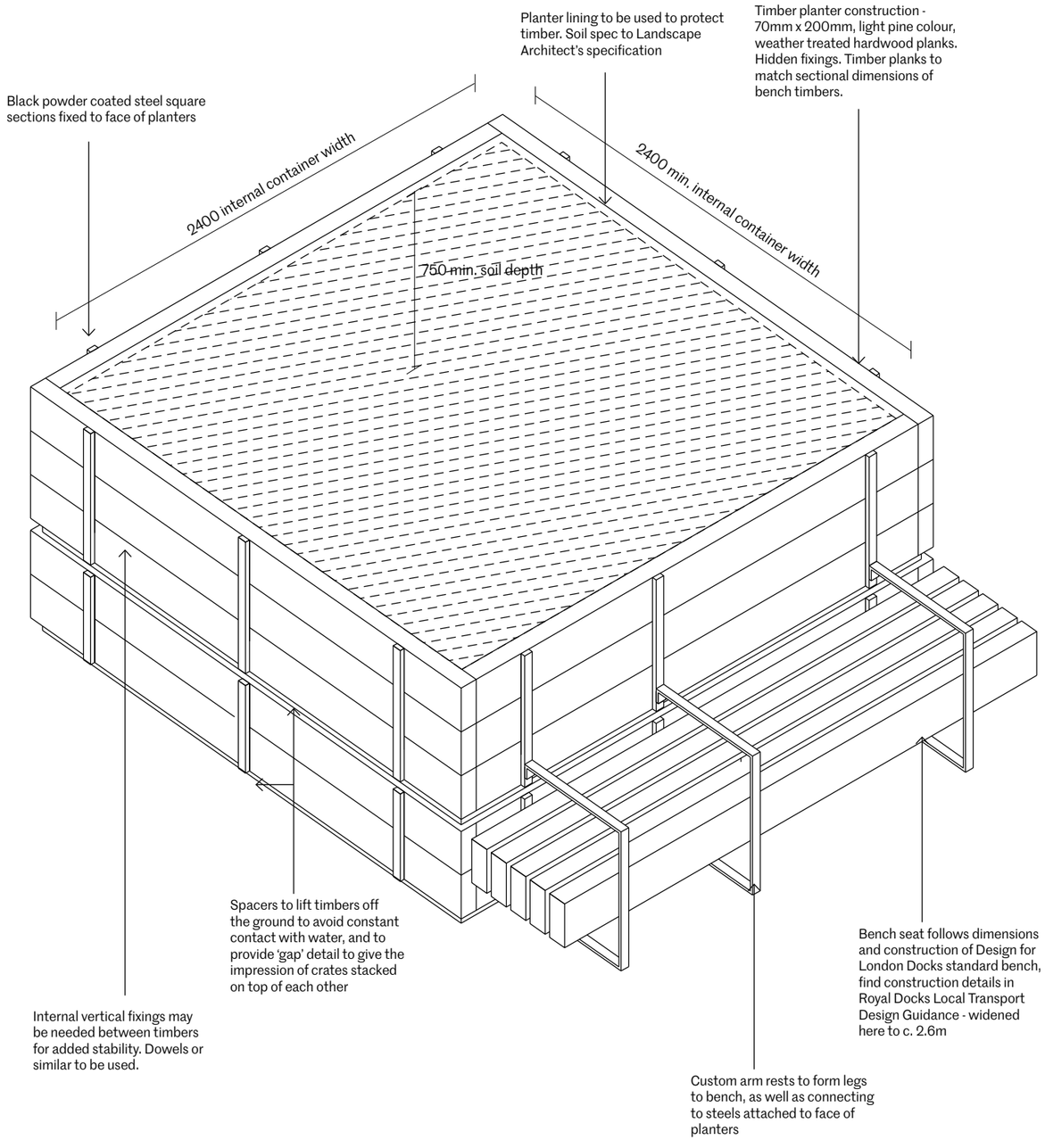

Stacked crates forming planters and enclosure. Coffee Project, Melbourne Food and Wine Festival.


The form of old crates has a chunkiness and roughness that is appropriate for the scale of the docks

Planter Benches - Tree

Larger planters are needed for tree planting, where the soil dimensions should be 2400mm x 2400mm x 750mm. A planter of this size will be a significant feature in the landscape and adding a bench promotes engagement and a sense of ownership.

The same construction method is used, however the Design for London Docks standard bench is widened to match the width of the planter.



Trees & Planting: Design

Rooting Volumes & Tree Pits

Trees must be given sufficient rooting medium / soils to thrive in the long term. Continuous tree trenches are often the most effective means of establishing root zones with space to interlink and seek out water and nutrients.

Adequate aeration, rooting volume, moisture and drainage are essential. It is recommended to follow the best practice guidance from The Trees Design and Action Group (TDAG) to achieve best rooting conditions.

In paved areas, pavement support systems should be specified to ensure soil volumes can be achieved, and avoid soil compaction. Designers should aim to maximise minimum growing medium volumes of 6-9m3 for a small street tree (canopy diameter up to 6m) up to20m3 for large trees (up to 12m canopy diameter). Where possible, systems should contribute up to 20% of their volume towards surface water attenuation / SuDS.

Street trees should generally be anchored using underground guys and not staked.

Proposed trees adjacent to overpasses, DLR lines and rail line boundaries should take into consideration relevant stakeholder maintenance and management requirements and meet and stated offset requirements.

Existing Trees

Designers should ensure that retained trees are protected to the British standards by BS5837 (2012). Works carried out within Root Protection areas should be undertaken only under the supervision and authority of a registered arboricultural consultant.

Rooting Volumes: Planting

Shrubs and hedges should be planted in min 30cm topsoil, with large specimen shrubs in deeper pits according to size. Substrate below 30cm can be subsoil.

Perennials/ ferns/ grasses should be planted in min 30cm topsoil. Grass areas and meadows should be sown in a low fertility topsoil or subsoil / suitable substrate min 15cm depth.

Imported topsoil should be minimised where possible, prioritising in-situ substrate/ (ameliorated with organic matter subject to soil analysis) or alternative/ manufactured soil types.

Contaminated Land

Contaminated land is an issue across the docks and soil conditions should be carefully considered when planting. Where possible bioremediation can be encourgaged as a natural way of recovering and decontaminating soils.

This requires careful study and surveys of existing conditions and methods that consider the interactions between soil conditions, wasteland vegetation, pollutants, and their exposure and toxicity to receptors.

Prior to planting it is recommended that ground investigation and surveys are carried out to analyse existing soil composition and suitability for planting. High quality imported topsoil should be used unless existing conditions are reviewed and confirmed suitable by a Landscape Architect. Where necessary sub-soils should also be imported to ensure the healthy establishment of trees.

Sightlines

Where appropriate existing trees may be pruned and crown-lifted to improve permeability and views, however, this should only apply to a selection of key places where existing vegetation and trees are blocking key views towards rail stations or creating un-safe places. A useful example of this is to public realm areas around Cypress and Beckton DLR stations where existing trees and vegetation has overgrown and would benefit from curation.

Mircro-climates

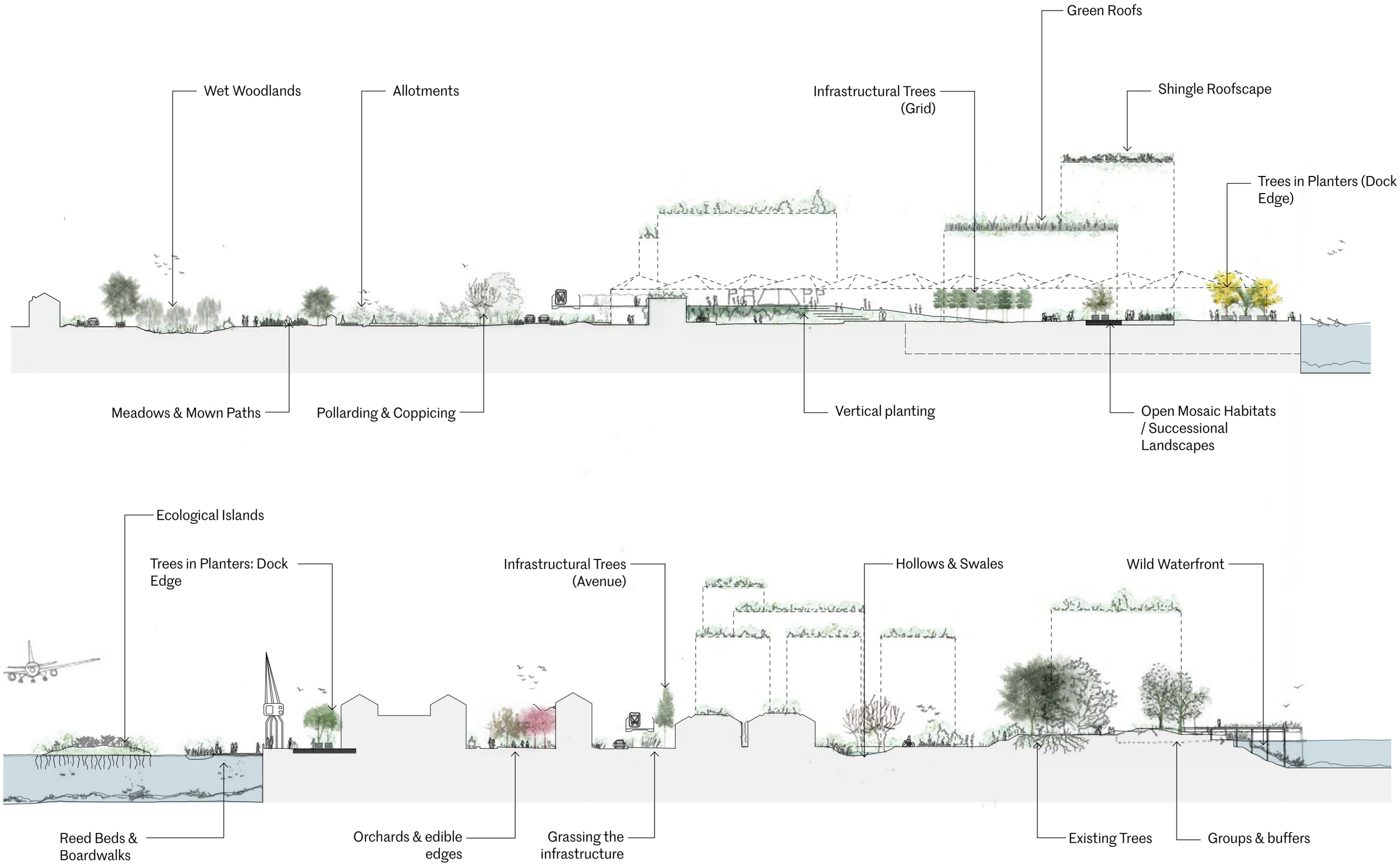
Design teams should consider the location of street trees and other planting typologies in relation to the microclimate.

This approach can bring various benefits with regards to creating protected enjoyable shaded spaces, protected from the wind and reducing air temperatures, for example deciduous street tree planting should normally be located where possible to the north and eastern side of streets to cast shade on south and west facing facades and pavements.

Airport Safeguarding

Refer to Site Wide Approach - Airport Safeguarding information.

Landscape Typologies

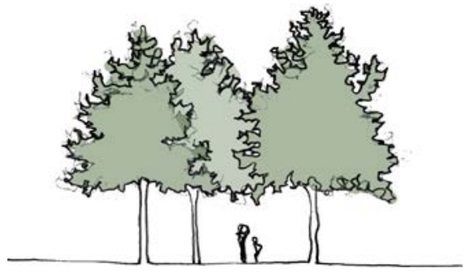


Tree Planting: Typologies

Groups & Buffers

Tree groups as buffers to activity areas, providing shade, shelter and an assertive presence.

- typically 10m high
- located where through-vita and sight-lines less important
- planted semi-mature with clear stem of min. 2m
- e.g. Pinus nigra (Black pine)
- e.g. Betula pendula (Silver birch)
- e.g. Populus tremula (Aspen)

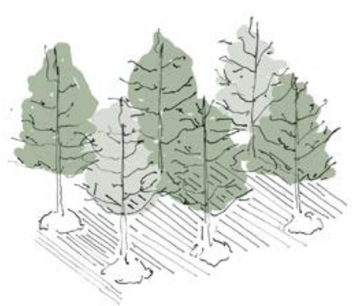


Groups & Buffers

Wet Woodlands

To parkland areas such as the Beckton Parks, wet woodlands may be introduced on soils that are often or seasonally wet. Where wet woodlands are proposed land-form should encourage inundation to create floodplain conditions. These areas are characterised by trees like alder, willow and birch which grow well in wet soils and are accompanied by sedges, ferns and mosses.

- e.g. Alnus glutinosa (Black alder)
- e.g. Salix alba (White willow)

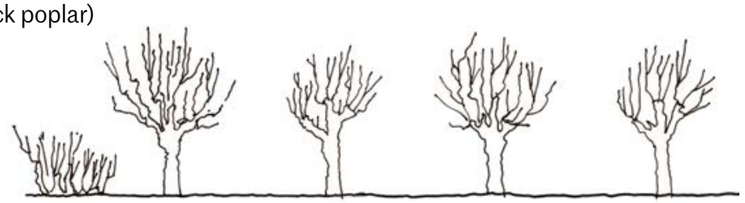


Alder carr

Pollarding & Coppicing

Larger species such as Willows and Poplars may be managed with coppicing pollarding regimes, whereby ultimate size restrictions would otherwise restrict the planting of these valuable species.

- e.g. Salix alba (Pollarded willow)
- e.g. Salix caprea (Goat willow)
- e.g. Populus nigra betulifolia (Black poplar)



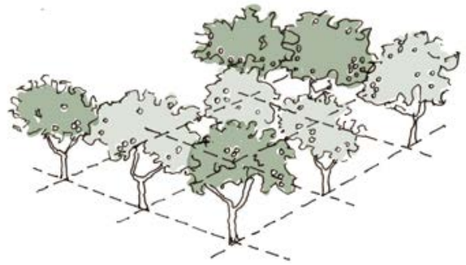
Pollarded Willows

Exotics & Orchards

'Edible' tree groups to a more human scale, located where through-vista and sight-lines are less important.

- provide shelter, shade, intimate contact with flower, foliage, fruit, scent
- typically 5-10m high
- clear stem on planting will typically be lower (opportunities for multi-stem specimens with some species)
- e.g. Malus (Apples & Crab Apples)
- e.g. Cydonia 'Isfahan'(Quince)
- e.g. Pyrus calleryana 'Chanticleer' (Callery pear)
- e.g. Prunus avium 'Plena' (Plena cherry)
- e.g. Acer saccharum (Sugar maple)
- e.g. Koelreuteria paniculata (Golden rain tree)

Exotics, Cargo-piles & Microclimates

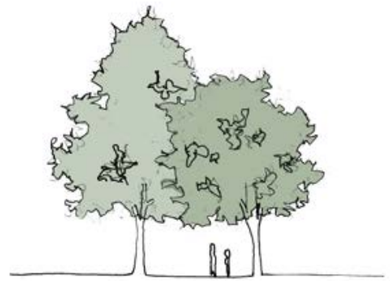


Orchard - on grid

Companion

To accompany marker and boulevard trees at strategic locations

- increase variety and species interest
- providing shade and shelter
- typically 10-15m high
- planted semi-mature with a clear stem of min. 2m
- e.g. Sorbus aucuparia (Rowan)
- e.g. Malus sylvestris (Crab apple)

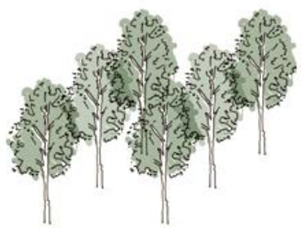


Companion trees

Infrastructural (Grids & Bosques)

Large, distinctive, to the scale of the developments and infrastructure

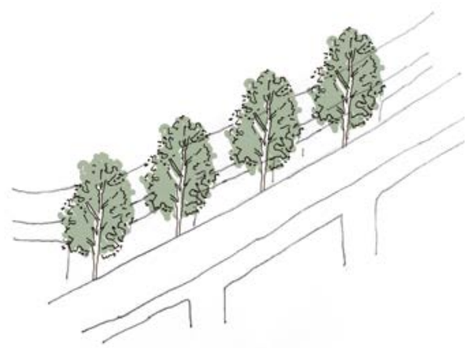
- typically up to 30m high
- seasonal interest
- open canopy avoiding pollution trap
- e.g. Ginkgo biloba (Ginkgo)
- e.g. Platanus x acerifolia (London Plane)
- e.g. Tilia cordata (Lime)



Infrastructural (Marker & Route Indicators)

As place makers and markers, providing height with porosity, so vistas are not obscured

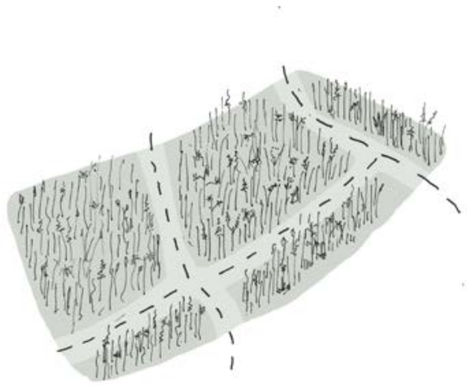
- typically 15-20m high
- wayfinding through canopy references
- planted semi-mature with a clear stem of min. 2m



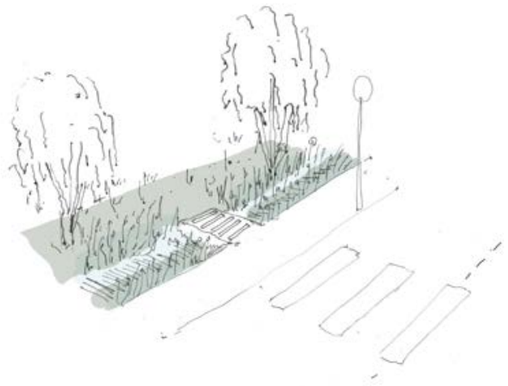
Markers and indicators

Planting: Typologies

Informal Meadows
Parks and residential green spaces should encourage and maximise meadow planting. Informal mown paths accompanied by low-growing dwarf flowering plants added to grasses, will add interest and wildlife value. This can be a good way to restore and bring back to life underused lawns and open spaces, making them more attractive and valuable for local communities. A good example of this is in the residential parks and smaller green spaces in and around Albert Road and Britannia Green, where the feeling of an informal residential garden feel should be achieved. In informal woodland areas, bark mulch paths can be used to create simple routes. Mowing cut-heights and frequencies should be tailored in these areas to suit this aesthetic.

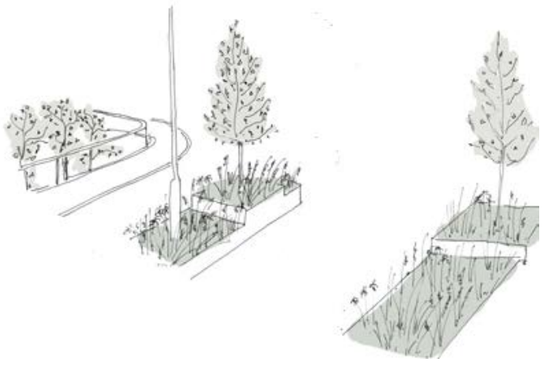


Hollows & Swales
There is an opportunity to form a cohesive but also characterful landscape, focused on enhancing the urban infrastructure. A key element is the greening of the wide, low level North Woolwich Road to include generous SuDS landscapes accompanied by tree planting. This will bring back the sense of the marshes, softening the scale of the road and DLR viaduct, and enhance the pedestrian environment.

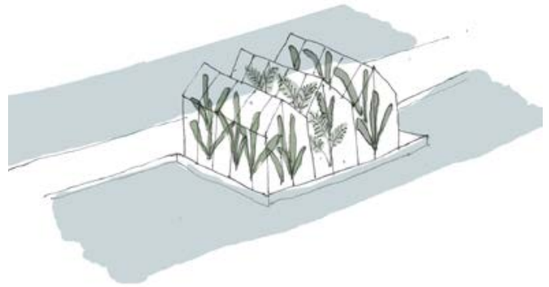


Grassing the Infrastructure
The flyover at Silvertown can be planted with tall prairie grasses which are protective and wild, blowing in the wind with the trees emerging from below so the flyover footway feels like a journey through the canopies.

Road-side planted verges are proposed at ground level, with species appropriate to tough urban environments and salt use. Connected, they form a highway green estate, including big boulevard tree species. The species are also selected so as not to trap pollution below their canopies.



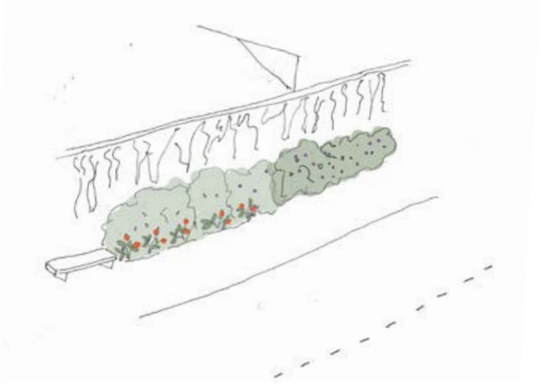
Exotics & Glasshouses
Planting surrounding the dock and within planted greenhouses will comprise species reminiscent of the exotic, and in particular, the trade links from the docks' history - plants originating from countries around the Cape route and the Pacific route. Planting will also be chosen to provide local shelter from the elements. Planting design should address the need for shelter, creating microclimates.



Orchards & Edible Edges
Productive landscape interventions will stitch together the residential and parkland spaces characterising local growing spaces in the Royal Docks. Emphasis will be placed on healthy streets and community planting and a more domestic, less corporate or infrastructural scale.

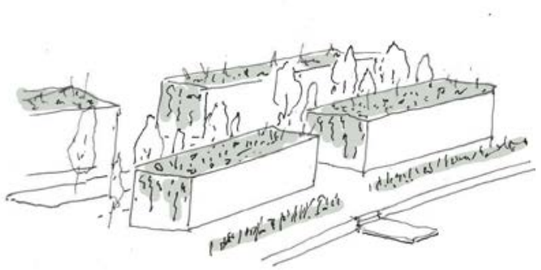
An edible landscape of orchards and, berrying hedges will create community-focused growing. Potential interventions have been identified at Britannia Green and on surrounding streets. Embracing a sense of playfulness, for all ages, should result in places to sit, be active, climb trees or enjoy the blossoms.

Foraging routes have the potential to result in an attractive wildlife corridor if species such as Bramble, Elderberry and Crab Apple are used. This should be limited and kept to the western end of the docks area. Where possible foraging of plants such as nuts and herbaceous plants should be encouraged instead, with species such as Cobnuts, Walnuts, Nettles, Wild Garlic, Yarrow and Red Clover being used.



Shingle Roofscape
A perched shingle landscape is proposed across the rooftops and raised dock edges of along the north side of the docks. Connecting to the Thames, this perched landscape will create a corridor of brownfield landscape with enormous habitat value.

Taking its cue from the remnant Thames beach habitats, with their particular flora and fauna, and sense of Jarmanesque strangeness and wilderness, this landscape will replicate many of the brownfield vacant plots and interstitial industrial spaces currently threatened by development.



Trees in Planters: Permanent

Trees in Planters: Permanent
Planters to the dock edge should be primarily designed to reflect the Royal Docks' Heritage, and materiality make reference to the existing maritime objects and landscape furniture elements. Further information on seating planters is included with the 'Street Furniture' information.

Much of the waterside and dock edge sits above false quays, making planting in-ground unachieveable due to restricted build-up and loading requirements. Therefore, trees in areas with false quays should be planted in raised planters. Refer to the London Docklands Development corporation act 1994 for false quay maps and locations.

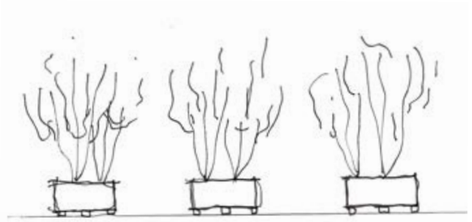
Typical Planter Design
Colour: Zinc primed RAL7016 Anthracite Grey (to match existing cranes)

Size:
TYPE 01: 2000mm W x 2000mm L x 1000mm H
TYPE 02: 2400mm W x 2400mm L x 1000mm H,2mm mild steel

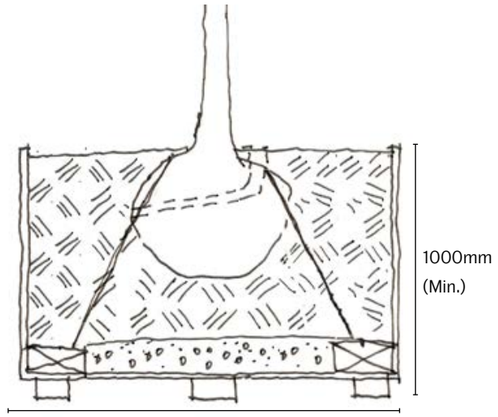
Weight:
To be confirmed by manufacturer Weight may vary according to tree variety, soil type and moisture content).

Planting: Dock Edge (West) = Ferns & Exotics
Dock Edge (West) = Hedera helix (Common Ivy)

Irrigation:
Self Watering Reservoir, X-LARGE , DEPTH 10CM Ø39CM, VOL: 10L, Integrated feet for lifting



Where possible, planters should be grouped to maximise visual impact and microclimate conditions



Shipping cranes - Royal Victoria Dock

Steel square planter

Trees in Planters: Temporary Planters

Steel Culvert Pipe
Based on a 5+ year period.
Meanwhile Landscape Planters (Temporary)

Corrugated Galvanised Steel Pipes reflect the industrial and historic agricultural character of the area. These can be installed in their natural colour or if located within a 'stitch' route to be coloured to match stitch theme.

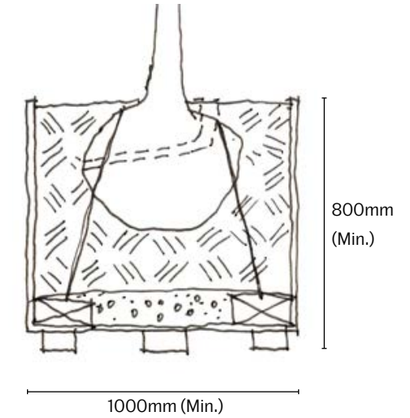
Colour:
Natural or if located within a 'stitch' route to be coloured to match stitch theme.

Size:
Varies depending on tree size:
16-18cm girth tree= 1000mm pipe diameter,800mm Height
20-25cm girth tree= 1200mm pipe diameter,900mm Height
35-40cm girth tree= 2000mm pipe diameter,1000mm Height

Base:
Profiled aluminium base mounted to sleepers to allow for forklifting. Perforations to pipe at gravel layer to allow water to drain.

Weight:
To be confirmed by manufacturer. Weight may vary according to tree variety, soil type and moisture content.

Self Watering Reservoir. Subject to LBN maintenance strategy.



Steel culvert pipe planters

Heavy Duty Plastic Plant Pot
Based on a maximum 2-3 year period.
16-18cm girth tree: 350 Litre, 950mm diameter, 730mm Height
20-25cm girth tree: 750 Litre 1200mm dia, 900mm Height 35-40cm girth tree: 1500 Litre, 1550mm dia, 1000mm Height

Heavy duty plant pots

Air Pots
Short-term meanwhile projects and tree nurseries for up to 2 years.

Airpots

Open Mosaic Habitats / Successional Landscapes

Open Mosaic Habitats

There is an opportunity to create biodiverse habitats in meanwhile spaces across the docks on brownfield sites, developer sites, and the various sites on hold.

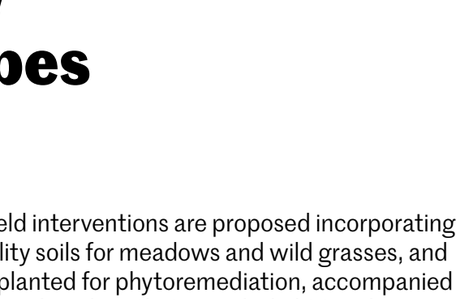
Open mosaic habitats on industrial land need to be carefully designed to suit local conditions and maximise biodiversity value, and should attract rare plants, mosses, lichens and attract a large number of rare invertebrates, most notably bees, wasps and beetles.

In paved areas site-wide, removing existing slabs and replacing it with low shrubs and flowers set within gravel, creates a sense of wildness. The Connaught Crossing proposals provide a benchmark for this approach where the strategy is to remove the concrete paving slabs between the setts grid in as many locations as possible. The resulting spaces will be planted in varying ways to create a diverse and atmospheric space.

Substrate meadows are planted across the site, which vary in density from long grasses to areas of open gravel. This will create a seasonally interesting planting structure which can frame more open areas for colonisation beneath the viaduct, a mix of gravel and gabions is proposed, including use of crushed concrete (from slabs) in gabions. Areas in half light with occasional rain penetration would become colonised. These open mosaics form habitats for key local species, such as the Streaked Bombadier beetle.

Brownfield interventions are proposed incorporating low fertility soils for meadows and wild grasses, and species planted for phytoremediation, accompanied by a more relaxed aesthetic, and a light touch management regime.

The diagram to the right demonstrates the key design elements and approach to creating a successful open mosaic habitat / successional landscape using existing substrates, low maintenance species and planting cover rates which evoke the process of natural succession.



Biodiverse waste aggregate landscapes

Metropoliz Future Forest, Museo dell'Altro e dell'Altrove di Metropoliz (MAAM), Rome

30% 50% 75%

Prarie Grasses

Soil build-up: 300mm topsoil / 70mm bark mulch 3 different mixes:
Miscanthus monoculture blocks :

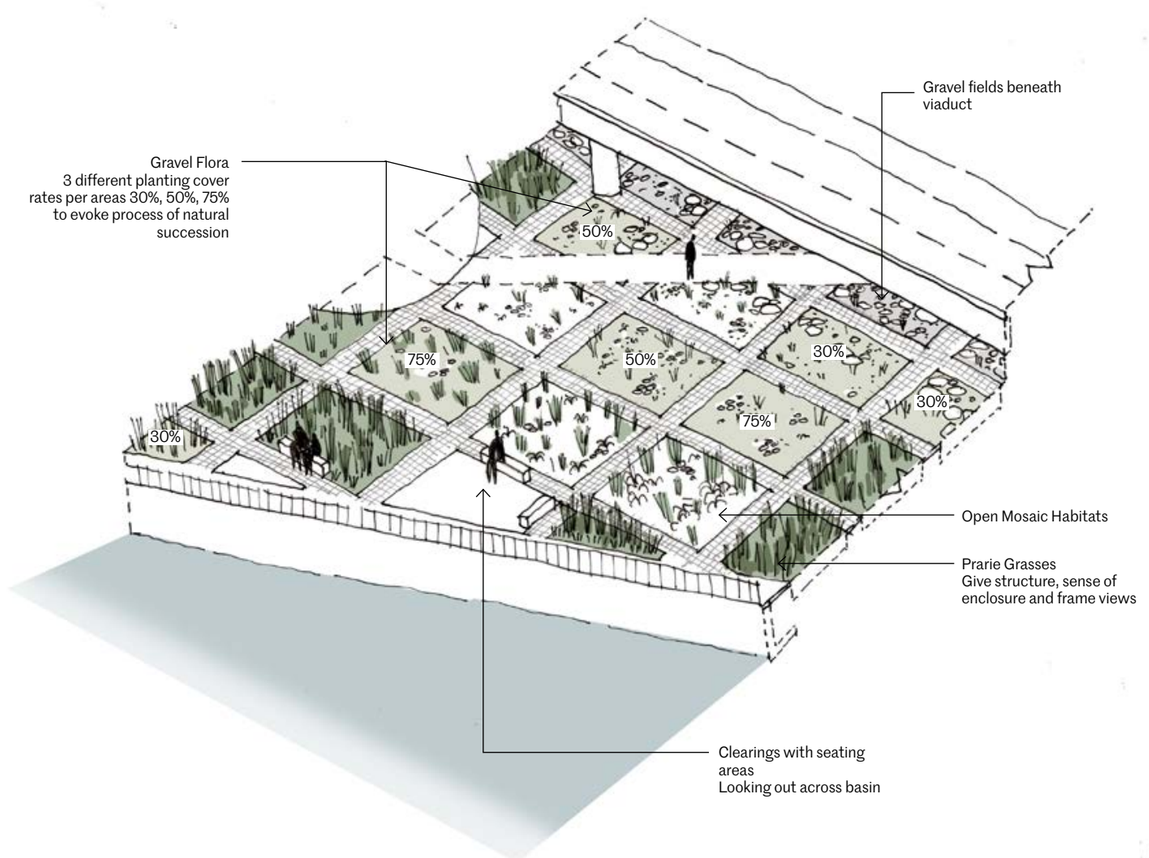
- Create reed effect and rustling sound in wind
- Miscanthus sinensis ' Rotfuchs'
- Scattered grasses disperesed into adjacent open mosaic areas. Calamagrostis & Panicum
- Structure / erect habit: Deschampsia & Panicums
- Weeding (1-2x year in spring, before grass canopies close surface and suppress weed growth); Annual cut (Nov-Feb) - arisings to be removed or shredded on site and left as mulch for grass borders; Mulch top-up (1x in 3 years - if grass shreddings not used as mulch); Watering only during establishment period.

Open Mosaic Habitats

- Low fertility substrate using existing substrate to be coordinated with an ecologist.
- Species Mixes to include: Deschampsia cespitosa, Centranthus ruber, Linaria purpurea, Leucanthemum vulgare, Sanguisorba officinalis, Salvia pratensis, Echium vulgare, Geranium pratense. All to be coordinated with an ecologist.
- Weeding (1-2x year in spring; Annual cut (Nov-Feb) - arisings to be removed from site; Watering only during establishment period.

Gravel Flora

- Soil build-up: 200mm low fertility substrate, washed shingle or recycled crushed material and aggregates from the Thames. To be
- co-ordinated with ecologist.
- 3 different mixes and planting cover rates per areas 30%, 50%, 75%
- Key Plants to include: Eragrostis curvula, Crambe cordifloia, Eryngiu, agavifolium, E. bourgatii, Dianthus carthusionarum, Gypsophila repens, Alium senescens, Thymus cltvrs, Origam vulgare, Sedum album
- Generally Weeding (1-2x year in spring; Annual cut (Nov-Feb) - arisings to be removed from site; Watering only during establishment period.



Management & Maintenance

Site Wide Long & Short Term Strategies
Maintenance strategies are critical for establishment and long-term survival and should be agreed at the outset with stakeholders responsible for management. Both long and short term strategies should be developed through consultation with the public, user groups and Stakeholder steering groups and take into consideration existing maintenance needs, action and cost plans and future management and maintenance arrangements.

- Regimes need to include sufficient watering (essential) and after care; including the possibility of longer-term tree work. Larger species such as Willows and Poplars may be managed with a coppice/ pollard regime, where ultimate size restrictions would otherwise preclude the planting of these valuable species.
- Planting proposals must be accompanied by management plans, outlining strategies for establishing maintenance and long-term requirements, all as agreed with the stakeholders responsible for management. Light touch management that maximises wildness and biodiversity should be encouraged (allowing grass to grow long and be self-seeding).
- Maintenance Strategies should create opportunities for community involvement to involve people in biodiversity enhancement and growing to create stewardship and increase a sense of ownership.
- Trees and plants with higher maintenance or water requirements should be minimised, except where a permanent water supply is available through a surface water run-off regime. Utilising surface water run-off to irrigate plants should be considered.
- Planting on podiums and roofscapes should be supported by irrigation systems and plants selected based on their resilience to drought to reduce the amount of water used.
- Street trees, trees in planters and trees with confined root areas should be installed with watering and aeration pipes for manual watering.

Dense or sheltered vegetation has the potential to become a starling roost, therefore staggering plants in rows or spreading them out to prevent roosting is essential. Trees: should be aligned with the airport Biodiversity guidance, and require regular trimming/ pruning.

Parks
Parks should be well managed and to a high standard to ensure access to high quality green and open spaces, meeting the needs of the community and promoting good practice in Health and Safety, environmental sustainability, cleanliness, community involvement and the general maintenance of the landscape.

A series of key site wide management functions, both short and long-term will need to be developed based on the following management services:

- Weed control
- Ponds and water courses, including SuDS
- Hedge cutting
- Reed Beds and in water planting
- Grass cutting (mowing, feeding, spiking, repair and renewal)
- Paths, ditches and watercourses
- Leaf clearance
- Habitat creation through enclosure
- Replacement planting
- Litter clearance
- Tree maintenance
- Tree works e.g. coppicing, pollarding, crown lifting
- Protection of wildlife habitats
- Perimeters: Hedges & Climbers
- Maintaining ecological islands
- Pruning and maintenance of ‘Green assets’
- Airport safeguarding specific maintenance requirements (Refer to Airport Safeguarding page)
- Veteran tree programmes
- Monitor and control pests
- Tree safety inspections
- Maintain structure of canopy
- Composting

Site-specific Management
Along-side these, a series of ‘site-specific’ management requirements should be established for areas such as Connaught Crossing (Open mosaic habitats), Dock edge public realm and areas surrounding the airport and major infrastructure routes where special management requirements may come into play and should be carefully considered with relevant stakeholders.

Timber Resource - Veteran Trees & Dead Wood
The sustainable use of timber should be encouraged and all efforts to retain existing veteran trees. However when removing dead trees, where possible retain dead wood standing or fallen to be used elsewhere as log seats for example. Stumps and logs should also be left to be gradually colonised by fungi, mosses and lichen for biodiversity value.

A. Detailed masterplans

Landscape masterplan - Project codes

The following pages provide detailed plans of the locations of public realm proposals set out in the Landscape Design Guide. The project codes should be read in conjunction with the detailed plans.

For guidance on the public realm proposals, refer to chapter 3, Palettes, For technical guidance on selected palette components, refer to chapter 5, Design Information.

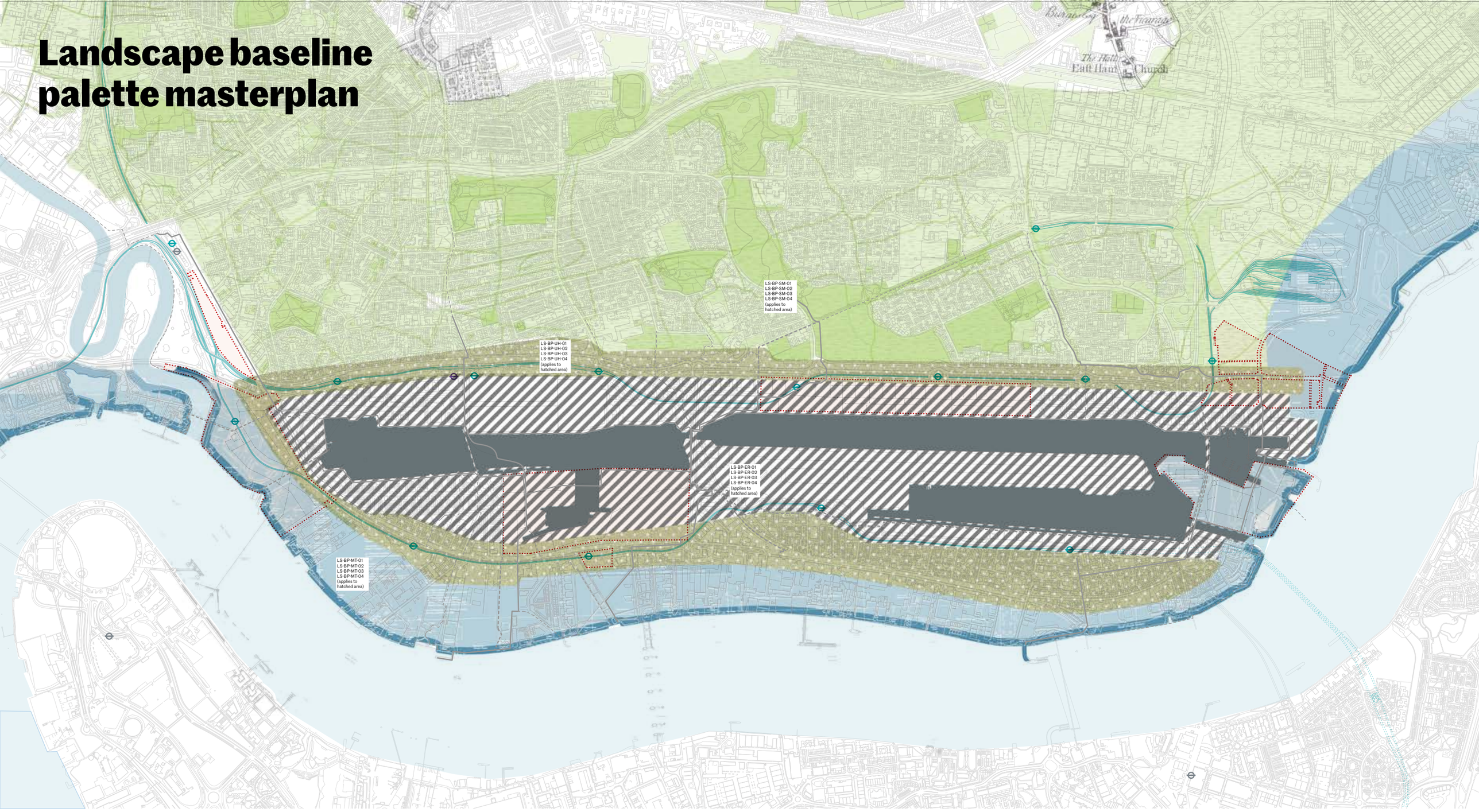
Project Codes

LS - Landscape Design Guide

BP - Baseline Palette
AP - Accent Palette
ST - Special Treatments

Project Code	Project Description
LS-BP-SM-01	Suburban Marshes tree planting
LS-BP-SM-02	Suburban Marshes planting
LS-BP-SM-03	Suburban Marshes hard surfacing
LS-BP-SM-04	Suburban Marshes play
LS-BP-UH-01	Urban Hollow tree planting
LS-BP-UH-02	Urban Hollow planting
LS-BP-UH-03	Urban Hollow hard surfacing
LS-BP-UH-04	Urban Hollow play
LS-BP-ER-01	Engine Room tree planting
LS-BP-ER-02	Engine Room planting
LS-BP-ER-03	Engine Room hard surfacing
LS-BP-ER-04	Engine Room play
LS-BP-MT-01	Maritime Thames tree planting
LS-BP-MT-02	Maritime Thames planting
LS-BP-MT-03	Maritime Thames hard surfacing
LS-BP-MT-04	Maritime Thames play
LS-AP-S1-01	Stitch 1 tree planting
LS-AP-S1-02	Stitch 1 planting
LS-AP-S2-01	Stitch 2 tree planting
LS-AP-S2-02	Stitch 2 planting
LS-AP-S3-01	Stitch 3 tree planting
LS-AP-S3-02	Stitch 3 planting
LS-AP-S4-01	Stitch 4 north tree planting
LS-AP-S4-02	Stitch 4 north planting
LS-AP-S4-03	Stitch 4 south tree planting
LS-AP-S4-04	Stitch 4 south planting
LS-AP-S5-01	Stitch 5 west tree planting
LS-AP-S5-02	Stitch 5 west planting
LS-AP-S5-03	Stitch 5 hard surfacing
LS-AP-S5-04	Stitch 5 street furniture
LS-AP-S5-05	Stitch 5 east tree planting
LS-AP-S5-06	Stitch 5 east planting
LS-ST-V-01	View from Silvertown Way viaduct east and west
LS-ST-V-02	View from Crystal Gardens east over Royal Victoria Dock
LS-ST-V-03	View from Thameside West over the River Thames south-west
LS-ST-V-04	View from Royal Victoria Bridge east and west over the Docks' basin
LS-ST-V-05	View from Connaught Bridge east and west over the Docks' basin
LS-ST-V-06	View from Lyle Park over the River Thames south
LS-ST-V-07	View from Royal Wharf Walk over River Thames south
LS-ST-V-08	View from Thames Barrier Park over the River Thames and the Thames Barrier
LS-ST-V-09	View from south-west corner of Beckton Park
LS-ST-V-10	View from south-east corner of Beckton Park
LS-ST-V-11	View from Bascule Bridge west towards London City Airport and the Docks' basin, and east towards Gallions Reach Marina
LS-ST-V-12	View from Bascule Bridge west towards London City Airport and the Docks' basin
LS-ST-V-13	View from Royal Victoria Gardens over the River Thames
LS-ST-V-14	View from Gallions Point over the River Thames east
LS-ST-V-15	View from Armada Green over the River Thames east
LS-ST-P-01	Planting in the basin by The Crystal
LS-ST-P-02	Planting in the basin by Royal Victoria Square
LS-ST-P-03	Planting in the basin by Connaught North
LS-ST-P-04	Planting in the basin by Royal Docks Adventure Centre
LS-ST-P-05	Planting in the basin by Royal Albert Dock west
LS-ST-P-06	Planting in the basin by Royal Albert Dock east
LS-ST-P-07	Planting in the basin by UEL
LS-ST-P-08	Planting in the basin by Gallions Point Marina
LS-ST-ML-01	Open mosaic / successional planting at West Silvertown Industrial site
LS-ST-ML-02	Open mosaic / successional planting at Silvertown Quays west
LS-ST-ML-03	Open mosaic / successional planting at Silvertown Quays east
LS-ST-ML-04	Open mosaic / successional planting at Royal Albert Island
LS-ST-ML-05	Open mosaic / successional planting at Gallions Reach
LS-ST-C-01	Community growing project (cultivation) at Royal Victoria Square
LS-ST-C-02	Community growing project (cultivation) at Brittania Village Green
LS-ST-C-03	Cundy Park alotments
LS-ST-C-04	Beckton Park west alotments
LS-ST-C-05	Beckton Corridor east alotments
LS-ST-C-06	Penroyal Avenue alotments
LS-ST-C-07	Community growing project (cultivation) at Silvertown
LS-ST-C-08	Community growing project (cultivation) at St Johns Green
LS-ST-S-01	Area of shelter at Britannia Village Green
LS-ST-S-02	Area of shelter at Britannia Village dock edge
LS-ST-S-03	Area of shelter at Lyle Park
LS-ST-S-04	Area of shelter at Thames Barrier Park
LS-ST-S-05	Area of shelter at Connaught Crossing south
LS-ST-S-06	Area of shelter at London City Airport
LS-ST-S-07	Area of shelter in North Woolwich pocket parks
LS-ST-S-08	Area of shelter in Silvertown pocket parks
LS-ST-S-09	Area of shelter at Thames Edge, North Woolwich
LS-ST-S-10	Area of shelter at Royal Victoria Gardens
LS-ST-S-11	Area of shelter at Gallions Reach DLR
LS-ST-E-01	Place of exposure at Wards Wharf shingle beach
LS-ST-E-02	Place of exposure on capital ring footpath east of Victoria Gardens
LS-ST-E-03	Place of exposure at Gallions Point
LS-ST-E-04	Place of exposure at North Woolwich Ferry
LS-ST-E-05	Place of exposure at Albert Island and the Steve Redgrave Bridge
LS-ST-I-01	Enjoyable infrastructure of the Emirates Air Line
LS-ST-I-02	Enjoyable infrastructure of the DLR viaduct on North Woolwich Road
LS-ST-I-03	Enjoyable infrastructure of the Thames Barrier
LS-ST-I-04	Enjoyable infrastructure of the DLR flyover at the roundabout between North Woolwich Road and Connaught Bridge
LS-ST-I-05	Enjoyable infrastructure of the Connaught Crossing
LS-ST-I-06	Enjoyable infrastructure of the Prince Regent DLR walkway over the railway
LS-ST-I-07	Enjoyable infrastructure of the Green Bridge
LS-ST-I-08	Enjoyable infrastructure of the Thames edge slipways
LS-ST-I-09	Enjoyable infrastructure of the Tate & Lyle sugar refinery
LS-ST-I-10	Enjoyable infrastructure of the North Woolwich Ferry
LS-ST-I-11	Enjoyable infrastructure of the North Woolwich Foot Tunnel
LS-ST-I-12	Enjoyable infrastructure of the pontoons between London City Airport and North Woolwich
LS-ST-I-13	Enjoyable infrastructure of the Beckton Park DLR overpass
LS-ST-I-14	Enjoyable infrastructure of the Cyprus DLR overpass
LS-ST-I-15	Enjoyable infrastructure of the Gallions pumping station
LS-ST-I-16	Enjoyable infrastructure of the Gallions Point slipway
LS-ST-I-17	Enjoyable infrastructure of the Lock Side Way bridge
LS-ST-B-01	Access to the water at Crystal Gardens
LS-ST-B-02	Access to the water at Royal Docks Adventure Centre

Landscape baseline palette masterplan



MAP KEY

- Greater London Authority Project Sites
- Stitch Route

PALETTE KEY

- Suburban Marshes
  Large expanse of remnant marshland
- Engine Room
  Former docks industrial zone
- Urban Hollow
  The low point between the Thames and dock basins
- Maritime Thames
  Area exposed to the Thames and wider London

PROJECT CODES

LS-BP-SM-XX	Suburban Marshes palette *Refer to chapter 3, Palettes, for further guidance*
LS-BP-UH-XX	Urban Hollow palette *Refer to chapter 3, Palettes, for further guidance*
LS-BP-ER-XX	Engine Room palette *Refer to chapter 3, Palettes, for further guidance*
LS-BP-MT-XX	Maritime Thames palette *Refer to chapter 3, Palettes, for further guidance*

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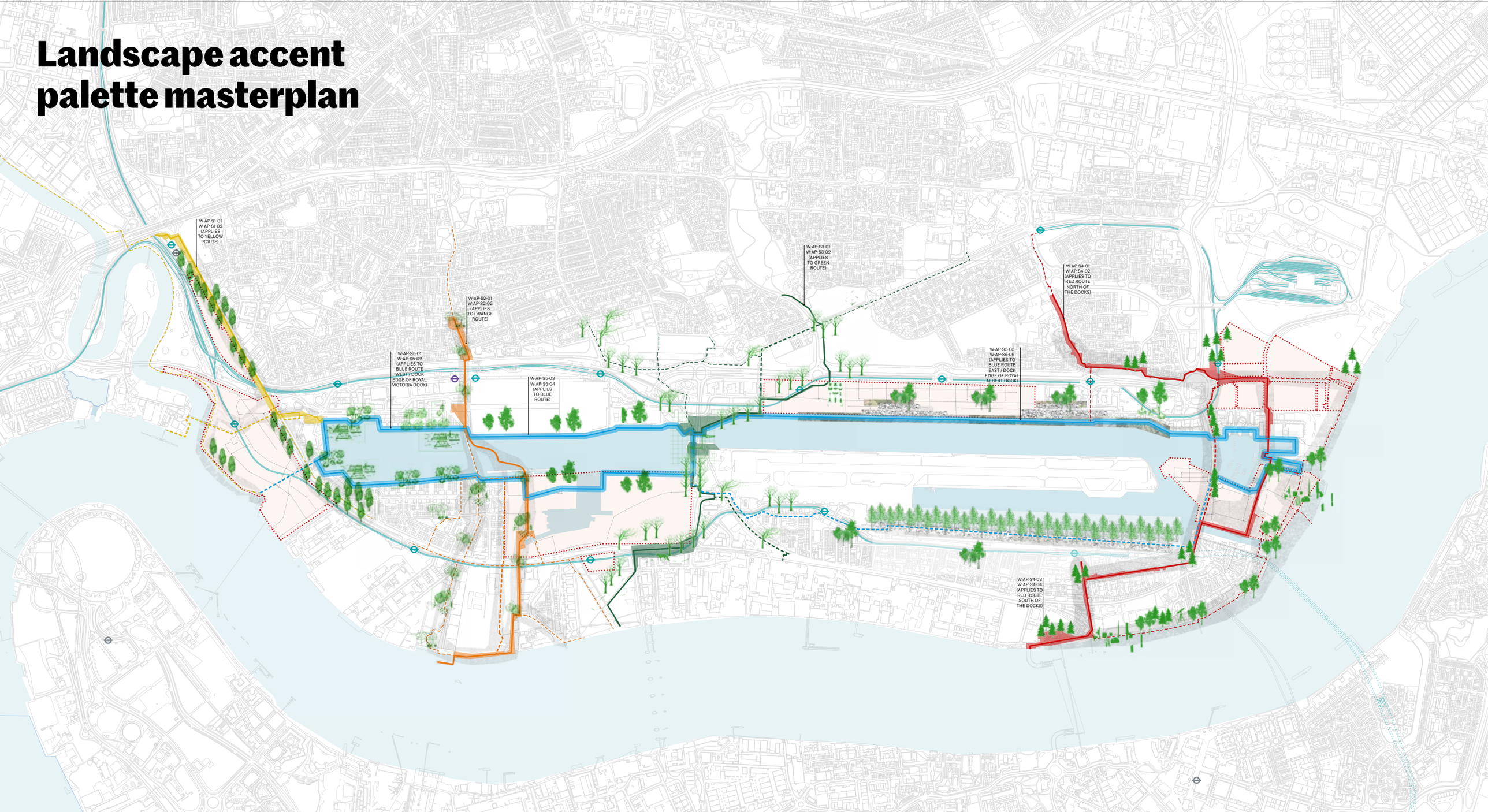
Project:	Royal Docks Public Realm Design Guides
Drawing Title:	Landscape - Baseline Palette
Scale:	1:7500@A1
Status:	S2
Drwg No:	

Job Code	Orlglnator	Zone	Level	Type	Role	Number	Rev
ROY- 5TH- XX- XX- DR- A-						0071	P01

Landscape accent palette masterplan



MAP KEY

- Greater London Authority Project Sites

PALETTE KEY

- Stitch 1: Canning Town to the Docks
  Stitch landscape characterised by poplars as route markers and 'exotic wild' colourful planting.
- Stitch 2: Customs House to the Thames
  Stitch emphasising linear landscape and human scale, embracing historic thresholds and sensory planting.
- Stitch 3: Connaught Crossings
  Stitch landscape celebrates exposure to the elements with trees and planting receptive to the wind; a wild link.
- Stitch 4: Beckton to North Woolwich
  Stitch landscape references historic routes highlighting Victorian parks and piers, and expansive views.
- Stitch 5: Dock Loop
  Stitch landscape characterised by water. The 'floating world', referencing the Dock's global history.
- Marker trees - stitch 1
  Place makers and markers, providing height and framed vistas.
- Community green spaces - stitch 2
  Productive landscape interventions and growing spaces.
- Fruiting trees & mini orchards - stitch 2
  Informal edible landscape of orchards, berrying hedges and community growing
- Pollarded trees - stitch 3
  Pruned trees for dense undergrowth
- Trees responsive to wind - stitch 3
  Aspens that react to the wind
- Urban wild - stitch 3
  Inviting nature and wildlife into the urban realm.
- Birch groves and pine forests - stitch 4
  Mix of coniferous species in groups providing shelter.
- Maritime artefacts - stitch
  Curated objects that enhance the character of the area
- Birch Groves in rubblefields - Dock Loop (east)
  Drawing in the Thamesmead wilderness character
- Exotics in cargo piles - Dock Loop (west)
  Exotic trees tell stories of the Docks trading past.
- Exotics in greenhouses - Dock Loop (west)
  Exotic plants recall the operational history of the Docks.
- Planting in the basins - Dock Loop
  Ecological islands, pontoons and reed beds

PROJECT CODES

LS-AP-S1-XX	Stitch 1 palette *Refer to chapter 3, Palettes, for further guidance*
LS-AP-S2-XX	Stitch 2 palette *Refer to chapter 3, Palettes, for further guidance*
LS-AP-S3-XX	Stitch 3 palette *Refer to chapter 3, Palettes, for further guidance*
LS-AP-S4-XX	Stitch 4 palette *Refer to chapter 3, Palettes, for further guidance*
LS-AP-S5-XX	Stitch 5 palette *Refer to chapter 3, Palettes, for further guidance*

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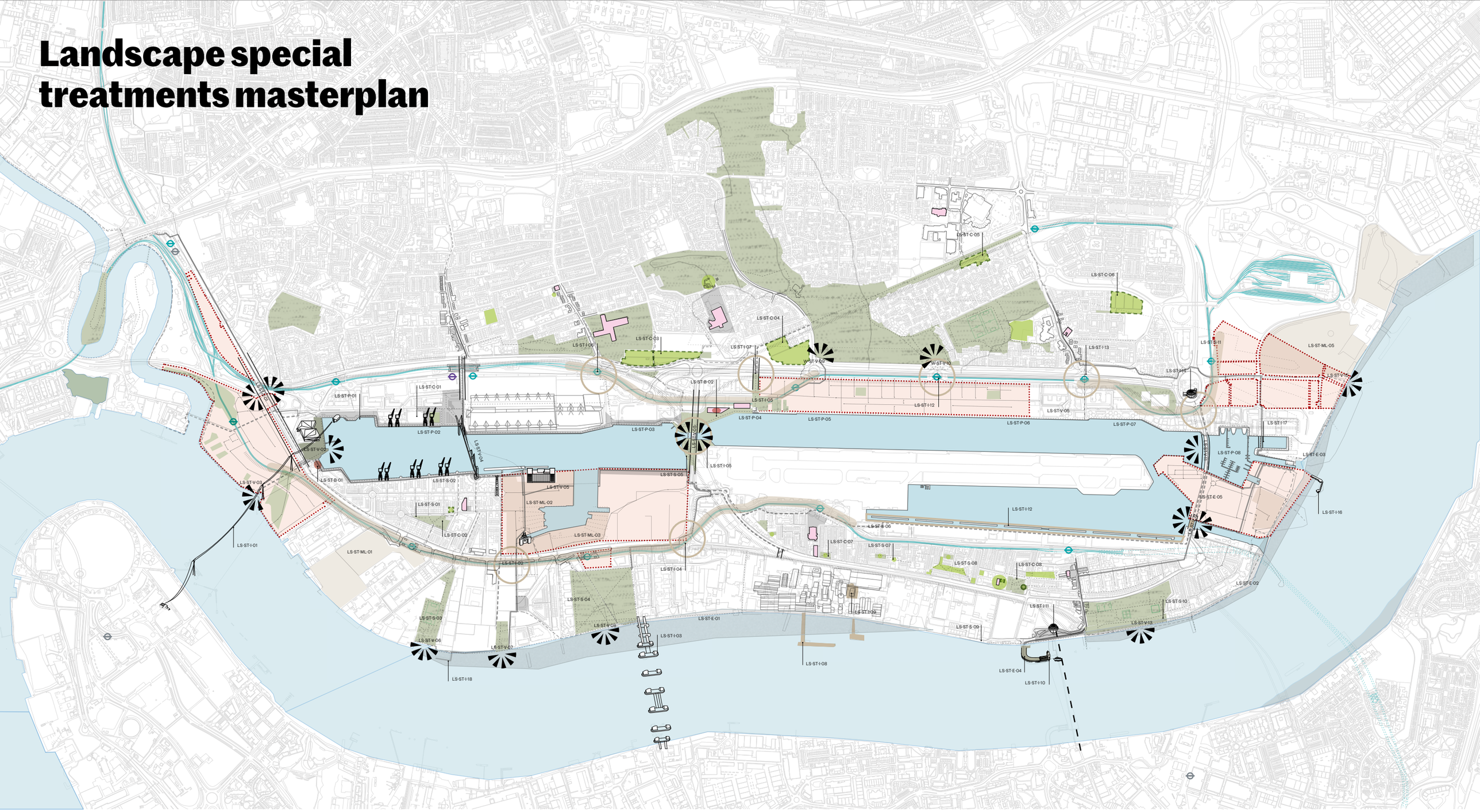
Drawing Title:	Landscape - Accent Palette
Scale:	1:7500@A1
Status:	S2
Drwg No:	

Job Code	Originator	Zone	Level	Type	Role	Number	Rev
	ROY-	5TH-	XX-	XX-	DR-	A- 0072	P01

Landscape special treatments masterplan



MAP KEY

- Greater London Authority Project Sites
- Stitch Route

PALETTE KEY

- Enjoyable infrastructure
- Wasteland opportunity
- Water access point
- Dramatic viewpoints and moments of exposure
- Allotment cultivation
- Community green spaces
- Existing parks
- Community facilities
- Public space
- Historic landscape traces

PROJECT CODES

LS-ST-V-XX	Dramatic views *Refer to chapter 3, Palettes, for further guidance*	LS-ST-S-XX	Areas of shelter *Refer to chapter 3, Palettes, for further guidance*
LS-ST-P-XX	Planting in the basin *Refer to chapter 3, Palettes, for further guidance*	LS-ST-E-XX	Places of exposure *Refer to chapter 3, Palettes, for further guidance*
LS-ST-ML-XX	Meanwhile landscape for open mosaic / successional planting *Refer to chapter 3, Palettes, for further guidance*	LS-ST-I-XX	Enjoyable infrastructure *Refer to chapter 3, Palettes, for further guidance*
LS-ST-C-XX	Community growing and cultivation *Refer to chapter 3, Palettes, for further guidance*	LS-ST-B-XX	Dock edge boundary / access to the water *Refer to chapter 3, Palettes, for further guidance*

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