CANARY WHARF
GROUP PLC

NQ.PA.10

North Quay
Transport Assessment

Steer
July 2020

Contents

1 Introduction

Overview

1.1 This Transport Assessment ("TA") has been prepared by Steer for Canary Wharf (North Quay) Ltd ("the Applicant") who are submitting applications for Outline Planning Permission ("OPP") and Listed Building Consent ("LBC") to enable the redevelopment of the North Quay site, Aspen Way, London ("the Site").

1.2 Two separate applications are being submitted as follows:

- Application NQ.1: Outline Planning Application (all matters reserved) ("OPA") – Application for the mixed-use redevelopment of the Site comprising demolition of existing buildings and structures and the erection of buildings comprising business floorspace, hotel/serviced apartments, residential, co-living, student housing, retail, community and leisure and sui generis uses with associated infrastructure, parking and servicing space, public realm, highways and access works; and
- Application NQ.2: Listed Building Consent Application ("LBCA") – to stabilise listed quay wall and any associated/necessary remedial works as well as demolition of the false quay in connection with Application NQ.1.

1.3 Together the development proposed under Applications NQ.1 and NQ.2 are referred to as the "Proposed Development".

1.4 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use. For this reason, the description of development provides the Applicant with flexibility as to the uses that could be undertaken on the Site.

1.5 However, in order to ensure that the level of flexibility is appropriately restricted, the OPA seeks approval for three Control Documents which describe the principal components of the Proposed Development, define the parameters for the Proposed Development (the "Specified Parameters") and control how the Proposed Development will come forward in future. They provide the parameters, design principles and controls that will guide future reserved matters applications ("RMAs"). These Control Documents are – (1) the Development Specification; (2) the Parameter Plans; and (3) the Design Guidelines:

- The Development Specification sets out the type and quantity of development that could be provided across the Site (including setting a maximum floorspace across the Site);
- The Parameter Plans set the parameters associated with the scale, layout, access and circulation and distribution of uses classes and public space for the Proposed Development. They also establish the Development Zones and Development Plots across the Site; and

- The Design Guidelines set the design principles and controls for future development.

1.6 Together, these documents set out the information required to allow the impacts of the Proposed Development to be identified with sufficient certainty as future RMAs will be required to demonstrate compliance with the Specified Parameters and controls in these Control Documents.

Listed Building Works

1.7 Listed Building Works Towards the south of the Site, the edge of the dock is defined by a quay wall known as the Banana Wall. The brickwork has a profile and counterfort buttresses, on a gravel bed. The Banana Wall was constructed between 1800-1802 and was Listed Grade I in 1983.

1.8 The Proposed Development will span over the Banana Wall with piles on either side of the wall providing support to the new structures. The new structures will leave a void or compressible material above to avoid permanent loading of the wall. The adjacent existing false quay deck will be removed. The excavation of the basement may require stabilisation works to be undertaken to ensure there are no impacts to the Banana Wall. Remedial works to the Banana Wall will also be undertaken if required.

1.9 LBTH is the local planning authority responsible for determining the planning application, however, due to the size and nature of the Proposed Development, the application will also be referred to the Mayor of London. As TfL operate and manage the transport network surrounding the Site, they will review the application in terms of the impact on the strategic transport network.

Site Description

1.10 The full site address is North Quay, Aspen Way, London, E14 with the location and site boundary shown in **Figure 1.1**. The Site is situated in the London Borough of Tower Hamlets (“LBTH”).

Figure 1.1: Site Location

1.11 The Site is located in the north of the Isle of Dogs, within the administrative boundary of the London Borough of Tower Hamlets, at Canary Wharf. It is bounded by Canary Wharf Elizabeth Line (also referred to as Crossrail in other supporting documentation) station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway ("DLR") station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

1.12 The Site is 3.28 hectares (ha) in area. Currently the Site comprises mostly cleared land, being previously used as a construction laydown site for the Canary Wharf Crossrail Station (Elizabeth Line). There are some temporary uses currently on site, including the LBTH Employment and Training Services, WorkPath and advertising structures.

1.13 A Grade I Listed brick dock wall (Banana Wall) exists below the surface of part of the Site, which originally formed the dockside until it was extended over to the south.

1.14 Existing access to the Site for vehicles is from Upper Bank Street to the east and Hertsmere Road to the west, which both link to Aspen Way. The Site is not currently accessible to the public, however pedestrian routes are located on each side of the Site (Aspen Way, Hertsmere Road, Upper Bank Street, and the western part of the dockside to the south). The Aspen Way Footbridge which leads to Poplar also lands on the southern side of Aspen Way.

1.15 The Site is highly accessible by public transport. The West India Quay DLR station is located on the Site, the Poplar DLR station is accessed directly from the Aspen Way Footbridge, the Canary Wharf Elizabeth Line station is located immediately to the south of the Site, beyond which are the Canary Wharf underground and DLR stations. The Site's PTAL varies from 5 ('very good') to 6a ('excellent'), with improved PTAL closer to Upper Bank Street. The score is expected to improve to 6a across the entire Site by 2021 owing to the planned opening of the Crossrail Station.

1.16 Beyond the Site, 1 West India Quay (the Marriot Hotel (107m AOD) and residential building (41m AOD) are located to the west, adjacent to the DLR tracks. Beyond these, along Hertsmere Road is a cinema, museum, shops, restaurants and other leisure facilities, forming part of the West India Quay Centre. Billingsgate Market is located to the east of the Site, on the opposite side of Upper Bank Street. Billingsgate Market is identified as a Site Allocation (4.2: Billingsgate Market) for redevelopment in LB Tower Hamlet's Local Plan.

1.17 To the north of the Site on the other side of Aspen Way are the Tower Hamlets College and The Workhouse leisure facility. They comprise part of a Site Allocation (4.1: Aspen Way) for redevelopment in LB Tower Hamlet's Local Plan. In close proximity to these there are lower rise residential properties (some with shops beneath them) as well as the Poplar Recreation Ground.

1.18 Beyond the Crossrail Station and Crossrail Place to the south of the Site is the Canary Wharf commercial area, with the buildings closest to the Proposed Development including the HSBC (200m AOD), Bank of America and One Canada Square buildings (235m AOD).

Planning History

1.19 The Site's planning history is summarised in **Table 1.1**.

Table 1.1: North Quay Planning History

Date of Permission	Application Type	Reference	Development Description
12/01/2007	Full Planning Permission	PA/03/00379 (implemented in November 2016)	Erection of two towers of 43 storeys (221 metres) and 37 storeys (209 metres) with a 23 storey central link building (125 metres) to provide 372,660 sq.m of offices, 5,324 sq. m of Class A1, A2 A3, A4, or A5 of which no more that 2,499 sq.m shall be Class A1, together with an area of public realm, a pedestrian bridge across West India Dock North, a dockside walkway, access roads, parking and servicing areas
28/03/2007	Listed Building Consent	PA/03/00380	Stabilisation of listed quay wall and demolition of the false quay in connection with the erection of office towers with retail uses.
26/10/2015	Non-Material Amendment	PA/15/02758	Non-material amendment to allow amendments to the wording of conditions 9 and 20 of planning permission PA/03/00379 to allow for commencement of the development
12/01/2017	Certificate of Lawful Development	PA/16/03765	Lawful Development Certificate confirming the implementation of the development authorised by planning permission ref PA/03/00379, dated 12/01/2007, for the "Erection of two towers of 43 storeys (221 metres) and 37 storeys (209 metres) with a 23 storey central link building (125 metres) to provide 372,660 sq.m of offices, 5,324 sq.m of Class A1, A2, A3, A4 or A5 of which no more than 2,499 sq.m shall be Class A1, together with an area of public realm, a pedestrian bridge across West India Dock North, a dockside walkway, access roads, parking and servicing areas.
Application withdrawn December 2017	Full Planning Application	PA/17/01193	Stabilisation of listed quay wall and associated/remedial works as well as demolition/removal of the false quay in connection with the erection of office and residential towers alongside retail podium.
Application withdrawn December 2017	Application for Listed Building Consent	PA/17/01194	Partial demolition works & clearance of existing site to provide a mixed-use development comprising 4 buildings ranging 30 to 67 storeys in height, together with podium & basement accommodation 339,243m² floorspace (GIA), comprising offices (B1), residential (C3) (up to 1,423 units), serviced apartments (C1), retail (A1-A5), cultural/leisure (D1/D2), parking & servicing areas, hard & soft landscaping, new access, creation of new vehicular accesses & other associated works

Proposed Development

1.20 The application proposes:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
  - *Business floorspace (B1)*
  - *Hotel/Serviced Apartments (C1)*
  - *Residential (C3)*
  - *Co-Living (C4/Sui Generis)*
  - *Student Housing (Sui Generis)*
  - *Retail (A1-A5)*
  - *Community and Leisure (D1 and D2)*
  - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.21 The Development Specification, land use floorspace ranges and Indicative Scheme schedule are summarised at **Table 1.2** and the proposed residential tenure and unit mix is provided in **Table 1.3**. The Indicative Scheme demonstrates one interpretation of the Specified Parameters but is used throughout this TA to illustrate the type of mixed-use development that could come forward and the associated car and cycle parking, servicing and delivery and waste storage requirements. The Indicative Scheme basement levels 1 and 2, and ground level plans can be found at **Appendix 2.**

1.22 The maximum site wide total floorspace permitted within the Development Specification is 355,000m^2 (Gross Internal Area, "GIA") and the Indicative Scheme floor area totals 354,927m^2 (GIA).

1.23 Any number of development scheme configurations within the bounds of the Development Specification, Parameter Plans and Design Guidelines may come forward in the detailed design of the scheme through RMAs. This TA therefore provides a worst-case assessment to determine the impacts of the highest trip generating scheme which could come forward, whilst also using

the Indicative Scheme to provide a more realistic comparison of the type of mix-used development likely to come forward and an example of how policy compliant cycle parking, accessible car parking, servicing and waste storage facilities can be provided within the Proposed Development.

1.24 Reference should be made to the Parameter Plans submitted with the OPA (Ref. NQ.PA.03.A), although those specific to transport are identified in later chapters and appended to this TA.

Table 1.2: Development Specification and Indicative Scheme Area Schedule

Land Use	Minimum Floorspace (GIA)		Maximum Floorspace (GIA)	Indicative Scheme (GIA)
A1-A5 Retail	Total 10,000	A1-A5 5,000	20,000	13,681
D1 Community			20,000	-
D2 Leisure			20,000	-
B1 Business	150,000		240,000	174,653
C1 Hotel	-		150,000	44,081
C3 Residential	-		150,000	84,736
C4 Co-Living	-		150,000	-
Sui Generis: Student Housing	-		150,000	-
Sui Generis: Private Members Clubs, Conference Centres, Theatres, Casinos and Launderettes	-		25,000	-
Below Ground				
A1-A5 Retail	-		5,000	-
B1 Business	-		20,000	-
D1 Community	-		5,000	-
D2 Leisure	-		10,000	-
Ancillary floorspace comprising Business, Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, Energy Centres, Electricity Sub Stations etc.	-		No maximum	Above ground: 9,730 Below ground: 28,047

Table 1.3: Development Specification Dwelling Mix

Tenure	Type	% by unit
Open Market	Studio	5 - 20
	1 bed	20 - 50
	2 bed	20 - 50
	3+ bed	5 - 25
Intermediate	1 bed	15 - 50
	2 bed	35 - 45
	3+ bed	5 - 45
Affordable/Social Rented	1 bed	25
	2 bed	30
	3+ bed	30
	4+ bed	15

Note: Where a specific target % is stated but is not exactly achievable, a deviance of 0. 1% in either direction will be acceptable.

1.25 Further details of the Proposed Development are provided in Chapter 3 of this TA.

Indicative Construction Programme

1.26 The indicative construction programme is set out in **Table 1.4**. Further information on the construction impacts and management is provided at Chapter 9.

Table 1.4: Indicative Construction Programme by Phase

Phase	Duration (months)	Dates works commence	Dates works completed
Phase 1	62	10/2021	11/2026
Phase 2	45	10/2022	06/2028
Phase 3	57	02/2024	10/2028
Phase 4	59	09/2024	07/2029

Pre-Application Engagement

1.27 Several pre-application meetings have been held with LBTH and TfL officers to agree on principles relating to highway design, parking provision, connectivity improvements and assessment methodology.

1.28 LBTH highways officers attended TfL and LBTH pre-application meetings. The TfL pre-application meeting was held with TfL on 13 November 2019. A TA Scoping Report was produced and issued in advance of the meeting and a detailed Trip Generation and Impact Assessment Note was issued subsequently, both of which are provided at **Appendix 3**.

1.29 A follow-up meeting with TfL was held on 4 March 2020.

Pre-application Advice

1.30 TfL's formal advice letters following the pre-application meeting (issued 11 December 2019) and subsequent follow up meeting (issued 24 March 2020) are both contained in **Appendix 4**. Detailed discussions have also been held with TfL officers regarding the strategic transport modelling approach an agreements in particular.

1.31 The received pre-application letters from TfL and subsequent discussions have supported the following in terms of the Proposed Development and assessment methodology:

- **Car parking** – support for car-free development with the exception of disabled persons parking for 3% of dwellings and agreement that the additional passive provision for 7% of dwellings need not be provided subject to "high-quality, inclusive access routes being provided from the Site to accessible public transport. It is noted that all public transport on the Isle of Dogs is step-free, including forthcoming Elizabeth Line". (*TfL letter 11 December 2019*)
- **Cycle parking –** agreement to meet Draft London Plan standards for long and short-stay cycle parking with the exception of retail uses which, based on the agreed proportion of linked retail trips and detriment to the public realm, "a lower level may be acceptable initially, subject to agreement to monitor usage and increase provision if needed". (*TfL letter 24 March 2020*)
- **Highways –** agreement in principle on proposed vehicle accesses and changes to the Upper Bank Street junction to enhance the public realm and toucan crossing as they "align with many of the Healthy Streets objectives and the proposals are well placed to enable future connections

to the Billingsgate Market site". Subject to being delayed until after 2030 when the DBFO contract with RMS expires. *(TfL letter 24 March 2020)*

- **Strategic analysis** – agreement that the larger, higher trip generating 2007 Consented North Quay Scheme (please note 2007 Consented North Quay Scheme is also referred to as 2007 Consent in this and other application documents) is included in the latest version of the LTS v7.2 model and the 2031 strategic models. Further, agreement on the methodology to deduct the 2007 Consent trips from the Railplan and HAM models with TfL's Transport Modellers. (*Further agreements on methodology in Tim Price [TfL Strategic Analysis] emails dated 22 April 2020 and 11 March 2020*)
- **Aspen Way Footbridge –** acknowledge the benefits of the "footbridge landing at a raised level within the Site leading into public realm…with retail, food & beverage units and lift access to ground level". Agreement in principle to the removal of existing lift and stairs on Aspen Way "subject to details being agreed and it being demonstrated that full accessibility for mobility impairs users is retained." *(TfL letter 24 March 2020)*

1.32 The advice also comments on the Isle of Dogs and South Poplar Opportunity Area Planning Framework ("IoD OAPF") and supporting Transport Strategy aspirations, in particular to improve north-south connections between South Poplar and the Isle of Dogs. Further details on the aspirations of the OAPF are provided in Chapter 3.

1.33 TfL's pre-application advice and agreements are referenced and detailed further throughout this TA and the supplementary transport documents.

Associated Documents

1.34 This TA is supported by a number of other documents as follows:

- Outline Residential Travel Plan ("RTP") – will encourage public transport use, walking and cycling amongst residents of the Proposed Development with the aim of reducing private car use. See **Appendix 5** (*document ref: NQ.PA.12*).
- Framework Travel Plan ("FTP") – will encourage public transport use, walking and cycling amongst employees and visitors of the Proposed Development with the aim of reducing private car use. See **Appendix 6** (*document ref: NQ.PA.11*).
- Delivery and Servicing Plan ("DSP") – will manage delivery and servicing vehicles and their activities when on-site. See **Appendix 7** *(document ref: NQ.PA.13).*
- Parking Design and Management Plan ("PDMP") - sets out the strategy for managing car parking for residents and visitors on-site. See **Appendix 11**.
- Site Waste Management Plan ("SWMP") – sets out the strategy for legislative compliance and good practice in the separation, storage and collection of waste arising from the Proposed Development during operation. See **Appendix 12** (*document ref: NQ.PA.22*).
- Outline Construction Logistics Plan ("CLP") – sets out the measures proposed to minimise the impacts of construction-related vehicle movements and facilitate sustainable construction travel

to the Site. The CLP has been incorporated as a standalone chapter within this TA – see **Chapter 9**.

Report Structure

1.35 The TA is divided into the following chapters:

- **Chapter 1:** Introduction
- **Chapter 2:** Transport Planning for People
- **Chapter 3:** Site and Surroundings
- **Chapter 4:** Active Travel Zone
- **Chapter 5:** Network Impact: Trip Generation
- **Chapter 6:** Network Impact: Highways
- **Chapter 7:** Network Impact: Public Transport
- **Chapter 8:** Network Impact: Pedestrian Movement
- **Chapter 9:** Construction
- **Chapter 10:** Summary and Conclusions

2 Transport Planning for People

Who is the Development for?

2.1 The Proposed Development is a mixed-use scheme and the Applicant is seeking to provide accommodation for a broad array of employees, residents (potentially including students) and visitors.

2.2 Should residential be provided a proportion of the dwellings will be affordable.

2.3 Based on the Indicative Scheme, 27% of the dwellings will be studios or one-beds, which are expected to be occupied primarily by individuals or couples.

2.4 45% of dwellings will be two-beds, which would house primarily young families or groups of adults. The remaining 28% of dwellings would have three or four beds and are likely to house larger families.

2.5 Based on TfL's Transport Classification of Londoners ("TCoL") guidance, the Site's location and proposed design, it is anticipated that the Proposed Development will attract TCoL residential population segments as shown in **Table 2.1**.

Table 2.1: Expected Residential Demographic according to TCoL

	Population Segment	Typical Characteristics			Reason
		Personal	Travel Characteristics	Propensity to Change Behaviour	
1	Affordable Transitions	New jobs and families	Low car, High bus / walk / cycle	Highest	- 57% of existing Tower Hamlets residents - Target residential occupants
2	Students and Graduates	Students and young graduates	Low car, High bus / walk	Average	- 11% of existing Tower Hamlets residents - Target residential occupants
3	Urban Mobility	Young workers	Low car, High cycle/public transport	Above Average	- 3% of existing Tower Hamlets residents - Target residential occupants
4	Family Challenge	Low income families	Low car / rail High bus, Average tube	Above Average	- Target residential occupants

2.6 It is anticipated the non-residential uses will attract the sub-groups shown below. Many of these would be either existing local residents and visitors to the wider Proposed Development, so many of their trips would be linked and not new, primary trips on local transport networks:

- Employee commuting (e.g. office and retail staff) trips.
- Retail customers – mostly local to the area or linked trips to existing/proposed residential uses.
- Delivery and servicing trips.

When Will They Travel and Why?

2.7 Trips to the residential and non-residential uses would fluctuate throughout a typical weekday in frequency, timing and in type. The following main activities are expected:

- Early morning trips associated with delivery of online food shopping for residents.
- Early morning trips associated with delivery of perishable goods for non-residential uses.
- Commuter departures in the morning peak.
- Parent and schoolchildren movements in the morning peak – expected to be short-distance to nearby schools.
- Employee arrivals for non-residential uses, in the morning.
- Resident student departures to University campuses in the morning.
- Lunchtime trips for food and leisure by workers in the non-residential uses.
- Late afternoon arrivals of University students returning from campuses.
- Parent and schoolchildren movements in the late afternoon and evening peak.
- Employee departures for non-residential uses, in the evening peak.
- Commuter arrivals in the evening peak.
- Dinner and after-work movements to the non-residential uses.
- Evening social movements by residents, including students.
- Evening delivery and servicing trips associated with takeaways and online food shopping.

2.8 During the weekends, movements would be spread more evenly throughout the day without exceeding weekday peak movements. A general shift from business and commuting trips to leisure trips would also occur on weekends relative to weekdays.

3 Site and Surroundings

Site Location

3.1 The North Quay site is bounded by Canary Wharf Elizabeth Line station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way

3.2 The Proposed Development is bounded by North Dock/Canary Wharf Elizabeth Line station to the south, Aspen Way (A1261) to the north, Marriott Hotel/Hertsmere Road to the west and Upper Bank Street/Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of Upper Bank Street and Hertsmere Road.

3.3 The Site is located within the Canary Wharf estate. The Site is currently vacant and has not undergone development since the cessation of dock operations in the 1970's. Currently the Site comprises mostly cleared land, being previously used as a construction laydown site for the Canary Wharf Elizabeth Line station. There are some temporary uses currently on site, including the Tower Hamlets Employment and Training Services, WorkPath and advertising structures.

3.4 Figures representing existing cycling infrastructure, public transport and highways are included at the end of this chapter.

Walking Network

Existing

3.5 Walking is an important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under two kilometres. Walking also forms an often-overlooked part of all journeys by public transport.

3.6 The Site has good pedestrian accessibility to surrounding retail, employment, leisure and public transport nodes. All public transport nodes in the vicinity feature step-free access, for ease of movement in the area.

3.7 The Site is connected with South Poplar via the Aspen Way Footbridge. The southern approach provides access to the southern footway on Aspen Way, while the northern approach leads to Castor Lane and a walkway linking Castor Lane with Poplar High Street to the north. The footbridge can be accessed by a staircase and a lift on both approaches.

3.8 To the east is Billingsgate Market, which can be accessed by crossing Upper Bank Street via a staggered pedestrian priority crossing. Immediately to the west of the site is West India Quay DLR station, which can be accessed from the North Dock waterfront by a staircase and a lift.

3.9 There is a waterfront promenade – Dockside walkway, which starts at the western Crossrail Place access and continues westwards along the North Dock towards Hertsmere House/Museum of London Docklands.

3.10 All pedestrian crossings in the area are suited for people with mobility impairments; they have lowered kerbs, tactile paving, and where signalling is present, there are rotating cones.

3.11 When open, the shopping malls to the south of the Site allow for a safe journey away from the traffic and shelter from the elements.

3.12 Isle of Dogs and South Poplar is an Opportunity Area, with Canary Wharf classified as a Metropolitan Centre in the Draft London Plan and as a Major Centre by the Adopted London Plan and LBTH Local Plan. As, such Canary Wharf offers numerous retail amenities which are accessible within 100m (one-minute walk) from the south of the Site. Canary Wharf's retail offer includes 120 different retail stores, local amenities and restaurants across six different underground malls, open seven days a week.

3.13 Crossrail Place (of which Canary Wharf Elizabeth Line station is a part) opened in May 2015 providing an additional 9,500sqm NIA of A1 retail, A3/A4 bar and D1/D2 cultural/leisure floor space. It is located on the North Dock, immediately to the south of the Proposed Development, within a one-minute walk from the Site boundary. Crossrail Place is accessible from the Site via Adams Plaza Bridge (footbridge) to the south and Upper Bank Street to the east.

3.14 Crossrail Place connects with the shopping malls at Canary Wharf (Canada Place, Park Pavilion Restaurants and Cabot Place). The close proximity and provision of walkways direct to the Canary Wharf Elizabeth Line station both reinforce pedestrian accessibility to retail and employment opportunities, and key public transport services with direct connections to destinations across London.

3.15 The immediate pedestrian accessibility to/from the Site is reduced by development hoarding around the perimeter of the Site. The Site is currently accessible from the west via Hertsmere Road, and from the east via Upper Bank Street. Both Aspen Way and the DLR tracks which connect to the DLR station at Poplar cause a barrier to pedestrian movement which except for the Aspen Way Footbridge, currently results in reduced accessibility between the wider Canary Wharf estate and Poplar High Street. A key objective for LBTH and TfL is to improve local connectivity and accessibility between Canary Wharf and South Poplar.

Proposals

3.16 The Local Plan stresses the need to provide better connection between South Poplar and the Isle of Dogs. In Section 4, the vision for the Isle of Dogs and South Poplar sub-area calls for *"South*

Poplar (…) integrated with neighbouring areas in the Isle of Dogs, capitalising on the opportunities in Canary Wharf and Blackwall".

3.17 The plan further states that the development in the sub-area will seek to *"overcome barriers to movement, particularly across the A13, Aspen Way and the waterways"*. Further, in the Design Principles and Delivery Considerations sections of the North Quay Site Allocation (4.9), it is highlighted that the development is expected to, among others:

- "improve strategic links from Canary Wharf to Poplar High Street through the provision of enhanced north-south links"
- "protect or enhance the waterside setting, ensuring public accessibility along the entire waterfront"
- "accommodate a new east-to-west pedestrian route through the site which facilitates connections to the wider movement network and the DLR and underground stations adjoining the site"
- "address the barrier of Aspen Way and integrate the site with Poplar High Street to the north, and the Canary Wharf Elizabeth Line station and the Canary Wharf estate to the south. These routes should align with the existing urban grain to support permeability and legibility."
- "Development should support the aspirations for enhanced and/or new bridge(s) over Aspen Way to better connect Poplar and Canary Wharf."

3.18 The IoD OAPF also provides the following guidance which have been considered within the design proposals:

- "We will also continue to look at how we can improve connectivity between Canary Wharf and South Poplar through delivering new and improved links over the Poplar DLR depot and Aspen Way, in turn addressing north-south severance and enabling better access to Elizabeth Line and the Jubilee Line, as well as providing a new attractive and vibrant place within the area".
- "There is an opportunity to make better use of existing public transport, through further investment to provide additional capacity at more regular frequencies. Delivery of new, more spacious DLR trains will take place from 2022, supported by enhanced DLR depots, as well as improved frequencies on both the DLR and Jubilee Line".

3.19 Specifically for the South Poplar 'area of change' and delivering links across Aspen Way and within North Quay, the IoD OAPF identifies the following:

- Delta Junction – "A large partly covered pedestrian public space with access to front entrances of buildings on North Quay, and a mix of hard and soft landscape. Should be animated by temporary uses such as market stalls, skateboarding, and other youth and adult orientated activities".
- North Dock Square – "A new dockside square which accommodates cafés, bars and temporary events for a thriving night time economy. Should negotiate change in levels from Aspen Way Footbridge to dock level".

- North Dock path – “A south facing dock promenade animated by seating, cafés and retail”.

3.20 To address the aspirations of the Local Plan and IoD OAPF, the main pedestrian access routes to the Site will be from the north via Aspen Way Footbridge, from the east and south via Upper Bank Street and Crossrail Place respectively, and from the west via West India Quay DLR station, the Dockside walkway, Hertsmere Road and Aspen Way Gardens.

3.21 A key consideration throughout the design process has been to try and minimise the severance caused by Aspen Way and improve the journey experience. The Parameter Plan of access and circulation routes for the Proposed Development is shown in **Appendix 8**.

3.22 The layout of the Site has been designed specifically to maximise pedestrian permeability and accessibility through the development with clear, attractive connections to destinations beyond the Site. The connections will be orthogonal in shape providing significantly improved connectivity on the north to south and east to west axes. The connections through the Site will benefit from active retail frontages at ground level, giving the area an identity and creating a pleasant pedestrian environment.

3.23 The Proposed Development seeks to create new pedestrian routes that are aligned to key desire lines, without the need to deviate significantly around buildings. The Proposed Development integrates with the surrounding infrastructure and enables step-free access from Poplar High Street to the Canary Wharf Elizabeth Line station and beyond into Canary Wharf.

3.24 The main pedestrian routes will link South Poplar via Aspen Way Footbridge to the Site and the wider Canary Wharf by creating direct north to south and east to west routes. North Quay Way, which will act as the central spine road, will be the main east-to west route. Aspen Way Gardens, parallel to Aspen Way, will offer a widened footway to accommodate both pedestrians and cyclists, with planting and glazing looking into the buildings to activate frontages. Within the Indicative Scheme, direct access to cycle facilities and some retail units would be provided along the route.

3.25 Improving east-west connectivity forms a key part of the IoD OAPF aspirations and has been discussed with LBTH Officers through pre-application discussions. To the east, moving the Upper Bank Street toucan crossing closer to Aspen Way will better serve key desire lines and enable future connections to the Billingsgate Market site. To the west, the cycle route will continue via Delta junction and Hertsmere Road to Cycleway 3.

3.26 The pedestrian links will follow the Healthy Street principles advocated by the Draft London Plan, encouraging more active travel throughout the Proposed Development.

3.27 In practice, the adherence to Healthy Street design guidelines employed by the Proposed Development will mean that all routes will have:

- A consistent approach to footway and public realm materials will be adopted to encourage and guide pedestrians around the Site, supplemented by wayfinding to provide both natural and physical orientation for users

- Wide footways with appropriate gradients and dropped kerbs, which will be easily navigable by those with mobility impairments
- Well-lit and monitored pathways, with aforementioned active retail frontages at ground level, to help pedestrians feel secure and entertained.
- Landscaping elements, including trees, greenery and regular opportunities to stop and rest, which will create a pleasant, sheltered and shaded environment inclusive to all.

3.28 Further details on the proposed design principles of pedestrian amenities are provided in the Design and Access Statement as well as the Design Guidelines.

3.29 Further improvements along North Dock will improve east-west connectivity and also provide an attractive respite location, whilst dedicated walkways and crossing facilities via West India Quay DLR station and across Hertsmere Road will improve permeability.

Aspen Way Footbridge

3.30 The Aspen Way Footbridge (which the southern approach forms part of the Site boundary) provides an important link to the Site, connecting North Quay to the Poplar DLR station and the wider South Poplar area. Opportunities to improve the footbridge and link to Poplar High Street have been explored to enhance the pedestrian environment and overall movement experience. and further details are provided in the Design and Access Statement. Any improvements to Aspen Way Footbridge and, hence, the connection to Poplar High Street are key enhancements for the local community, vital to meeting the objectives of the Local Plan.

3.31 The proposals involve the southern end of the Aspen Way Footbridge landing at a raised level within the Site leading into public realm (‘Poplar Plaza’), a stepped area (also accessible by lift) with retail, food & beverage units to ground level. This could include the permanent removal of the existing lift towers and stairs at the southern end of the Aspen Way Footbridge, provided full access for mobility impaired will be in place.

3.32 With the extension of the Aspen Way Footbridge connection into the Proposed Development and provision of dedicated routes via the Site, the removal of the existing stairs and lifts landing onto the south side of Aspen Way is considered appropriate. The new direct and landscaped connections with active ground floor frontages via the Masterplan leading directly to key transport nodes and the wider Canary Wharf Estate will significantly enhance the permeability of the Site and a route via the Site is expected to be used instead of the current indirect route leading on Aspen Way and around the perimeter of the Site. The direct connection is expected to increase the fluidity of pedestrian movement on the north-south axis.

Cycling Network and Facilities

Existing Cycle Network

3.33 The Site is well connected to the local and national cycle network.

3.34 A number of key cycle routes operate on the Isle of Dogs including the National Cycle Network (NCN) Route 1, a long-distance cycle route ultimately connecting Dover and the Shetland Islands via the east coast of England. This route operates in a north-west south-east direction across the Isle of Dogs, joining at Three Colt Street in the north and exiting via the Greenwich Foot Tunnel in the south. From Three Colt Street, the route travels southbound connecting to Westferry Circus roundabout and Heron Quays gyratory before travelling in a south easterly direction onto Manilla Street and Alpha Grove towards Crossharbour DLR station. At Crossharbour the route is predominantly off-road before connecting with Greenwich Foot Tunnel.

3.35 The London Docklands and Lee Valley regional route similarly operates along the same route as NCN Route 1, connecting Upper Lee Valley in the north and Greenwich in the south where the route divides east towards North Greenwich and west towards Canada Water respectively. On the Isle of Dogs, the route joins with Three Colt Street in the north and the Greenwich Foot Tunnel entrance in the south.

3.36 Both cycle routes are accessible from Westferry Circus, which is 500m from the Site. Cycleway 3: Barking to Tower Gateway (previously Cycle Superhighway 3) operates in an east-west direction north of the Isle of Dogs, running along Poplar High Street at the northern boundary of the Site. Cycleways are cycle routes running from outer London into and across London, providing safer, faster and more direct journeys into the city.

3.37 The Thameside Path to the west of the Isle of Dogs is designated as ‘parks/on canal towpaths’, where pedestrian activity is prioritised. Responsible cycling is permitted on the internal roads within the Canary Wharf estate.

Proposed Cycle Routes

3.38 In 2019, consultations began to assess cycling and walking improvements between Hackney and Isle of Dogs, a scheme led by TfL in partnership with LBTH and London Borough of Hackney. The proposed Cycleway 37 would connect with Cycleway 3 at West India Dock Road, approx. 400m west of the Site, Cycleway 2 at Mile End Road and former Quietway 2 north of Victoria Park. The route would offer future North Quay users a safe and direct connection across East London.

Existing Cycle Parking

3.39 The Canary Wharf estate provides a large number of private cycle parking spaces. As of 2018, there were 1,134 free cycle parking spaces located at street level across the estate, 208 free cycle parking spaces at basement level, 405 secure cycle parking spaces where a charge is applied, and 3,715 private cycle parking spaces located within tenant buildings.

3.40 In addition, to the Canary Wharf estate's cycle parking provision, Wood Wharf, currently under construction south-east of the site, will provide for approximately 5,500 long stay cycle spaces and 375 short stay spaces within the public realm.

3.41 These cycle spaces should be taken into consideration when determining an appropriate level of retail short-stay cycle parking and the high propensity for linked retail trips in this location.

Figure 3.1: Canary Wharf Cycle Parking

Santander Cycle Hire

3.42 There are multiple Santander Cycle Hire docking stations close to the Site, summarised in **Table 3.1**. Altogether, there are 10 stations present within a 10 minutes' walk of the Site, with a total capacity of 346 cycles.

Table 3.1: Santander Cycle Hire Stations within 10 Minutes' Walk of the Site

Santander Cycle Hire Station	Distance from Site (m)	Cycle Spaces
Import Dock	100	39
Fisherman's Dock West	300	36
Jubilee Plaza	400	62
Upper Bank Street	400	36
Westferry DLR	450	40
Newby Place	600	18
South Quay East	600	35
Heron Quays	600	27
Chrisp Street Market	700	18
Westferry Circus	800	35
Total	**-**	**346**

3.43 Further to the TfL's Santander Cycle Hire scheme, there are multiple private cycle sharing schemes, such as Mobike, Lime and Jump, which offer both pedal and electric cycles. These schemes are independent of docking stations which allows their users greater flexibility in terms of pick-up locations and destinations.

3.44 Figures at the rear of this chapter shows the local cycle routes within the vicinity of North Quay as well as Santander Cycle Hire Stations.

Proposed Network

3.45 The Proposed Development will comprise a network of orthogonal cycle routes throughout the Site, allowing for an easy access on the east to west and north to south corridors.

3.46 The east-west footpath along Aspen Way is proposed to be strengthened with a new cycle route, with a secondary cycling route traversing the Site along North Quay Way. The Parameter Plan of access and circulation routes (including cycle routes) is shown in **Appendix 8**.

3.47 On the western approach to the Site, a landscaped area – *The Delta* – an area of open space located under the existing elevated DLR tracks at the western end of the Site, between the edge of the Hertsmere Road and Aspen Way, will be enhanced to increase the east-west connectivity of the Site.

Figure 3.2: The Indicative Scheme Delta Landscaping Proposals

3.48 These improvements will support active travel amongst new residents, employees and visitors, contributing to the mode shift towards more sustainable transport modes advocated by the Mayor of London.

Proposed Cycle Parking

3.49 The Proposed Development will comprise a high number of long- and short-stay cycle parking spaces, and a cycle hire docking station, which will encourage future employees, residents and visitors to travel more actively.

3.50 Secure, long-stay cycle parking will be provided within basement levels. Storage facilities for commercial and residential buildings will be within their demise (or directly adjacent) with access and layouts determined at Reserved Matters Application stage. For retail staff, cycle storage will be identified in common basement areas as these facilities are shared between buildings. Cycle storage will be split between the basement levels and will use a combination of single and double

storey stacking systems. Access from street level is anticipated to be via secure ramped access routes, cycle lifts or stairs with gutter rails located within adjacent buildings.

3.51 In order to provide sufficient and suitable cycle parking for larger and adapted cycles, as well as cyclists who are not able to use two-tier stands, a part of the long-stay provision (a minimum of 5%) will be in the form of accessible, single tier wider stands, conforming to the London Cycling Design Standards.

3.52 Short-stay cycle parking will be situated within the public realm in visible, convenient locations which provide step-free access, and will be distributed throughout the development.

Cycle Parking Provision

3.53 Long-stay cycle parking provision will be based on the minimum standards in Draft London Plan Policy T5 'Cycling'. These reflect the 'Intend to Publish' version of the Draft London Plan which was published in December 2019.

3.54 Short-stay cycle parking for all uses except retail will also be based on Draft London Plan standards. As set out in TfL's follow up pre-application advice letter at **Appendix 4**, a reduction to retail short-stay cycle parking, at least initially, is deemed appropriate. Short-stay cycle parking for retail uses therefore adheres to the Adopted London Plan Policy, as discussed further below.

3.55 The Site is located within an area of higher minimum cycle parking standards. Both the Draft London Plan long and short-stay standards and the Adopted London Plan short-stay standards are provided in **Table 3.2**.

Table 3.2: Cycle Parking Standards (all in GEA)

Use Class	NQ Land Use	Long-Stay	Short-Stay	
		Draft London Plan	Draft London Plan	Adopted London Plan
A1 Food retail	Retail	From a threshold of 100 sqm: 1 space per 175 sqm	From a threshold of 100 sqm: first 750 sqm: 1 space per 20 sqm thereafter: 1 space per 150 sqm	From a threshold of 100 sqm: first 750 sqm: 1 space per 40 sqm thereafter: 1 space per 300 sqm
A1 Non-food retail		From a threshold of 100 sqm: first 1000 sqm: 1 space per 250 sqm thereafter: 1 space per 1000 sqm	From a threshold of 100 sqm: first 1000 sqm: 1 space per 60 sqm thereafter: 1 space per 500 sqm	From a threshold of 100 sqm: first 1000 sqm: 1 space per 125 sqm thereafter: 1 space per 1000 sqm
A2-A5		From a threshold of 100 sqm: 1 space per 175 sqm	From a threshold of 100 sqm: 1 space per 20 sqm	From a threshold of 100 sqm: 1 space per 40 sqm
B1 Office	Office	Higher Parking Standards: 1 space per 75 sqm outer London: 1 space per 150 sqm	First 5,000 sqm: 1 space per 500 sqm thereafter: 1 space per 5,000 sqm	First 5,000 sqm: 1 space per 500 sqm thereafter: 1 space per 5,000 sqm
C3-C4 Dwellings	Residential	1 space per studio, 1.5 spaces per 1-bedroom unit 2 spaces per all other dwellings	1 space per 40 units	1 space per 40 units
C1 Hotels	Serviced Apartments	1 space per 20 bedrooms	1 space per 50 bedrooms	1 space per 50 bedrooms

3.56 **Table 3.3** provides detail on the cycle parking provision for the Indicative Scheme. Altogether, 3,883 long-stay cycle parking spaces are required in accordance with the Draft London Plan standards. Based on Draft London Plan standards for all uses, 608 short-stay cycle parking spaces would be required for the Indicative Scheme. However, as discussed above and further below, a lower quantum of retail short-stay cycle parking in accordance with the Adopted London Plan standards is considered appropriate (at least initially) which equates to 344 short-stay cycle parking spaces.

Table 3.3: Indicative Scheme Cycle Parking Provision

Development Land Use	Indicative Scheme Floor Area (GEA - excluding ancillary areas)	Long-Stay	Short-Stay	
		Draft London Plan	Draft London Plan	Adopted London Plan
Retail	14,401 sqm	80	528	264
Office	183,845 sqm	2,471	47	47
Residential	86,046 sqm (702 units)	1,294	18	18
Serviced Apartments	46,401 sqm (750 rooms)	38	15	15
Total	**331,094**	**3,883**	**608**	**344**

3.57 Long-stay cycle parking within the Indicative Scheme is provided at basement levels B1 and B2 for all land uses, accessed via lifts from the ground floor. **Figure 3.4** at the rear of this chapter illustrates the proposed cycle access points and lifts within each building, whilst **Figure 3.5** and **Figure 3.6** illustrate the areas for cycle storage and facilities at basement levels B1 and B2 respectively.

3.58 The Proposed Development will also provide a new cycle hire docking station with 32 docking points under the Delta Junction, as agreed with TfL through pre-application discussions and shown in **Figure 3.2**.

Short-Stay Cycle Parking – Justification of Approach to Retail Cycle Parking

3.59 The proposed cycling parking provision, in particular the short-stay cycle parking provision for retail land uses, was developed in agreement with LBTH and TfL. While the Adopted London Plan short-stay cycle parking standards for retail uses are lower than the Draft London Plan standards, the output is reflective of the good cycle parking provision throughout the Canary Wharf estate and the high number of linked retail trips.

3.60 The number of stands required by the Draft London Plan for retail uses would also have a significant impact on public realm and pedestrian movement. An overprovision of cycle parking at grade will significantly reduce useable space on key walking routes within the public realm and is likely to cause a detrimental obstruction to pedestrian movements as well as restricting access to retail frontage. One of the key priorities within the Isle of Dogs and South Poplar Opportunity Area Planning Framework and the LBTH Local Plan Site Allocation for North Quay is the delivery of enhanced public space, planned around people and allowing for improved connectivity and accessibility. The provision of Draft London Plan retail short-stay cycle parking notably reduces the functionality and recreational enjoyment and use of this public space.

3.61 Responses from the Canary Wharf Retail Survey (2008) showed that 72% of retail trips on the Canary Wharf estate at the time were linked trips. This has been substantiated by more recent data collected within the Canary Wharf CACI 2019 Retail Survey, showing that retail linked trip usage patterns have increased marginally in the last 10 years. This approach was accepted by TfL in their letter dated 24th March 2020, which stated that "*the proposed use of 72% 'linked' trips in the trip generation is acceptable based on current activity*".

3.62 As outlined above, Canary Wharf already provides extensive short-stay cycle parking provision across the estate and in close proximity to the Site. Cycle use is monitored through both the Cordon Survey and Employee Travel Survey and cycle parking allocation is reviewed as part of the wider estate management. The cycle parking provision within the Site will be reviewed on an annual basis via an agreed monitoring plan secured through a planning condition and additional cycle parking spaces will be provided if necessary.

3.63 Retail short-stay cycle parking will therefore be provided in accordance with Adopted London Plan standards initially, however usage will be monitored and provision increased if needed. This approach was accepted by TfL in their letter dated 24th March 2020.

3.64 In accordance with the provision required for the Indicative Scheme, **Appendix 9a** shows the proposed location of 344 short-stay cycle parking spaces (172 Sheffield stands) within the public realm. **Appendix 9b** shows the additional 264 short-stay retail cycle parking space which could subsequently be provided within the public realm in accordance with Draft London Plan standards should the demand arise.

Public Transport Network

Public Transport Accessibility

3.65 A 'Public Transport Accessibility Level' ("PTAL") assessment has been undertaken and the TfL WebCAT PTAL report can be found at **Appendix 10**.

3.66 PTAL is a measure of the accessibility of a location to the public transport network, taking into account walk access time and service availability. PTAL is categorised in 6 levels, 1-6 where 6b represents the highest level of accessibility and 1a the lowest level of accessibility.

3.67 The Site's PTAL varies from a 5 ('very good') to a 6a ('excellent'); with improved PTAL closer to Upper Bank Street. The score is expected to improve to 6a across the entire Site by 2021 according to TfL's forecast owing to the planned opening of the Elizabeth Line, immediately south of the Site.

3.68 **Figure 3.2** shows the public transport network, including the Jubilee Line, Elizabeth Line, DLR and bus routes discussed below.

Bus Services

3.69 The Site is located within the vicinity of 8 daytime and 4 dedicated overnight bus routes, connecting North Quay to the wider Canary Wharf area, as well as key locations around London – City of London, the West End and Stratford.

3.70 The bus routes and a summary of these services is provided in **Table 3.4.**

Table 3.4: Local Bus Services

Bus Route	Route	Nearest Bus Stop	Peak Hour Headway (mins)
135	Old Street – Crossharbour	Canary Wharf Station (Stop F)	9-12
277	Dalston Junction – Mudchute		5-9
D3	Bethnal Green – Leamouth		9-11
D7	Poplar – Mile End		5-7
D8	Stratford – Crossharbour		11-14
N277	Angel – Mudchute		Two to four services per hour between 00:52 and 06:08 (towards Mudchute) and 00:23 and 04:45 (towards Angel)
N550	Trafalgar Square – Canning Town Station		Two to four services per hour between 00:54 and 05:52 (towards Canning Town) and 23:59 and 06:00 (towards Trafalgar Square)
15	Trafalgar Square – Blackwall Station	Upper North Street (Stop F Westbound; Stop C Eastbound)	6-10
115	Aldgate – East Ham		7-11
D6	London Fields – Mudchute		6-8
N15	Oxford Circus – Romford		Four to eight services per hour between 01:04 and 05:48 (towards Romford) and 01:06 and 05:19 (towards Oxford Circus)
N551	Trafalgar Square – Beckton		Two services per hour between 00:38 and 06:04 (towards Beckton) and 23:48 and 06:21 (towards Trafalgar Square)

London Underground

3.71 Canary Wharf underground station is the closest London Underground ("LU") station and is served by the Jubilee Line. The Jubilee Line connects to key destinations across London including London Bridge, Waterloo and Bond Street to the west, and North Greenwich, West Ham and Stratford to the east. The Jubilee Line is very accessible for all users; step-free access is provided at Canary Wharf underground station and all stations between Green Park and Stratford. Jubilee Line frequencies in trains per hour ("tph") during the busiest periods are shown in **Table 3.5**.

Table 3.5: Existing Peak Jubilee Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
30	30

Night Tube

3.72 The Jubilee Line is a part of the Night Tube network, with 24-hour services running on Friday and Saturday nights. The introduction of 24 hour services on the Jubilee Line increased the public transport accessibility of the Site outside peak hours, and provides night-time connectivity with destinations across London.

DLR

3.73 West India Quay and Poplar Stations are located within the immediate vicinity of the Site. Line frequencies during the busiest periods are shown in **Table 3.6**. All DLR stations provide step-free

access, facilitating public transport accessibility for all users. The DLR provides connections to key London destinations including Bank, Stratford, Canning Town and Lewisham.

Table 3.6: Existing Peak DLR Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
West India Quay	Stratford	15	15
	Bank	15	15
	Lewisham	7	-
	Canary Wharf	15	15
Poplar	Stratford	15	15
	Woolwich Arsenal	7	8
	Bank	7	8
	Tower Gateway	8	7
	Beckton	8	7
	Lewisham	8	-
	Canary Wharf	15	15
Stratford	West India Quay	15	15
Bank		-	-
Lewisham		8	-
Canary Wharf		15	15
Stratford	Poplar	15	15
Woolwich Arsenal		8	7
Bank		8	7
Tower Gateway		7	7
Beckton		7	8
Lewisham		8	-
Canary Wharf		15	15

Elizabeth Line

3.74 Elizabeth Line is expected to open in 2021, before the planned completion of Phase 1 of the Proposed Development. Canary Wharf Elizabeth Line station, located in Crossrail Place is located immediately to the south, within a one-minute walk. Expected line frequencies during the busiest periods are shown in **Table 3.7**. The new service will facilitate connections to key destinations including Paddington and Tottenham Court Road within central London and Reading and Shenfield outside Greater London. All Elizabeth Line station will be accessible for all users, with step-free access.

3.75 Elizabeth Line will cut journey times to key destinations. The journey time between Paddington and Canary Wharf is expected to reduce from 49 minutes to 29 minutes, whilst the journey time to Heathrow Airport (Terminal 4) is expected to reduce from 70 minutes to 45 minutes.

Table 3.7: Expected Peak Elizabeth Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
12	12

National Rail

3.76 The nearest National Rail station to the Site is Limehouse, which is a 2.2 km walk to the west or an 8-minute DLR journey from the neighbouring DLR stations.

3.77 Limehouse station provides access to c2c services to/from London Fenchurch Street and Grays, Pitsea, Southend and Shoeburyness. Step-free access is available via lift to Platform 2 (trains towards Shoeburyness) and via DLR station to Platform 1 (towards London Fenchurch Street). Line frequencies during the busiest periods are shown in **Table 3.8**.

Table 3.8: Existing Peak National Rail Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
London Fenchurch Street	Grays	4	8
	Pitsea	6	8
	Southend Central	8	9
	Shoeburyness	6	9
Grays	London Fenchurch Street	8	6
Pitsea		8	8
Southend Central		6	7
Shoeburyness		4	5

Car Clubs

3.78 There are currently two car club locations within a 10-minute walk of the Site:

- Two vehicles available on Cannon Drive, 400m or a five minutes' walk from the Site, operated by ZipCar; and
- Newby Place, 700m or a nine minutes' walk from the Site, operated by Ubeeqo.

3.79 There are further two car club bays on Poplar High Street, 600m or a seven minutes' walk from the Site and eight proposed car club bays at Wood Wharf, under 1km or 12-minute walk.

3.80 There are further car club bays located within a 15 minutes' walk:

- Millharbour, 1.2km or 15 minutes' walk from the Site, operated by Enterprise; and
- Manilla Street, 1.2km or a 15 minutes' walk from the Site, operated by ZipCar.

Local Highway Network

3.81 The Site is well connected to the local and regional road network and is currently accessed via Hertsmere Road and Upper Bank Street. It is partly bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively.

3.82 **Figure 3.8** shows the local highway network.

Aspen Way

3.83 The A1261, Aspen Way, is an east-west road link forming part of the Transport for London Road Network (TLRN). Aspen Way diverges into West India Dock Road and the Limehouse Link Tunnel in the west. West India Dock Road provides connections with Westferry Road at the junction next to Westferry DLR station, and the east-west A13 East India Dock Road. The A13 is a major London through route connecting central and east London and south Essex. The road is subject to 40mph speed limits.

3.84 To the east, Aspen Way connects with Prestons Road roundabout, a key interchange facilitating connections to Prestons Road to the south and Cotton Street to the north. Prestons Road runs southbound from Prestons Road roundabout along the east of the Isle of Dogs. It connects with Marsh Wall roundabout to the south of South Dock. Cotton Street connects to the north to East India Dock Road. The interchange providing access to Blackwall Tunnel is 200m east of the Cotton Street / East India Dock Road junction.

3.85 Beyond Prestons Road roundabout, Aspen Way connects with the Lower Lea Crossing, before merging with East India Dock Road.

3.86 Aspen Way forms part of the wider A13 Thames Gateway Design, Build, Finance and Operate (DBFO) concession. The DBFO begins at Butcher Row and finishes at Wennington Interchange and a further section including Aspen Way (A1261), Limehouse Link Tunnel and East India Dock Tunnel (known as the Docklands Roads). The contract is let to Road Management Services (RMS) which is due to end in 2030 after which Aspen Way will be returned to TfL control.

Upper Bank Street

3.87 Upper Bank Street is a north-south internal road link within the Canary Wharf estate. It runs northbound from South Dock along the east of the Canary Wharf estate connecting with the A1261 Aspen Way in the north. It is located east of the Site and passes though the Canary Wharf Elizabeth Line station at North Dock. The road is subject to 20mph speed limits.

Hertsmere Road

3.88 Hertsmere Road connects to the west of the Site and provides connections with West India Dock Road and Poplar High Street to the north, and Ontario Way and Westferry Circus gyratory to the south.

3.89 Westferry Circus is a key junction on the west side of the Isle of Dogs. It connects to the north-south Westferry Road which runs from West India Dock Road in the north to the south of the Isle of Dogs where it connects with Manchester Road. The roundabout provides access to the Canary Wharf estate. It splits into two separate levels: Upper Westferry Circus which connects with West India Avenue in Canary Wharf; and Lower Westferry Circus which provides access to lower level service areas and also connects with Heron Quays gyratory (to the south), and the Limehouse Link Tunnel (to the north). The road is subject to 20mph speed limits.

3.90 There are currently two major junctions located in the vicinity of the Site:

- Aspen Way/West India Dock Road and Hertsmere Road to the west of the Site. The junction is signalised and allows movements to and from the eastbound lane. Southbound and westbound lanes can be accessed via a slip road and a turnaround respectively.
- Aspen Way and Upper Bank Street to the east of the Site. The junction is signalised and allows movements to and from the eastbound lane, but not between westbound traffic and Upper Bank Street.

Proposed Development

Hertsmere Road

3.91 The main vehicle and service access will be from Hertsmere Road. Vehicles will travel beneath the DLR Delta Junction before passing a security check point and entering the Site if proceeding to North Quay Way or diverting left to the vehicle ramp to the shared basement. The operational management of the Site will ensure that vehicles are directed to the correct destination point. A strict pre-booked delivery system would operate to ensure an even arrival profile of servicing vehicles to minimise the potential for vehicles queuing. Further details are provided in the Delivery and Servicing Plan, provided at **Appendix 7**.

3.92 Majority of vehicular access and servicing will be carried out from the western end of the Proposed Development via the vehicular ramp at NQA1, with majority of car parking and loading bays provided within the basement.

3.93 The existing junction configuration at the West India Dock Road/ Hertsmere Road junction will remain unchanged and can accommodate all required vehicle manoeuvres.

North Quay Way

3.94 North Quay Way will form the key spine route running through the Site in an east-west orientation, providing vehicular and pedestrian access and connectivity between Upper Bank Street and Hertsmere Road. Its eastern end will be a secondary entry point into North Quay and will also help connect the Masterplan to Billingsgate in the future. The street will act as a spine of the Proposed Development connecting all of the building plots and open spaces together.

3.95 North Quay Way will provide access for taxis, servicing and emergency vehicles, with four bays provided on-street (in the Indicative Scheme). However, the vehicular traffic volume on the road is expected to be low, maintaining the road as a key pedestrian route.

3.96 As part of the pre-application consultation with TfL, the opportunity to facilitate crane access via North Quay Way for the maintainance of the glass panels above West India Quay DLR station was discussed. The DLR has commissioned an independent crane survey and the Applicant will continue to liase with the DLR pending the results of the survey regarding the feasibility of crane access.

Upper Bank Street

3.97 Due to security arrangements, a direct access to the Proposed Development via Upper Bank Street will only be possible for vehicles already within the Canary Wharf estate, turning left-in from Upper Bank Street. Vehicles intending to proceed to the Proposed Development directly from Aspen Way will need to pass through security check before entering the estate and turning back towards North Quay. Hence, it is expected that few vehicles will enter the Site from the east.

3.98 The proposals include modifications to the Upper Bank Street approach to reduce the carriageway from three lanes to two. This will allow the Proposed Development to enhance the

public realm in the northeast corner of the Site and move the toucan crossing closer to Aspen Way to better serve pedestrian and cycle desire lines and improve connections to future developments east of the Site. It is proposed that these works are delayed until after 2030 when the DBFO contract with RMS expires and control returns to TfL who support the principles of the proposed changes. As the proposed modifications reduce the number of lanes, the junction would operate with greater reserve capacity until such a time as the proposals are implemented.

3.99 The Parameter Plan of access and circulation routes is shown in **Appendix 8** and plans showing the proposed highway arrangement and vehicle access routes at both Hertsmere Road and Upper Bank Street are provided in **Figure 3.9** and **Figure 3.10** respectively at the rear of this chapter.

Car Parking

3.100 The Site is situated within a Controlled Parking Zone ("CPZ") "D". The CPZ restrictions apply Monday to Friday, between 8.30AM and 5.30PM.

3.101 There are four underground public car parks located on the Canary Wharf estate as listed below:

- Cabot Square Car Park: Entrance on Cooks Close;
- Canada Square Car Park: Entrance on Montgomery Street;
- Jubilee Place Car Park: Entrance on Bank Street; and
- Westferry Circus Car Park: Entrance on West India Avenue.

3.102 Cabot Square Car Park, Canada Square Car Park and Jubilee Place Car Park all provide direct access into the shopping malls. These four car parks provide a total of 2,500 car parking spaces across the Canary Wharf estate, including:

- 52 Parent & Child parking bays; and
- 42 Accessible parking bays for Blue Badge Holders.

3.103 The Site is not located within the Congestion Charge Zone. The site will be included within the expanded Ultra-Low Emission Zone, which the Mayor proposes to expand to cover all areas contained within the North Circular and South Circular by October 2021.

Proposed Development

3.104 The Proposed Development aims to support the Mayor's Transport Strategy Policy 1 and the LBTH Policy S.TR1 Sustainable Travel to achieve high levels of sustainable travel, by making the Proposed Development car-free. The Masterplan builds on and enhances on the excellent accessibility to the Site by sustainable modes of transport – walking, cycling, rail and bus journeys.

3.105 The minimum target for 3% accessible car parking for residential dwellings will be provided from the outset as per Draft Policy T6.1 of the Draft London Plan (2019) and by way of example, in the Indicative Scheme 23 Blue Badge spaces would be provided on this basis. This is based on 702 residential units assumed in the Indicative Scheme.

3.106 The Draft London Plan (2019) Policy T6.1 also requires that a further 7% of dwellings could be provided with Blue Badge spaces in the future upon request, as soon as existing provision is insufficient.

3.107 Table DIS0109 of the Department for Transport statistics[1] recorded that, in 2019, 1.6% of Tower Hamlets' residents held a valid Blue Badge. Therefore, even if take-up of Blue Badges within the development were higher than the current Borough average, providing 3% of units with a Blue Badge space exceeds anticipated parking requirements by Blue Badge holders.

3.108 As discussed with TfL and set out in their pre-application advice letter, the limited additional available basement space and constraints to the ground floor mean that providing additional accessible car parking is not an option. High-quality, inclusive access routes will be provided from the Site to accessible public transport. It is noted that all public transport on the Isle of Dogs is step-free, including forthcoming Elizabeth Line.

3.109 Accessible parking for only 3% of residential units will therefore be provided from the outset and will be allocated for Blue Badge Holders. A Parking Design and Management Plan accompanies this TA and **Appendix 11** which sets out how access to these spaces will be managed alongside provision of electric vehicle charging points.

3.110 Accessible car parking for Blue Badge Holders will also be provided at ground level on North Quay Way for commercial uses. It is intended that one space per commercial building will be provided in accordance with Draft London Plan standards, although this will be set out through the RMA's that come forward.

3.111 In accordance with Policy T6.1 of the Draft London Plan, 20% of the spaces will be provided with Electric Vehicle Charging Points ("EVCPs") from the outset. Passive provision will be made to extend EVCPs to all car parking spaces, if evidenced by demand.

Proposed Delivery and Servicing Arrangement

3.112 The principles of this strategy have been discussed and agreed with LBTH and TfL at the pre-application stage.

3.113 The Outline DSP (document reference NQ.PA.13) can be found at **Appendix 7**, however the key elements of the delivery and servicing arrangement across the Proposed Development are summarised below and further information on delivery and servicing trip generation is presented in **Chapter 5**.

3.114 The location of loading bays within basement level B2 of the Indicative Scheme are shown in **Appendix 2** and swept-path analysis of the loading bays is provided within the DSP at **Appendix 7**. The final location and quantum of loading bays within the basement will be established through the RMAs that come forward.

[1] Department for Transport (2019) *Department for Transport statistics. Table DIS0109 Valid Blue Badges held and population measures: England, by Local Authority 2019*

Ground Floor Activity

3.115 Within the Indicative Scheme, four drop-off/delivery and servicing bays will be provided on-street, on North Quay Way. The intention is that the bays will not be available for parking but could be used for deliveries, pick-up/drop-off and other activities. The final location and quantum of bays provided at street level will be established through the RMA's that come forward.

3.116 Only limited delivery and servicing activity will take place at ground level. Given the forecast levels of vehicular traffic and servicing activity, this strategy is not anticipated to adversely impact the flow of pedestrians and cyclists within the public realm.

Basement Activity

3.117 The majority of delivery and servicing activity will be carried out from a shared basement. In the Indicative Scheme a total of 16 loading bays will be provided at level B2:

- 10 bays capable of accommodating cars, LGVs and panel box vans up to 7.5t.
- 6 bays capable of accommodating MGVs/HGVs of up to 10m in length.

3.118 There is no provision for articulated lorries within the Masterplan and restrictions will therefore be put in place and communicated to future occupiers to ensure that no vehicles larger than 10m rigid vehicles deliver to the Proposed Development.

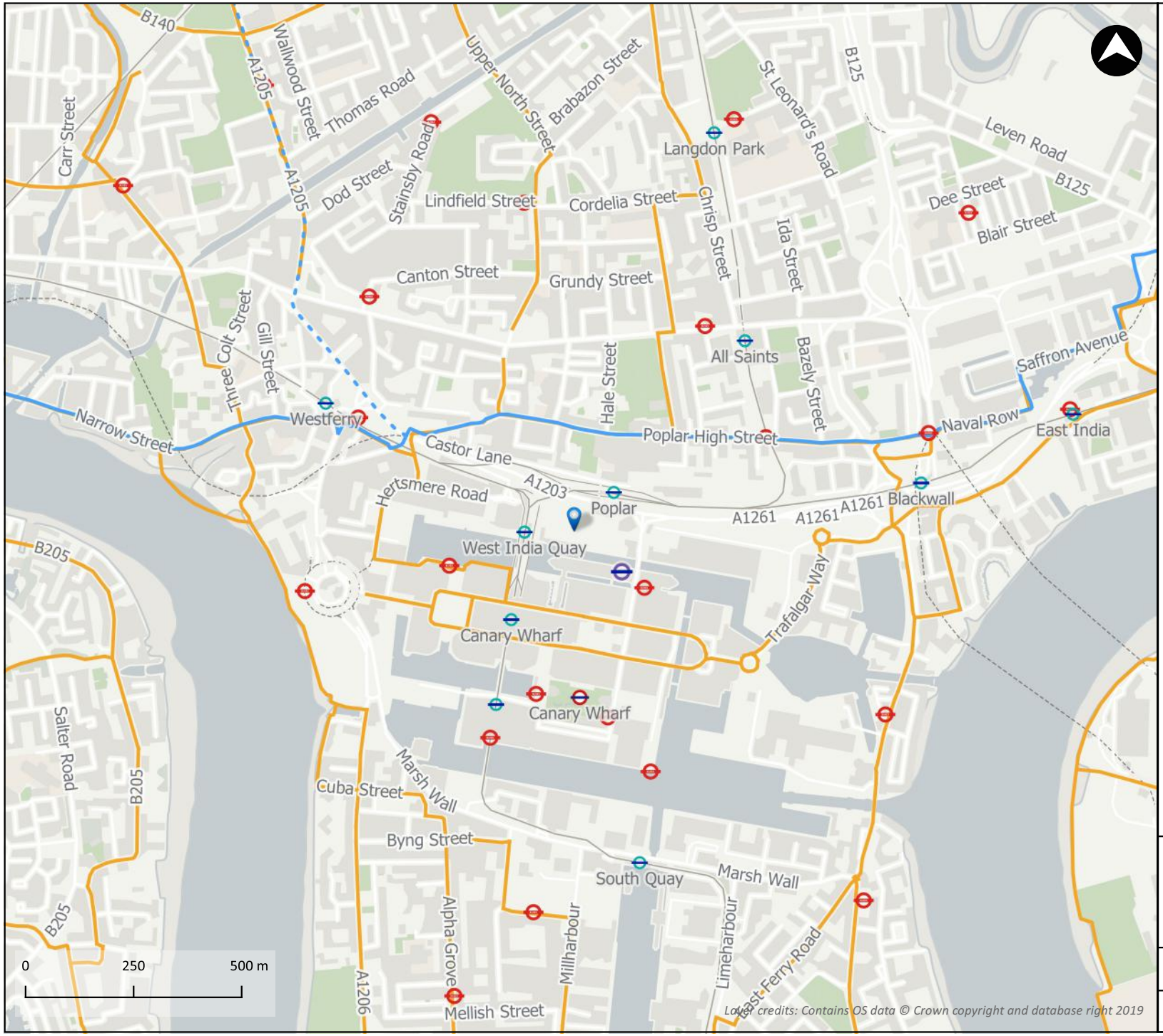
3.119 There is also space for up to 16 waste compactors and separate waste storage areas within the basement servicing area. A Site Waste Management Plan (document reference NQ.PA.22) is included as **Appendix 12**.

Summary

3.120 **Table 3.9** summarises how the Proposed Development supports the Healthy Streets Approach and Vision Zero targets for LBTH and TfL.

Table 3.9: Summary of Healthy Streets and Vision Zero Benefits

Walking	Cycling	Public Transport	Highways
• Wide footways along key pedestrian routes to/from public transport stations. • Improved connectivity to local area and wider area through provision of direct routes and improved north-south permeability, especially to the wider Poplar area. • Filtered internal streets through provision of bollards to promote walking, cycling and play. • Natural surveillance, suitable street lighting and shared spaces will encourage walking.	• Shared use paths provide safe, direct route connecting the Site with existing cycle infrastructure. • High-quality short- and long-stay cycle parking. • Filtered internal streets through provision of bollards to promote walking, cycling and play. • Improved connectivity to local area and wider area through provision of direct routes and improved eat-west and north-south permeability, especially to the wider Poplar area. • Shared spaces to facilitate cycling trips	• Excellent access to Underground, Elizabeth Line and DLR rail links can encourage public transport use. • Good access to bus routes.	• The constrained car parking provision limited to accessible spaces will limit car ownership and car travel. • Proposed resident exemption from permits within existing CPZs external to the Site. • New toucan crossing at Upper Bank Street / Aspen Way junction to ensure safe and direct movement for pedestrians and cyclist


B140
A1205
Wallwood Street
Thomas Road
Upper North Street
Brabazon Street
Carr Street
Dod Street
Stainsby Road
Lindfield Street
Cordelia Street
Langdon Park
St Leonard's Road
B125
Leven Road
Dee Street
Blair Street
Chrisp Street
Ida Street
Canton Street
Grundy Street
Three Colt Street
Gill Street
Hale Street
All Saints
Bazely Street
Saffron Avenue
Narrow Street
Westferry
Poplar High Street
Naval Row
East India
Castor Lane
A1203
Hertsmere Road
Poplar
A1261
A1261
A1261
Blackwall
West India Quay
B205
Canary Wharf
Trafalgar Way
Canary Wharf
Salter Road
B205
Marsh Wall
Cuba Street
Byng Street
South Quay
Marsh Wall
B205
Alpha Grove
Millharbour
Limeharbour
East Ferry Road
A1206
Mellish Street
0
250
500 m
Legend
Site Location
Santander Cycle Hire
TfL Cycleways
Existing
Proposed
Advisory
Railway Stations
London Underground
DLR
Elizabeth Line
North Quay
Cycling Infrastructure
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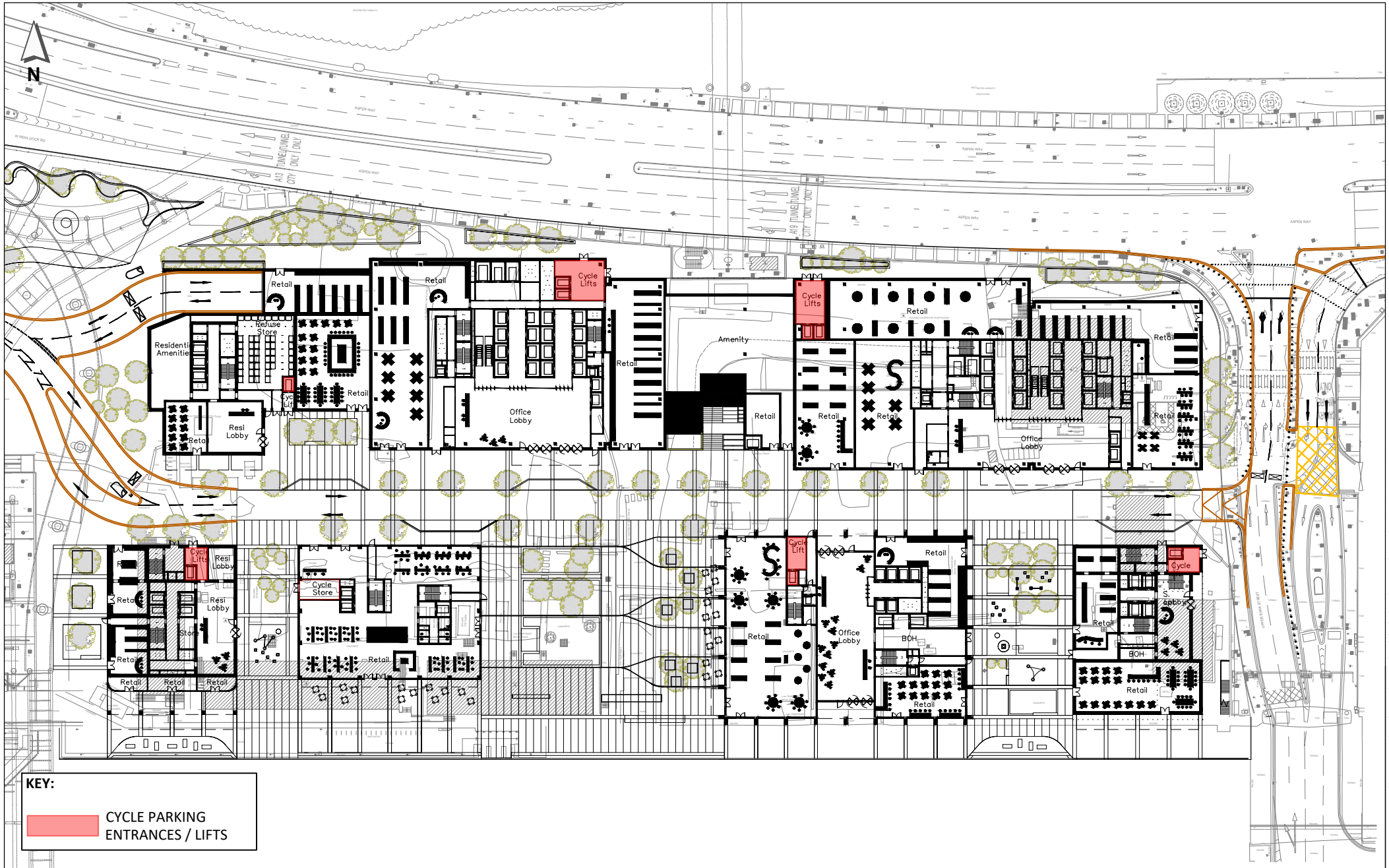

North Quay Indicative Scheme

Cycle Parking (Level 00)

steer

00-CYC	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

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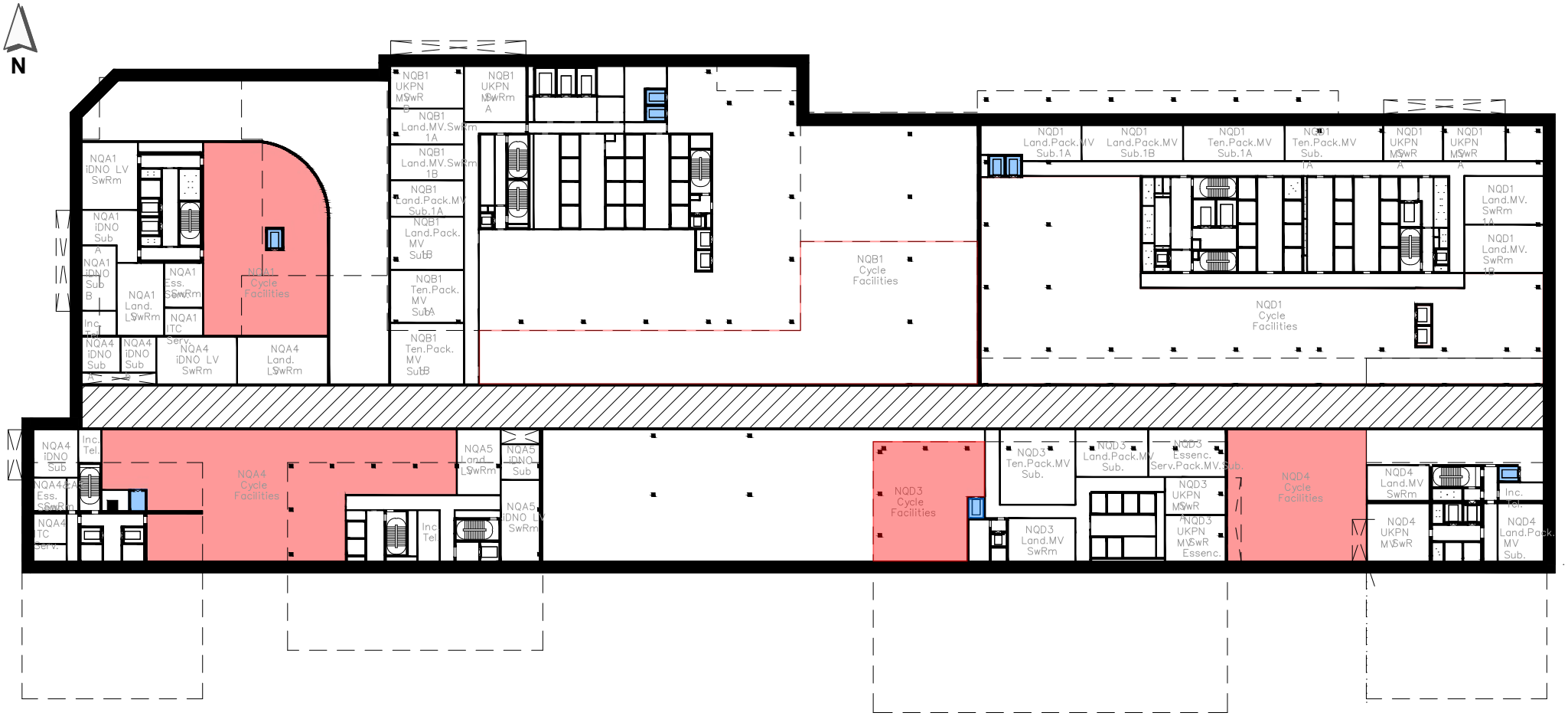

KEY:

CYCLE LIFTS

CYCLE PARKING

North Quay Indicative Scheme

Cycle Parking (Basement Level 01)

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B1-CYC	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

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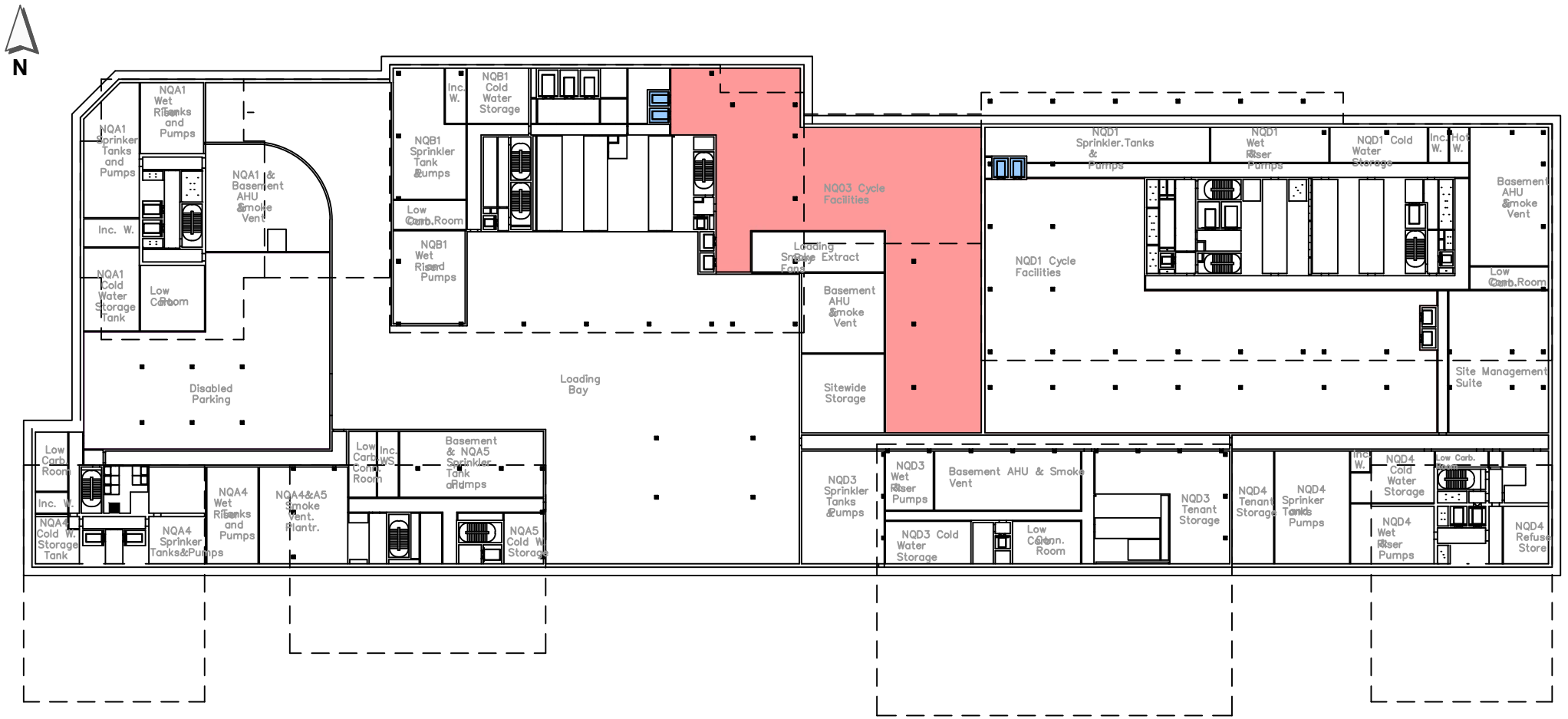

KEY:

- CYCLE LIFTS
- CYCLE PARKING
- CAR PARKING

North Quay Indicative Scheme

Cycle and Car Parking (Basement Level 02)

steer

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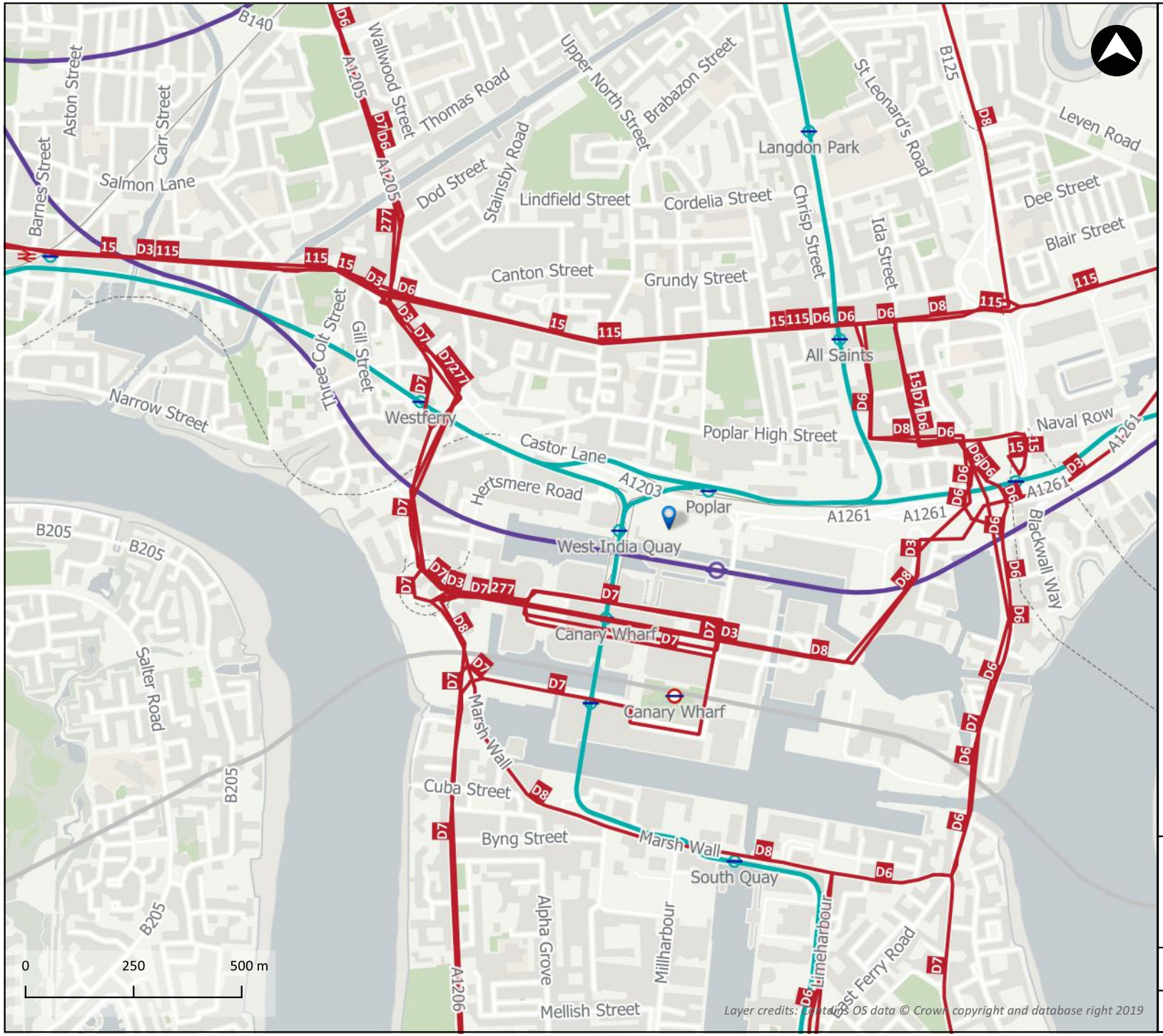

Legend

- Site Location

Railway Stations

- London Underground
- DLR
- Elizabeth Line

Railway Lines

- Jubilee Line
- DLR
- Elizabeth Line
- Bus Route

North Quay

Public Transport

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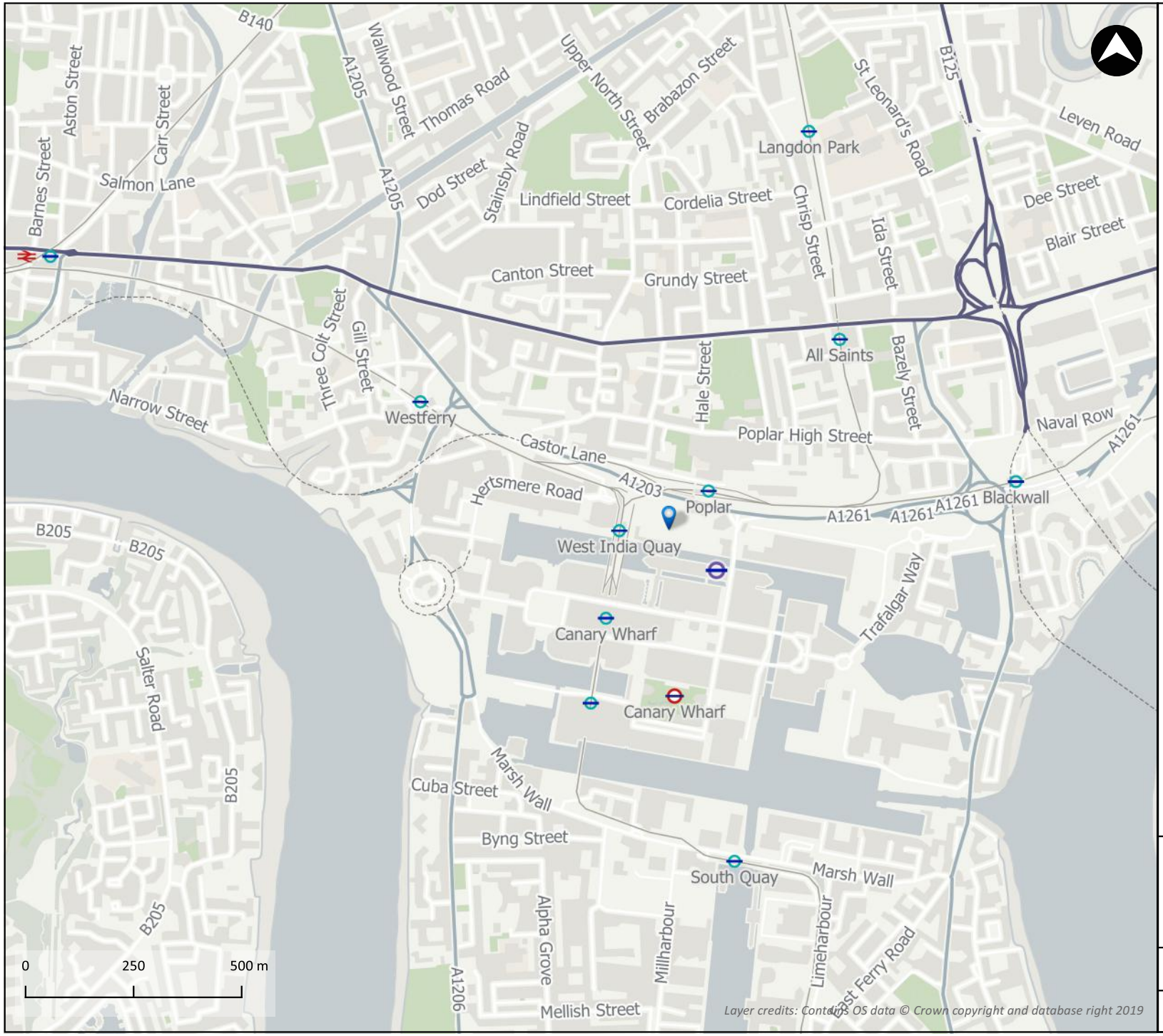

Legend

Road Network

- A Road
- Motorway / Primary Road

Railway Station

- London Underground
- DLR
- Elizabeth Line

North Quay

HIghway Network

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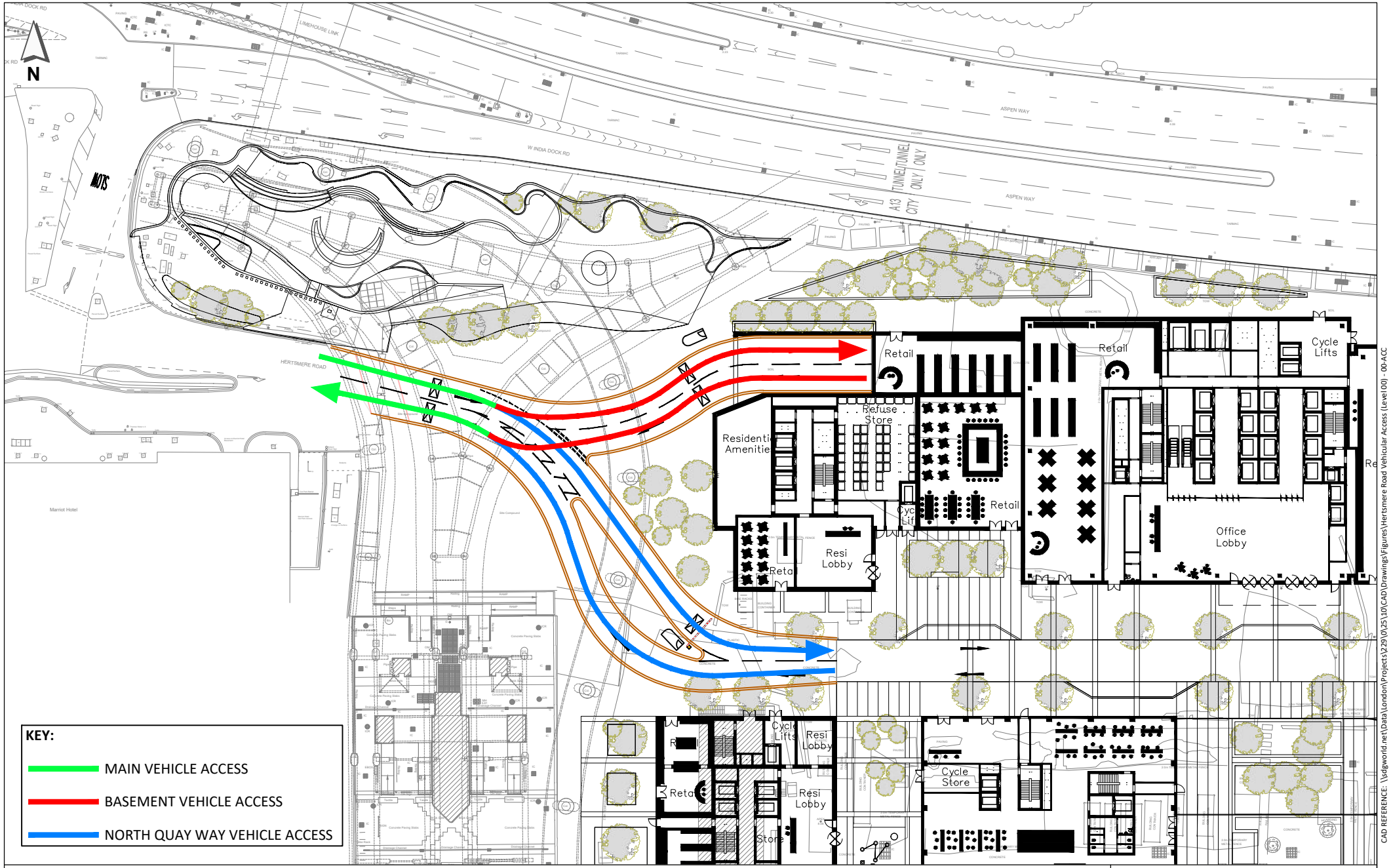

North Quay Indicative Scheme

Hertsmere Road Vehicular Access (Level 00)

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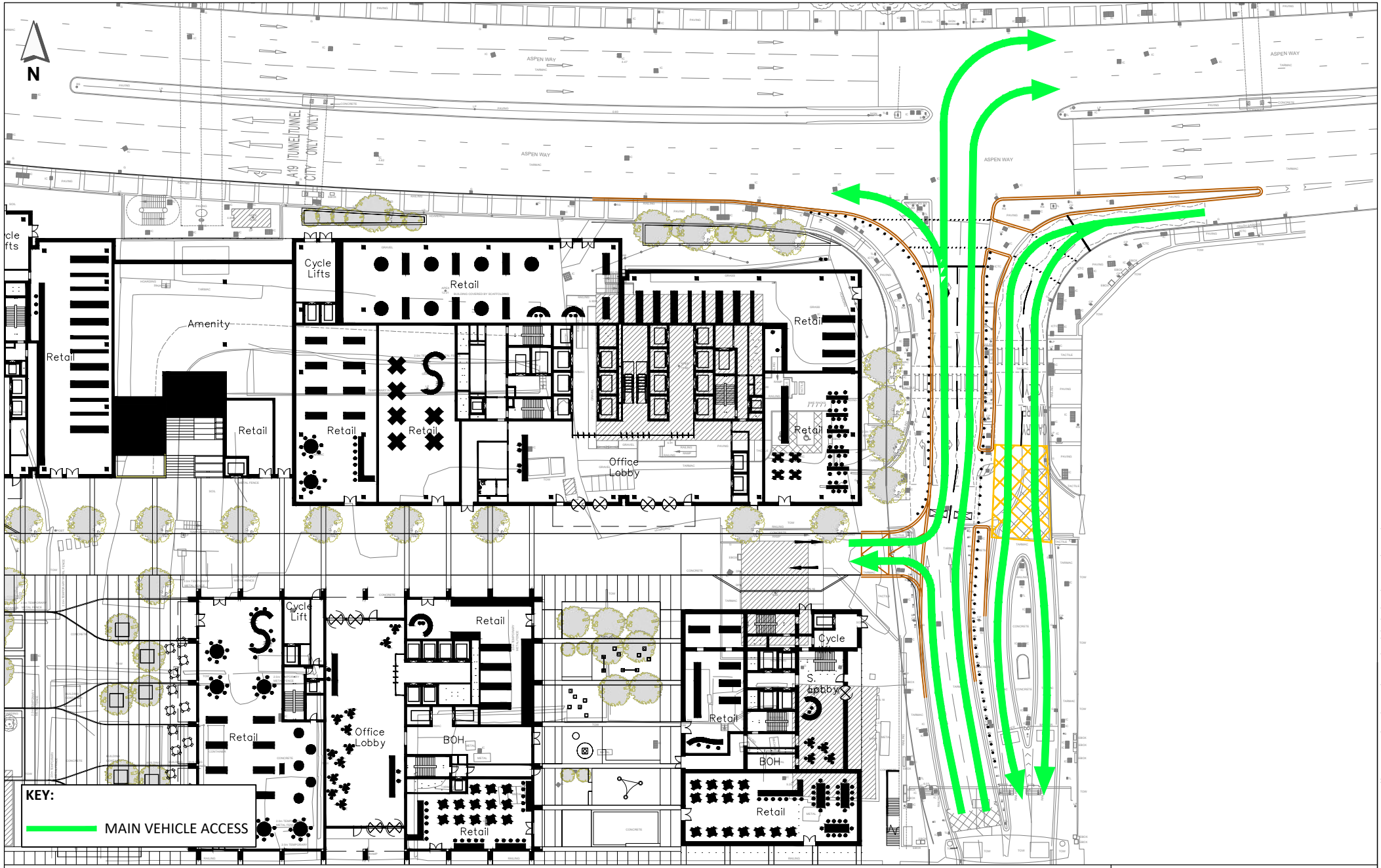

North Quay Indicative Scheme

Upper Bank Street Vehicular Access (Level 00)

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4 Active Travel Zone

Introduction and Extenuating Circumstances

4.1 The Healthy Streets Approach seeks to "put people and their health at the centre of decisions about how we design, manage and use public spaces. It aims to make our streets healthy, safe and welcoming for everyone."[2]

4.2 This puts emphasis on promoting sustainable modes of transport, such as walking, cycling and the use of public transport. It simultaneously encourages the departure from car travel.

4.3 The Active Travel Zone assessment, which forms a part of Transport Assessments as per TfL guidance selects a number of walking and cycling routes that the Proposed Development's residents, employees and visitors are likely to take to reach key destinations. The ATZ plan, provided at **Figure 4.1**, identifies the 20-minute cycle catchment for the Site.

4.4 During the pre-application stage routes to key destinations were selected and agreed with both LBTH and TfL officers as part of pre-application discussions. **Figure 4.2**, the ATZ Neighbourhood Plan, includes only those key destinations which were agreed as relevant to the Proposed Development and **Table 4.1** overleaf summarises the agreed routes.

4.5 However, due to the Government's policy of promoting social distancing and limiting unnecessary travel, resulting from the Covid-19 pandemic at the time of writing (May 2020) TfL has issued guidance making ATZ assessments non-mandatory.

4.6 The majority of agreed ATZ routes are passing through the Canary Wharf Estate and pedestrian-only paths, which are not covered by online tools (e.g. Google Maps and Bing Maps) which were provided as alternative suggestions to on-site visits.

4.7 Hence, as per the official advice received from TfL (email from TfL Spatial Planning dated 26/03/2020), the ATZ assessment has not been undertaken as part of this OPA. TfL recognises that a need for more flexibility will arise when assessing planning applications that were prepared during the period in question.

[2] TfL (2017) *Guide to the Healthy Streets Indicator*

Table 4.1: Key Destinations

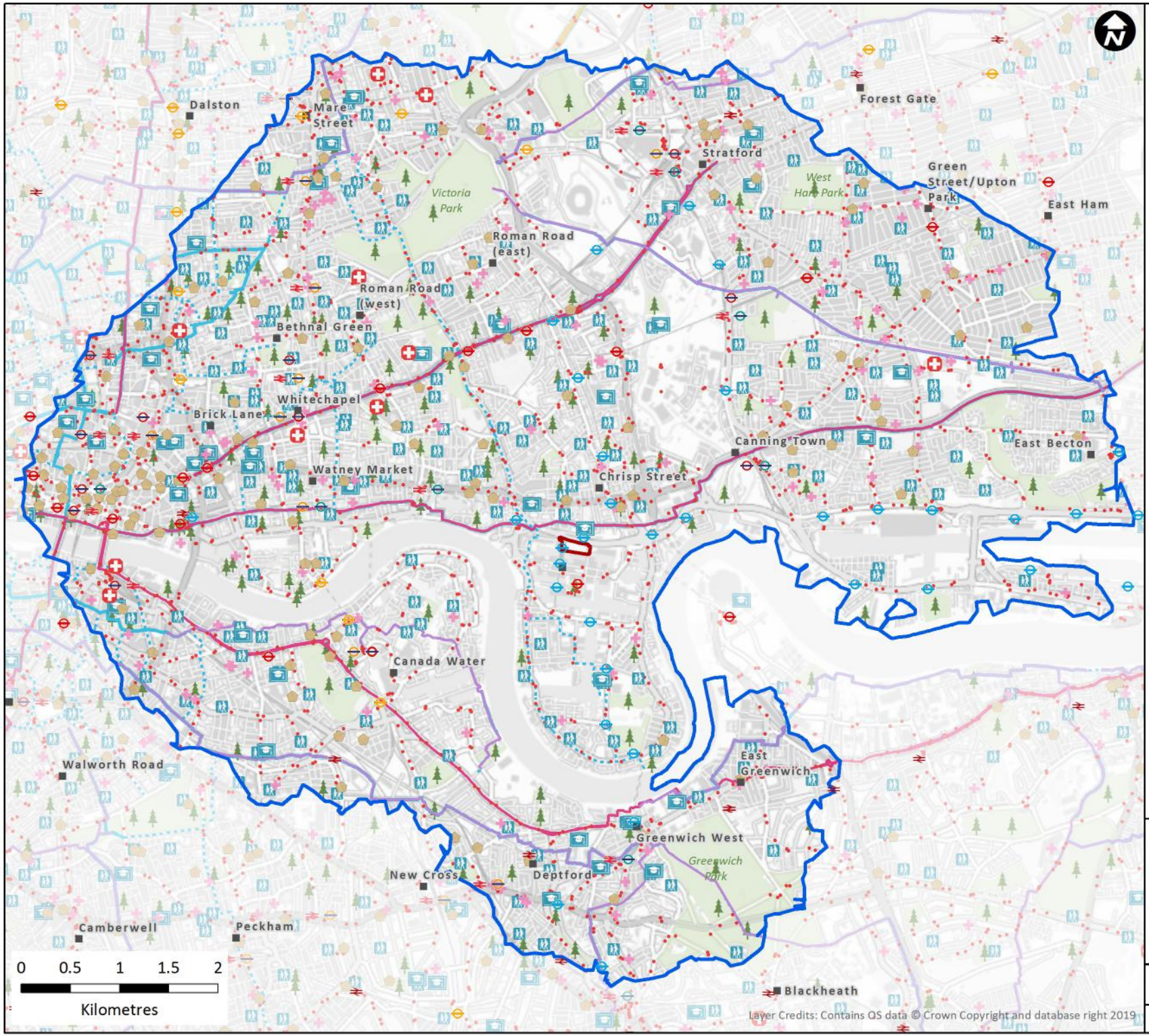
Destination		Priority
Public transport stops	Canary Wharf – Stop F	High
	Canada Square North – Stop H	High
	Canada Square South – Stop J	High
Public transport stations	West India Quay DLR	High
	Poplar DLR	High
	Canary Wharf Station	High
Current and future strategic cycle network	Cycle Superhighway 3	High
	Proposed cycleway between Hackney and Isle of Dogs	Medium
Town centres	Canary Wharf Shopping Centre	Low
Parks	Jubilee Park	Low
Schools/colleges	New City College, Tower Hamlets College	High
	Our Lady & St Joseph Catholic Primary School	High
Hospitals/doctors	Gough Walk Surgery	Low
	Boots Pharmacy	Low
Places of worship	All Saints Church	Low

Vision Zero Analysis

4.8 There are no TfL Safer Junctions located along the agreed routes.

4.9 The key routes are indicated in **Figure 4.2** and **Figure 4.3,** which also shows the killed or seriously injured casualties ("KSIs") between 2016 and 2018.

4.10 No KSI clusters have been identified along the key routes based on the most recent three-year period of collision data (three years to 31 December 2018).



Legend

- 20 minute cycle catchment
- Site boundary
- Town Centre
- Station (Docklands Light Railiway)
- Station (National Rail)
- Station (Overground)
- Station (London Underground)
- Bus stop
- Place of worship
- Hospital
- GP surgery
- University or College
- School
- Park or playing field
- Quietways
- Mini holland
- Superhighways
- Existing Strategic Cycle Network
- Proposed Strategic Cycle Network

Contains data from TfL, Department for Education, Department for Transport, NHS, Ordnance Survey, and Sustrans.

North Quay

Active Travel Zone

Area Plan

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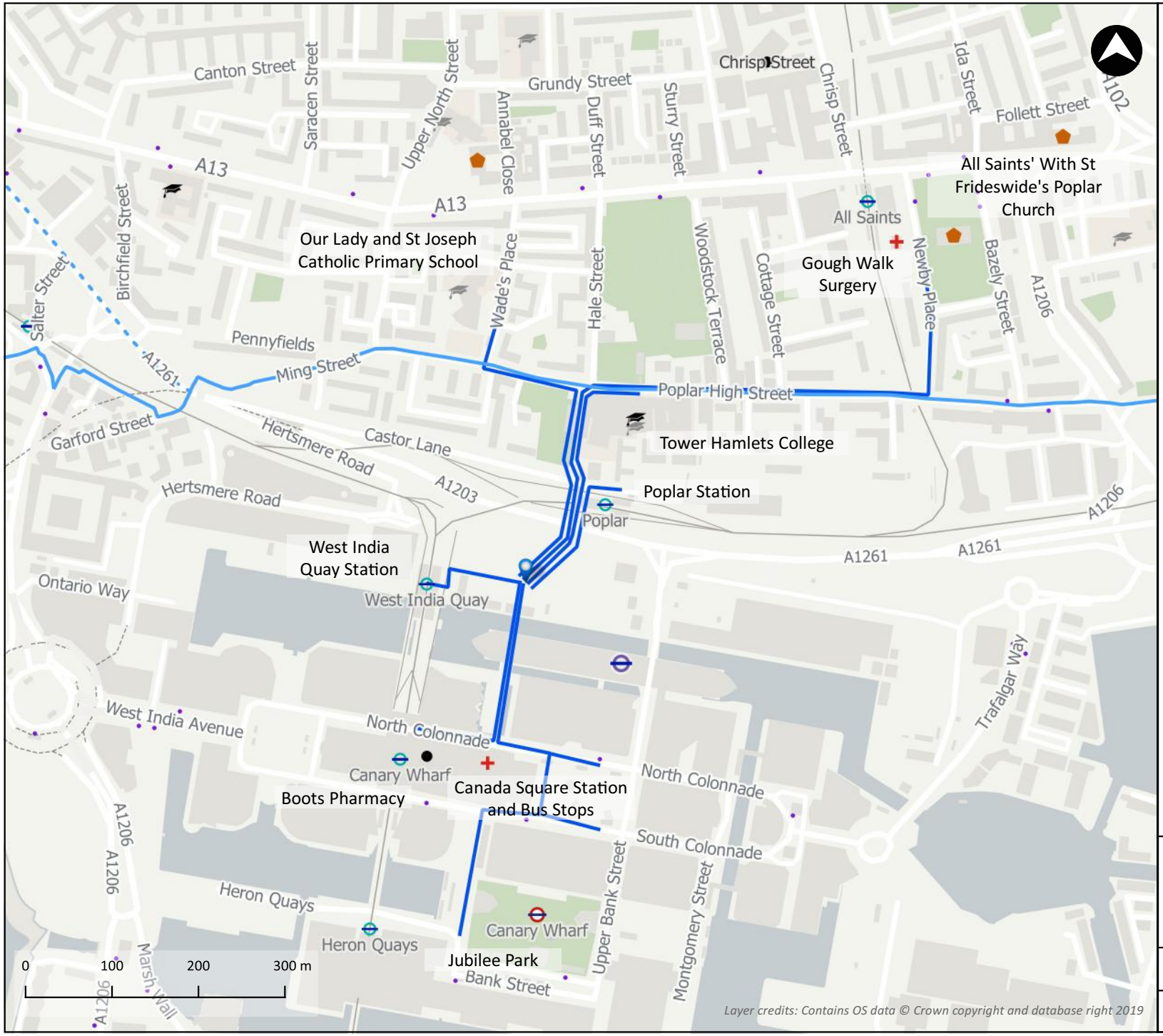

Legend

- Site Location

Railway Stations

- London Underground
- DLR
- Elizabeth Line
- Bus Stop

Cycleways

- Greenspace
- School
- University or College
- Place Of Worship
- Hospital
- GP Surgery
- Existing
- Proposed
- ATZ Route

North Quay

Activel Travel Zone Neighbourhood Plan

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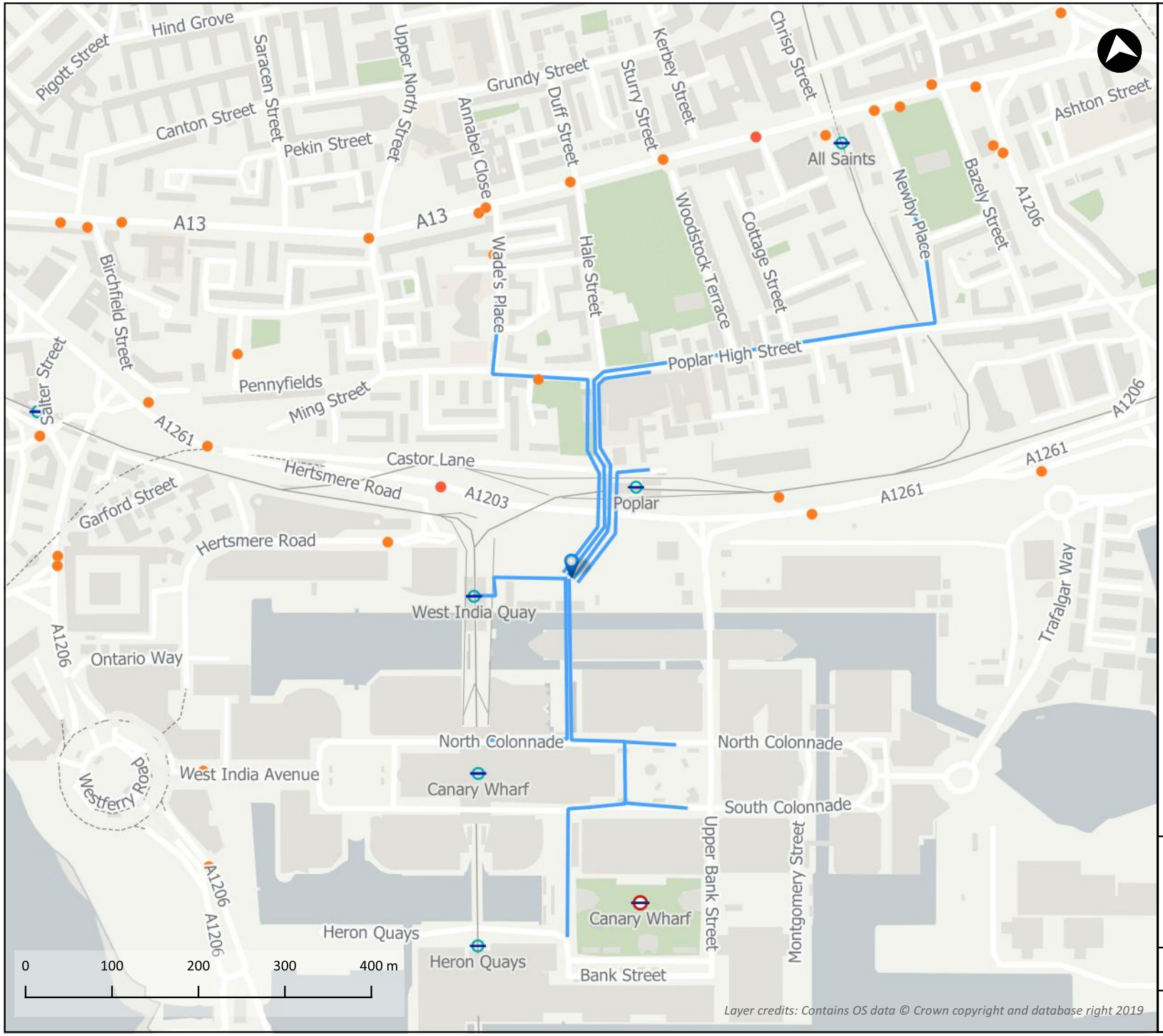

Legend

- Site Location
- DLR Station
- London Underground
- Elizabeth Line

2016-2018 KSI

- Fatal
- Serious
- ATZ Routes

North Quay

Collisions

steer

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5 Network Impact: Trip Generation

Introduction

5.1 This Chapter outlines the approach adopted to determine the forecast peak hour and daily trips associated with the Proposed Development. It also provides details of the assessment scenarios and modelling for the development.

5.2 The Proposed Development is a mixed-use scheme including office, residential, serviced apartments, student, retail and cultural/leisure land uses together with new amenity spaces and walk routes. The methodology used to derive the total daily and peak hour trips by mode for the Proposed Development is described below. The detailed assessment of the Proposed Development on Public Transport and Highways is set out in the following chapters.

5.3 In this chapter, trip generation is presented for various scenarios, including:

- Worst-case trip generating scheme
- Indicative Scheme
- Re-assessed 2007 Consent

5.4 The trip generation methodology has been agreed in principle with LBTH and TfL during the pre-application process.

Trip Rates

Retail

5.5 The retail trip generation for North Quay was forecast using the same methodology and trip rates as those applied to the retail floorspace within Canary Wharf Elizabeth Line station which are shown in **Table 5.1**.

5.6 Responses from the Canary Wharf retail survey (2008) have been used to determine that 72% or retail trips on the Canary Wharf estate are linked trips. These have been discounted from the analysis given that they are already on the transport network. The proportion of linked trips associated with retail uses have been further evidenced through more recent data collected within the Canary Wharf CACI 2019 Retail Survey and presented to, and agreed by TfL, showing that retail linked trip usage patterns on the estate are actually higher at 75%, nonetheless 72% has been used to provide a robust assessment.

Table 5.1: Retail Person Trip Rates (per 100 sqm) – including 72% linked trips

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.20	1.60	4.80
PM Peak (17.00 - 18.00)	1.70	2.10	3.80
Daily	39.70	39.70	79.40

Office

5.7 The forecast average office person trip rates (per 100 sqm) have been derived from the Canary Wharf Cordon Survey (2017) for people travelling to and from the estate, assessed against average employee densities, as shown in **Table 5.2**.

Table 5.2: Office Person Trip Rates (per 100 sqm)

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.00	0.44	3.44
PM Peak (17.00 - 18.00)	0.41	2.33	2.74
Daily	11.02	11.02	22.04

Student Accommodation

5.8 The forecast person trip rates (per resident) have been derived from a recently approved large student accommodation scheme at 3-11 Goulston Street (LPA Ref: PA/18/01544/A1) in Tower Hamlets, as shown in **Table 5.3**. Daily trip rates are not available but are not considered necessary for determining peak travel conditions.

Table 5.3: Office Person Trip Rates (per Resident)

Period	In	Out	Total
AM Peak (08.00 - 09.00)	0.00	0.08	0.08
PM Peak (17.00 - 18.00)	0.19	0.08	0.27

Residential and Serviced Apartments

5.9 TRICS (v7.6.3) has been utilised to obtain survey data and determine person trip rates for the residential element of the Proposed Development. A total of five surveys were obtained using the following search criteria:

- 03 Residential: C – Flats Privately Owned
- Greater London sites
- Exclude town centre locations
- PTAL 5 to 6b

5.10 The full TRICS outputs can be found at **Appendix 13** and the trips rates, assumed for all tenures, are summarised in **Table 5.4**.

Table 5.4: Residential Person Trip Rates (per Dwelling)

Time Period	In	Out	Total
AM Peak (08.00-09.00)	0.111	0.546	0.657
PM Peak (17.00 - 18.00)	0.295	0.179	0.474
Daily	2.637	2.637	5.274

5.11 It has been assumed that the person trip generation of serviced apartments would be the same as for the residential land use, therefore the trip rates in **Table 5.4** have been used to assess the serviced apartments. Hotel trip rates were also considered, however the residential/serviced apartment trips rates are higher during the assessed peak periods and have therefore been used to provide a robust worst-case assessment.

5.12 **Table 5.5** summarises the person trip rates which were applied to the assessed uses.

Table 5.5: Person Trip Rates

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Residential/ Serviced Apartments	0.11	0.55	0.66	0.30	0.18	0.48	2.64	2.64	5.28
Office	3.00	0.44	3.44	0.41	2.33	2.74	11.02	11.02	22.04
Retail	3.20	1.60	4.80	1.70	2.10	3.80	39.70	39.70	79.400
Student Accommodation	0.00	0.08	0.08	0.19	0.08	0.27	-	-	-

5.13 Trip rates were not derived for other land uses set out within the Development Specification such as community or leisure uses as these trips typically fall outside of the morning and evening peak hours and are less intensive than the trips associated with the above land uses.

Mode Share

5.14 **Table 5.6** specifies the mode shares that have been applied to land uses comprised in the Proposed Development.

5.15 The forecast office mode share has been derived from the Canary Wharf Employee Survey (2019) with adjustments made to reflect the car-free nature of the development, and to take account of Elizabeth Line services expected in the future.

5.16 The residential mode share has been calculated based on Census 2011 Method of Travel to Work data for Tower Hamlets Middle Super Output Layer 033, the local output area which most closely represents the location of the development. Adjustments have been made for Elizabeth Line trips, with London Underground and DLR trips reduced accordingly. Car trips have been capped at 3% to reflect the accessible car parking provision.

5.17 The serviced apartment mode share is based on the residential mode split as trips between these uses share similar characteristics.

5.18 The forecast retail mode share has been calculated based on the 2005 Retail Shopper Survey undertaken when converting Cabot Hall to retail use. This mode split was used for the Wood Wharf TA. Car trips and London Underground trips have been reduced, with Elizabeth Line trips increased accordingly due to the proximity of the Site to the station.

Table 5.6: 2011 Census and Adjusted Proposed Mode Shares

Mode	Mode Split by Land Use			
	Residential	Commercial*	Retail	Hotel
London Underground	19%	46%	29%	19%
DLR	19%	20%	13%	19%
Elizabeth Line	19%	19%	22%	19%
Bus	4%	3%	8%	4%
Taxi	1%	1%	3%	1%
Motorcycle	0%	1%	0%	0%
Car Driver + Passenger	3%	0.5%	1%	3%
Cycle	2%	5%	3%	2%
Walk	31%	4%	21%	31%
Other (inc. Riverbus)	2%	0.3%	0%	2%
Total	**100%**	**100%**	**100%**	**100%**

**sum errors due to rounding*

Deriving the 'Worst-Case' Scenarios

5.19 Given the flexibility and composition of land uses which may come forward, the above trip rates and mode shares associated with each land use have been used to derive a 'worst-case' in terms of the schemes which would generate the most trips on both the public transport and highway networks.

Public Transport

5.20 A nominal 10,000 sqm, or equivalent unit/room/person numbers (derived from the Indicative Scheme schedules) have been applied to the above trip rates and mode shares for each use to determine the highest public transport trip generating uses, as shown in **Table 5.7**.

Table 5.7: Public Transport Trips per 10,000 sqm (or Equivalent)

Trip Rates	Floor Area (GIA) / Units	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
		In	Out	Total	In	Out	Total	In	Out	Total
Retail	10,000 sqm	230	115	346	122	151	274	2,858	2,858	5,716
Office	10,000 sqm	267	39	306	36	207	244	981	981	1,962
Residential	10,000 sqm (87 units)	6	29	35	16	9	25	140	140	280
Serviced Apartment	10,000 sqm (170 units)	12	57	68	31	19	49	273	273	546
Student Housing	10,000 sqm (300 pers)	0	14	14	34	15	49	-	-	-

5.21 As shown above, the maximum public transport generating land use is retail, followed by office and then serviced apartments.

5.22 Based on the above assessment and the maximum floorspace quantum from the Development Specification, the worst-case scenario in terms of trip generation up to the maximum site-wide floor area (355,000 sqm) comprised of:

- 20,000 sqm (GIA) retail space
- 240,000 sqm (GIA) office space
- 95,000 sqm (GIA) serviced apartments (1,617 rooms)

5.23 This is hereafter referred to as the 'Maximum Commercial Scenario'.

Highway/Traffic Generating

5.24 As above, a nominal 10,000 sqm, or equivalent unit/room numbers have been applied to the above trip rates and mode shares for each use to determine the highest traffic generating uses, as shown in **Table 5.8**. This also includes servicing and delivery trips in accordance with the servicing trips rates per land use as set out later in this chapter.

Table 5.8: Vehicle Trips per 10,000 sqm (or Equivalent)

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Retail	30	23	53	7	8	15	304	304	608
Office	8	3	11	3	7	9	38	38	76
Residential	1	3	4	2	2	4	24	24	48
Serviced Apartments	4	7	10	4	3	7	40	40	80
Student Accommodation	1	2	3	3	2	5	8	8	16

5.25 As shown above, the maximum traffic generating land use is retail, followed by office and then serviced apartments. This is the same as the highest public transport generating uses presented

above. Therefore, the worst-case public transport scheme presented above is the same for the worst-case traffic generating scheme. This is the Maximum Commercial Scenario.

Assessment Scenarios

5.26 In order to assess the impact of the Proposed Development the TA considers a number of assessment scenarios. The assessment scenarios below have been agreed with TfL and LBTH and provide a robust, worst case assessment of the impact of the Proposed Development:

5.27 The scenarios considered in this assessment are:

- **Scenario 1 – 2019 Baseline Assessment** – based on survey data and excluding 2007 Consent and the Proposed Development.
- **Scenario 2a – 2031 Reference Case Base** – including committed developments and the 2007 Consent but excluding the Proposed Development.
- **Scenario 2b – 2031 Reference Case Base Minus** – including committed developments but excluding 2007 Consent and the Proposed Development.
- **Scenario 3 – 2031 Future Baseline (Do Something) Maximum Traffic** – Reference Case Base Minus and the Proposed Development (maximum traffic generating scheme option).
- **Scenario 4 – 2031 Future Baseline (Do Something) Maximum Public Transport** – Reference Case Base Minus and the Proposed Development (maximum public transport generating scheme option)

5.28 As discussed above, interrogation of the trip rates and mode shares associated with each land use confirms that both Scenarios 3 and 4 comprise the same land use and quantum from the Development Specification, the Maximum Commercial Scenario.

5.29 The transport-related effects of the Proposed Development on the highway and public transport networks have been assessed against Scenario 3 and 4 respectively.

5.30 For the purposes of assessing the public transport rail network (Jubilee Line / DLR / Elizabeth Line) and highway network in the future, it was agreed with TfL that Railplan v7.2 and the London Highway Assessment Model (“LoHAM”) strategic traffic model should be used.

5.31 For the purposes of the future baseline assessment, it has been agreed with TfL that all cumulative schemes are included within the 2031 data provided. Both the Railplan v7.2 and LoHam model uses population and employment forecasting from the London Transportation Study (“LTS”) v7.2 model. It is not possible to disaggregate the cumulative schemes from the 2031 Railplan v7.2 and LoHAM future baseline, so no future baseline with development assessment (excluding cumulative schemes) could be undertaken.

5.32 The assessment methodology also determines the net change in trips resulting from the Proposed Development compared with the 2007 Consent, which has been re-assessed as part of this TA, details of which are provided in the following section.

Trip Generation

Maximum Commercial Scenario

5.33 As outlined in the sections above, a Maximum Commercial Scenario which is the worst-case trip generating scenario comprises:

- 20,000 sqm (GIA) retail space
- 240,000 sqm (GIA) office space
- 95,000 sqm (GIA) serviced apartments (1,617 rooms)

5.34 A 10% reduction to the floor areas set out above has been applied for trip generation purposes to account for basement, plant and car/cycle parking that would inherently be required with any scheme to come forward within the Development Specification and Specified Parameters of the OPA. The Indicative Scheme floor areas have been used as a proxy to demonstrate this requirement in **Table 5.9** and this assumption has been confirmed as robust by Allies and Morrison as the Applicant's Architects.

Table 5.9: Indicative Scheme Floor Area Percentages

Land Use	Floor Area (GIA)	Percentage of Site-Wide Floorspace
Office	174,653	50%
Residential	81,744	23%
Serviced Apartments	44,081	12%
Retail	13,681	4%
Basement	28,047	11%
Internal play space	2,992	
Plant (roof and mid level)	9,730	
Total	354,924	100%

5.35 As demonstrated, the Indicative Scheme, which is just under the total permitted Site-wide floorspace (355,000m^2) dedicates 11% of total floor area for basement, internal play space and plant uses. A 10% reduction to the Maximum Commercial Scenario floor areas presented above is therefore considered to provide a robust and realistic worst-case assessment for trip generation purposes.

5.36 The total trip generation associated with the Maximum Commercial Scenario is provided in **Table 5.10** and further split by land use in **Tables 5.11 – 5.13**.

5.37 The Proposed Development will generate a maximum of 9,357 two-way trips in the AM peak and a maximum of 7,369 two-way trips in the PM peak. The largest impact will be felt upon the London Underground with 3,182 arrivals forecast in the morning peak and 2,480 departures in the afternoon peak.

Table 5.10: Maximum Commercial Scenario Trip Generation – All Land Uses

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	3,182	688	3,870	587	2,480	3,066	13,800	13,800	27,600
DLR	1,470	405	1,875	316	1,161	1,477	6,706	6,706	13,412
Elizabeth Line	1,457	421	1,878	335	1,145	1,480	7,111	7,111	14,222
Bus	248	87	335	70	193	263	1,450	1,450	2,900
Taxi	51	22	74	18	39	58	374	374	748
Motorcycle	32	5	37	4	25	30	119	119	238
Car Driver + Passenger	11	29	41	17	12	30	194	194	388
Cycle	280	64	344	54	218	273	1,248	1,248	2,496
Walk	436	372	808	248	370	618	3,723	3,723	7,446
Other (inc River Bus)	68	27	96	18	56	75	320	320	640
Total	7,235	2,121	9,357	1,669	5,700	7,369	35,047	35,047	70,094

Table 5.11: Maximum Commercial Scenario Trip Generation – Retail

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	167	84	251	89	110	198	2,072	2,072	4,144
DLR	75	37	112	40	49	89	929	929	1,858
Elizabeth Line	127	63	190	67	83	150	1,572	1,572	3,144
Bus	46	23	69	24	30	55	572	572	1,144
Taxi	17	9	26	9	11	21	214	214	428
Car Driver + Passenger	6	3	9	3	4	7	71	71	142
Cycle	17	9	26	9	11	21	214	214	428
Walk	121	60	181	64	79	144	1,501	1,501	3,002
Total	576	288	864	306	378	684	7,146	7,146	14,292

Table 5.12: Maximum Commercial Scenario Trip Generation – Office

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	2,981	437	3,418	407	2,315	2,722	10,949	10,949	21,899
DLR	1,361	200	1,560	186	1,057	1,243	4,999	4,999	9,997
Elizabeth Line	1,296	190	1,486	177	1,007	1,184	4,761	4,761	9,521
Bus	194	29	223	27	151	178	714	714	1,428
Taxi	32	5	37	4	25	30	119	119	238
Motorcycle	32	5	37	4	25	30	119	119	238
Car Driver + Passenger	-	-	-	-	-	-	-	-	-
Cycle	259	38	297	35	201	237	952	952	1,904
Walk	259	38	297	35	201	237	952	952	1,904
Other (inc River Bus)	65	10	74	9	50	59	238	238	476
Total	6,480	950	7,430	886	5,033	5,918	23,803	23,803	47,606

Table 5.13: Maximum Commercial Scenario Trip Generation – Serviced Apartments

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	34	168	202	91	55	146	810	810	1,620
DLR	34	168	202	91	55	146	810	810	1,620
Elizabeth Line	34	168	202	91	55	146	810	810	1,620
Bus	7	35	42	19	12	31	171	171	342
Taxi	2	9	11	5	3	8	43	43	86
Motorcycle	-	-	-	-	-	-	-	-	-
Car Driver + Passenger	5	26	32	14	9	23	128	128	256
Cycle	4	18	21	10	6	15	85	85	170
Walk	56	274	329	148	90	238	1,322	1,322	2,644
Other (inc River Bus)	4	18	21	10	6	15	85	85	170
Total	179	883	1,062	477	289	766	4,264	4,264	8,528

Indicative Scheme

5.38 The Indicative Scheme trip generation has also been provided in **Table 5.14** for illustrative purposes to demonstrate the trips likely to be generated by the type of mixed-use scheme which could come forward. This is based on the Indicative Scheme floor areas set out in **Table 1.2**.

5.39 The Indicative Scheme assumes:

- 702 residential units
- 750 serviced apartments
- 174,653 sqm (GIA) office space
- 13,681 sqm (GIA) retail space

5.40 The Indicative Scheme is forecast to generate 7,665 two-way trips in the AM peak and 6,031 two-way trips in the PM peak. This represents a reduction of 1,692 two-way trips in the morning peak and 1,338 trips in the afternoon peak compared to the Maximum Commercial Scenario.

Table 5.14: Indicative Scheme Trip Generation

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	2,586	570	3,157	481	2,019	2,500	11,196	11,196	22,392
DLR	1,196	342	1,538	263	948	1,211	5,478	5,478	10,956
Elizabeth Line	1,183	354	1,537	277	933	1,210	5,773	5,773	11,546
Bus	200	72	272	57	156	214	1,164	1,164	2,328
Taxi	41	18	60	15	32	47	297	297	594
Motorcycle	26	4	30	4	21	24	97	97	194
Car Driver + Passenger	9	26	35	15	11	26	165	165	330
Cycle	228	53	281	44	178	222	1,012	1,012	2,024
Walk	353	323	676	210	305	515	3,057	3,057	6,114
Other (inc River Bus)	56	24	80	16	46	62	268	268	536
Total	5,879	1,786	7,665	1,383	4,648	6,031	28,506	28,506	57,012

2007 Consent

5.41 As set out in the earlier sections, TfL have confirmed that the 2007 Consent is included in LTS v7.2. Whilst the total floor area associated with the 2007 scheme is larger than the site-wide floor area set out in the OPA Development Specification, this section considers the trip generation of the 2007 Consent to understand the net impact across all transport modes.

5.42 The trip generation associated with the 2007 Consent is considered in accordance with the methodology set out above. This is considered appropriate as the trip rates and mode shares would have changed since the planning application and supporting Transport Assessment for the 2007 scheme were submitted. The mode shares have been adjusted slightly from those presented above to reflect the quantum of car parking permitted with the 2007 consent, as shown in **Table 5.15**. The total person trips generated by the 2007 Consent are presented in **Table 5.16.**

Table 5.15: 2007 Consent Mode Shares by Land Use

Mode	Mode Split by Land Use	
	Commercial	Retail
London Underground	45.1%	29%
DLR	19.8%	13%
Elizabeth Line	19.0%	22%
Bus	3.4%	8%
Taxi	1.2%	3%
Motorcycle	1.1%	0%
Car Driver + Passenger	1.5%	1%
Cycle	4.6%	3%
Walk	4.0%	21%
Other (inc. Riverbus)	0.3%	0%
Total	**100%**	**100%**

Table 5.16: 2007 Consent Trip Generation

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	5,091	764	5,856	715	3,948	4,664	19,134	19,134	38,268
DLR	2,236	336	2,571	314	1,734	2,048	8,406	8,406	16,812
Elizabeth Line	2,162	330	2,492	310	1,674	1,985	8,268	8,268	16,536
Bus	394	63	456	59	304	363	1,565	1,565	3,130
Taxi	139	22	162	21	108	129	556	556	1,112
Motorcycle	123	18	141	17	96	112	452	452	904
Car Driver + Passenger	169	25	195	24	131	155	637	637	1,274
Cycle	519	78	597	73	403	476	1,952	1,952	3,904
Walk	483	83	566	80	371	451	2,087	2,087	4,174
Other (inc River Bus)	34	5	38	5	26	31	123	123	246
Total	11,350	1,725	13,075	1,618	8,795	10,413	43,181	43,181	86,362

Net Change

5.43 The Maximum Commercial Scenario representing the worst-case trip generation has been compared to the 2007 Consent to provide the net trip generation of the development proposals, as shown in **Table 5.17**.

5.44 The Proposed Development would generate significantly fewer trips across all public transport and vehicular modes than the 2007 Consent. Walking trips are the exception given the high walking mode share. However, when considering all pedestrian movements, including those using public transport services locally, the level of pedestrian activity is significantly reduced from the 2007 Consent.

Table 5.17: Trip Generation Net Change – Maximum Commercial Scenario minus 2007 Consent

Mode	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	-1,910	-76	-1,985	-129	-1,469	-1,597	-5,334	-5,334	-10,668
DLR	-766	69	-697	2	-573	-571	-1,700	-1,700	-3,400
Elizabeth Line	-705	91	-614	25	-530	-505	-1,156	-1,156	-2,314
Bus	-146	24	-122	11	-111	-100	-116	-116	-230
Taxi	-88	-0	-88	-3	-68	-71	-182	-182	-364
Motorcycle	-91	-13	-104	-12	-70	-83	-333	-333	-666
Car Driver + Passenger	-158	4	-154	-6	-119	-125	-443	-443	-886
Cycle	-239	-14	-253	-19	-184	-203	-704	-704	-1,408
Walk	-47	289	242	167	-0	167	1,636	1,636	3,272
Other (inc River Bus)	35	22	57	14	30	44	197	197	394
Total	-4,115	396	-3,718	50	-3,095	-3,044	-8,134	-8,134	-16,268

5.45 Steer has consulted extensively with TfL throughout the pre-application process to agree the methodology and approach to deriving the trip generation. TfL have also completed a separate exercise to try and disaggregate the trips associated with the 2007 Consent from the LTS v7.2 model. Based on the results of this exercise, TfL have confirmed that the methodology presented

above is appropriate for deriving the trip generation of the 2007 Consent and the Proposed Development.

Proposed Delivery and Servicing

5.46 Servicing trip rates are derived from Steer's database which includes rates from similar developments in Canary Wharf and across London. Retail servicing trips rates are based on information provided by Canary Wharf for existing retail areas including Jubilee Place and Crossrail Place. Office servicing trip rates are taken from the observed movements at One Canada Square. **Table 5.18** summarises the delivery and servicing rates per 100 sqm NIA. A hotel delivery and servicing trip rate has been assumed for the serviced apartments. The NIA floor areas also account for the 10% reduction as described earlier in this chapter.

5.47 Based on information provided from the project team, an indicative split has been applied to the total retail land use of 30% for A1/A2 and 70% for A3/A4/A5, to represent the split likely to come forward, as shown in the floor area breakdown for the Maximum Commercial Scenario below.

Table 5.18: Delivery and Servicing Trip Rates and Peak Hour Distribution

Use Class	Max Commercial Floor Area (sqm NIA)	Daily Trip Rate (per 100 sqm NIA)	Trip Distribution	
			AM Peak	PM Peak
A1 Retail	9,072	0.7	5%	-
A3 Retail	3,888	2.6	12%	-
B1 Office	155,520	0.21	10%	8%
C3 Hotel (Serviced Apartments)	61,560	0.3	12%	5%

5.48 **Table 5.19** illustrates the forecast delivery and servicing trips associated with the Maximum Commercial Scenario.

Table 5.19: Forecast Delivery and Servicing Trips – Maximum Commercial Scenario

Use Class	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
A1 Retail	2	2	4	0	0	0	29	29	58
A3 Retail	28	28	56	0	0	0	232	232	464
B1 Office	33	33	66	27	27	54	327	327	654
C3 Hotel (Serviced Apartments)	23	23	46	10	10	20	185	185	370
Total	86	86	172	37	37	74	773	773	1,546

**May not sum due to rounding.*

5.49 Further details on the servicing and delivery trip generation methodology is provided in the DSP at **Appendix 7**.

6 Network Impact: Highways

Introduction

6.1 The purpose of this chapter is to provide an assessment of the operation of the local road network resulting from the development proposals. Vehicle trips from the Proposed Development have been distributed and assigned to local roads and junctions and the traffic flows have been assessed at a number of points on the highway network within the vicinity of the Site.

Methodology

Vehicle Trip Distribution

6.2 In order to assess the effects on the local road network of the forecast trips for private vehicles, taxis and servicing vehicles, vehicle trips generated by the Maximum Commercial Scenario have been distributed by direction and assigned to local vehicle routes.

6.3 Vehicle trips associated within the Proposed Development have been distributed on the wider highway network based on the current traffic surveys.

6.4 The traffic flows are measured in Passenger Car Units ("PCU") which is a scale that represents a flow of traffic consisting of different vehicle types (cars, vans. HGV's etc.) as an equivalent flow of cars to allow capacity assessments to be made.

6.5 In the AM peak there will be 169 inbound PCU trips and 158 outbound trips and in the PM peak hour, there will be 83 inbound and 99 outbound PCU trips generated by the Proposed Development.

6.6 The forecast number of AM and PM peak hour vehicle trips by entrance for the Proposed Development is summarised in **Table 6.1**.

Table 6.1: Proposed Development Vehicle Trip Distribution by Entrance (flows in PCU per hour)

Vehicle Entrance	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Upper Bank Street	21	38	8	38
Hertsmere Road	148	120	75	61
Total	**169**	**158**	**83**	**99**

Background and Cumulative Traffic Demand

6.7 TfL's LoHAM strategic traffic model has been used to assess the highway network in the vicinity of the Site, using a 2031 assessment year, at two specific junctions:

- Hertsmere Road / West India Dock Road; and
- Upper Bank Street / Aspen Way.

6.8 Although the Proposed Development is anticipated to be completed by 2029, the use of 2031 LoHAM data provides a worst-case assessment as it covers all future cumulative development schemes up to 2031. The highway impact assessment scenarios considered are as follows:

- **Scenario 1 – 2019 Baseline Assessment** – based on survey data and excluding 2007 Consent and the Proposed Development.
- **Scenario 2a – 2031 Reference Case Base** – including committed developments and the 2007 Consent but excluding the Proposed Development.
- **Scenario 2b – 2031 Reference Case Base Minus** – including committed developments but excluding 2007 Consent and the Proposed Development.
- **Scenario 3 – 2031 Future Baseline (Do Something) Maximum Traffic** – Reference Case Base Minus and the Proposed Development (maximum traffic generating scheme option).

6.9 Traffic surveys were also carried out at the Site in December 2019 on behalf of Steer by an independent traffic survey company and site visits were undertaken by Steer staff to observe the junctions in operation.

6.10 To ensure the traffic data collected in 2019 was reliable, a comparison was made between the survey data and the traffic levels predicted when three years of growth was added to the previous 2016 surveys (use as part of the Transport Assessment prepared in 2017 for the subsequently withdrawn North Quay application PA/17/01193). The 2019 surveys showed a higher level of traffic than had been predicted based on the 2016 surveys, suggesting the use of the 2019 data provide a robust basis upon which to build the assessment. Additionally, comparisons were made between the traffic flows a the Upper Bank Street and Hertsmere Road junctions from the 2019 surveys and the results compared to the 2016 data to ensure the proportions were consistent and once again the results demonstrated that the 2019 surveys were suitable for the assessment.

6.11 Following the review of this analysis, TfL agreed that the 2019 traffic data was reasonable and consistent with the previous survey data and approved the 2019 data for use in the traffic modelling exercise.

6.12 TfL provided 2012 and 2031 outputs from the LoHAM model and data was provided for both the AM and PM peak hours (08:00-09:00 and 17:00-18:00). In accordance with advice provided by TfL's strategic modelling division, Steer calculated the relative difference in all turning movements between the 2012 and the 2031 models.

6.13 These differences represent a difference of 19 years, however if applied directly to the 2019 baseline data this would effectively double count the growth between 2012 and 2019, therefore these growth factors were reduced to instead only provide 12 years of growth before being applied to the 2019 flows.

6.14 As discussed in chapter 5, the 2007 Consent is represented in the 2031 LoHAM model. Instead of removing the absolute vehicle numbers deduced from the trip generation for the 2007 Consent in **Table 5.16**, it was agreed with TfL that a percentage reduction to specific links within the

Scenario 2a (2031 Reference Case Base) traffic flows within the LoHAM model would be applied to provide the Scenario 2b (2031 Reference Case Base Minus) traffic flows. These percentage reductions for the Hertsmere Road and Upper Bank Street links were provided by TfL and represent a robust and agreed methodology for removing the 2007 Consent traffic flows.

Model Creation

6.15 After discussion with TfL, it was determined that a combined LinSig model of both junctions should be created to assess the operation of these junctions as a network. The LinSig models were created in accordance with the latest version of the TfL Modelling Guidelines.

6.16 For the Upper Bank Street / Aspen Way junction, Steer staff went on-site and measured all saturation flows. For the Hertsmere Road / West India Dock Road junction, it was not possible to collect actual readings on-site due to the low traffic demand, and so the saturation flow was calculated from lane geometry using the industry established RR67 calculation.

6.17 Signal timings in the models are based on data previously provided by TfL, alongside site observations made by Steer staff. For the Do something model, the demand dependency bonus green for stage 1 has been reduced in proportion to the traffic increase on Hertsmere Road to reflect the increase in the calling of stage 2.

6.18 For the 2031 Do Something scenario, the proposed changes to the Aspen Way/ Upper Bank Street junction were coded based on the proposed layout shown in **Figure 3.10**. As discussed in Chapter 3, this results in a reduction on the Upper Bank Street approach from three lanes to two to enhance the public realm in the northeast corner of the Site and create a toucan crossing closer to Aspen Way to better serve pedestrian and cycle desire lines and improve connections to future developments east of the Site.

Junction Impact Results

6.19 Results have been provided for each junction for both peak hour periods. The results provided are ‘Degree of Saturation’ (“DoS”), which is the percentage of the junction capacity which is being used, and the Mean Maximum Queue (“MMQ”), which is the expected maximum length of the queue on each lane, measured in Passenger Car Units (PCU). 1 PCU is equivalent to 5.75m length.

Upper Bank Street / Aspen Way

6.20 **Table 6.2** presents the results of the AM model for the Upper Bank Street / Aspen Way junction.

6.21 On Aspen Way (E), the distribution of traffic over the three lanes has been changed in some scenarios to make better use of the capacity of the approach.

AM Results

Table 6.2: Upper Bank Street / Aspen Way - Modelling Results AM Peak

Arm	Lane	2019 Base (Scenario 1)		2031 Reference (Scenario 2a)		2031 Reference Minus (Scenario 2b)		2031 Do Something (Scenario 3)	
		DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)
Aspen Way (W)	1	48	6	63	9	63	9	66	10
	2	50	7	53	8	53	8	55	8
	3	50	7	53	7	53	7	55	8
Aspen Way (E)	1	86	-	95	-	86	-	93	-
	2	86	18	95	26	86	18	93	23
	3	85	18	94	28	86	19	93	25
	4	85	22	93	32	86	23	93	31
Upper Bank Street	1	36	2	35	2	31	1	90	7
	2	35	2	50	3	45	2	90	-
	3	34	-	49	-	44	-	-	-
Practical Reserve Capacity		5.2%		-5.1%		4.2%		-3.1%	

6.22 The results show that in the AM peak, the junction will be close to capacity in 2031 regardless of whether the Proposed Development is delivered, due to the traffic growth on Aspen Way. Additionally, under the already approved 2007 scheme (Scenario 2a) the junction is shown to operate at about 5% above capacity.

6.23 Whilst it is predicted that the junction will operate above capacity under the new layout in the 2031 Do Something scenario, this scheme performs better than the 2007 Consent on the existing layout, demonstrating that this option is an improvement on what has previously been approved.

6.24 Due to the reduction from 3 lanes to 2, Upper Bank Street shows the biggest increase in degree of Saturation, although the queue will still comfortably be contained within Upper Bank Street.

6.25 It should be noted that the traffic flows in this scenario assume that there will be no traffic reassignment on the wider network as a result of the development. It could be that as the Upper Bank Street junction becomes more congested, traffic will move away from the area, reducing delays. For example; traffic exiting Canary Wharf might choose to use the Traflagar Way or Westferry Circus accesses rather than continue to use Upper Bank Street.

6.26 It is also noted that the Maximum Commercial Scenario represents an absolute worst-case in terms of the quantum of vehicular trips generated by the Proposed Development. The impacts of the type of mixed-use scheme which is more likely to come forward (such as the Indicative Scheme) would be significantly reduced.

PM Results

6.27 T**able 6.3** presents the results of the PM model for the Upper Bank Street / Aspen Way junction.

6.28 As with the AM scenarios, there has been some redistribution of traffic between lanes on each arm to make the best use of capacity.

Table 6.3: Upper Bank Street / Aspen Way - Modelling Results PM Peak

Arm	Lane	2019 Base (Scenario 1)		2031 Reference (Scenario 2a)		2031 Reference Minus (Scenario 2b)		2031 Do Something (Scenario 3)	
		DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)
Aspen Way (W)	1	66	10	67	11	66	10	77	15
	2	65	12	67	12	66	12	76	17
	3	66	12	67	12	66	12	77	17
Aspen Way (E)	1	65	-	76	-	73	-	86	-
	2	65	10	76	13	73	12	86	19
	3	64	9	74	12	72	12	87	19
	4	65	11	73	15	71	14	85	21
Upper Bank Street	1	67	4	72	5	66	4	87	10
	2	35	2	62	4	57	4	87	-
	3	35	-	61	-	55	-	-	-
Practical Reserve Capacity		34.5%		18.6%		23.6%		3.6%	

6.29 In the PM peak, the junction will operate with spare capacity in 2031 under the 2031 Reference Base and 2031 Reference Base Minus scenarios.

6.30 Under the 2031 Do Something scenario, the addition of the development traffic and the change in road layout on Upper Bank Street will cause an increase in queueing and delay at the junction, however it is still expected that the junction will operate within capacity and that the additional queue will not exceed the capacity available on Upper Bank Street.

6.31 As with the AM peak, the traffic flows used in the 2031 Do Something scenario do not assume any reassignment of traffic meaning that this model is potentially a worst-case assumption and traffic may redistribute more effectively in the future.

6.32 It should also be noted that the methodology agreed with TfL was specifically designed to produce a robust assessment of the junction and represents a worst-case assessment.

Hertsmere Road / West India Dock Road

AM Results

6.33 **Table 6.4** presents the results of the AM peak model for the Hertsmere Road / West India Dock Road junction.

Table 6.4: Hertsmere Road / West India Dock Road - Modelling Results AM Peak

Arm	Lane	2019 Base (Scenario 1)		2031 Reference (Scenario 2a)		2031 Reference Minus (Scenario 2b)		2031 Do Something (Scenario 3)	
		DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)
West India Dock Road (E)	1	27	2	36	3	33	3	45	5
	2	56	4	62	4	62	4	65	5
	3	56	4	62	4	62	4	65	5
Hertsmere Road	1	6	0	12	1	12	1	37	2
	2	6	0	12	1	12	1	37	2
West India Dock Road (W)	1	13	1	17	1	15	1	20	1
Practical Reserve Capacity		61.3%		44.6%		44.6%		38.1%	

6.34 The results in the table above show that under the 2031 Do Something scenario, the Proposed Development traffic will increase the degree of saturation on lane 1 of West India Dock Road (E), as this is the main access, however the lane will still be well within capacity in all scenarios.

6.35 West India Dock Road (W) will also see a small increase in degree of saturation under the 2031 Do Something scenario. The reason this is only a small increase is because the green time for this arm is linked with the green time for the Hertsmere Road approach, and so already receives a generous green time.

6.36 Hertsmere Road, being the exit for the development traffic, also sees a notable increase in degree of saturation, although it should be noted that this approach has very little traffic in the 2031 Reference Base Minus scenario and therefore this increase does not lead to a significant increase in queueing on this approach.

PM Results

6.37 **Table 6.5** presents the results of the PM peak model for the Hertsmere Road / West India Dock Road junction.

Table 6.5: Hertsmere Road / West India Dock Road - Modelling Results PM Peak

Arm	Lane	2019 Base		2031 Reference		2031 Reference Minus		2031 Do Something	
		DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)	DoS%	MMQ (PCU)
West India Dock Road (E)	1	12	1	15	1	14	1	20	1
	2	44	3	56	4	56	4	64	4
	3	44	-	56	-	56	-	64	-
Hertsmere Road	1	22	1	29	1	26	1	29	1
	2	22	-	29	-	26	-	29	-
West India Dock Road (W)	1	17	1	21	1	21	1	25	1
Practical Reserve Capacity		104.8%		59.7%		59.7%		41.3%	

6.38 As shown in the table above, lane 1 of West India Dock Road (E) and West India Dock Road (W) both see a small increase degree of saturation when the development traffic is added, but they all remain well within capacity.

6.39 On Hertsmere Road there is also an increase in the degree of saturation due to the extra development traffic, however this arm remains well within capacity due to the current low levels of traffic and there is no significant increase in queuing predicted and so there is no issue with accommodating the additional flows on this approach.

Junction Analysis Summary

6.40 The results of the modelling indicate that capacity issues are only forecast at the Aspen Way/Upper Bank Street junction, which will operate above capacity on the Aspen Way east arm in the AM peak hour. It should be noted that the junction will already be close to capacity in the 2031 Reference Minus Scenario (2b) regardless of whether the Proposed Development comes forward and in terms of queing, the development will only generate up to six additional vehicles in any one lane.

6.41 The proposed changes to the junction are also supported by TfL (as described in Chapter 1) which align with the MTS Healthy Streets objectives in prioritising pedestrian and cycle access and enable future connections to the Billingsgate Market site. It is also noted that with the Proposed Development, the junction still performs better than modelled under the 2007 Consent.

6.42 The results also represent an absolute worst-case in terms of vehicular trips generated by the Proposed Development (Maximum Commercial Scenario). This equates to a significantly higher quantum of vehicles than those associated with a more realistic mixed-use scheme. When compared with the Indicative Scheme, the Maximum Commercial Scenario generates 54 more two-way vehicle trips (including servicing/delivery vehicles) during the AM peak. The impacts of a more realistic scheme which is likely to come forward would therefore be significantly reduced.

6.43 The Hertsmere Road signalised junction operates well within capacity and therefore the addition of the North Quay Scheme is not predicted to have a significant impact.

Link Flow Analysis

6.44 Consideration has also been given to the impact of the Proposed Development on highway link flows on the road network in the vicinity of the Site under three scenarios:

- Scenario 1 - 2019 Baseline
- Scenario 2b - 2031 Reference Case Base Minus
- Scenario 3 – 2031 Future Baseline (Do Something) Maximum Traffic

6.45 The percentage change between Scenario 2b and Scenario 3 has been calculated to illustrate the impact of the Proposed Development, as presented in **Table 6.6**.

Table 6.6: North Quay - Future Year Link Flow Analysis (figures measured in vehicles)

Link	2019 Baseline (Scenario 1)		2031 Reference Minus (Scenario 2b)		2031 Do Something (Scenario 3)		% Change (vs 2031 Reference minus)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Aspen Way Eastbound	2049	3202	2361	2956	2421	2986	3%	1%
Aspen Way Westbound	3600	2699	3637	3047	3775	3093	4%	2%
Aspen Way 2-Way	5649	5901	5998	6003	6196	6079	3%	1%
Upper Bank Street Northbound	239	502	238	463	274	500	15%	8%
Upper Bank Street Southbound	291	183	312	204	331	212	6%	4%
Upper Bank Street 2-Way	530	685	550	667	605	712	10%	7%
Hertsmere Road Northbound	35	157	54	154	156	205	189%	33%
Hertsmere Road Southbound	370	188	447	224	577	289	29%	29%
Hertsmere Road 2-Way	405	345	501	378	733	494	46%	31%
Limehouse Link	2178	1928	2022	1981	2029	1990	0%	0%

6.46 As shown in the table above, Aspen Way will experience a small increase in two-way link flows as a result of the Proposed Development, with a 3% increase during the AM peak and a 1% increase in the PM peak. This shows that the change in traffic flows on Aspen Way due to the Proposed Development will be relatively minor compared to the predicted traffic levels.

6.47 During the AM peak, Upper Bank Street experiences a 10% increase in two-way vehicle flows, however this should be set in the context of the relatively low predicted flows on this road.

6.48 Given that Hertsmere Road is the main Site access for the Proposed Development, it unsurprisingly experiences the biggest change in link flows during both peak hours. The single biggest change will be on Hertsmere Road northbound, where flows will increase by 189% during the AM peak and 33% during the PM peak. It should be noted that Hertsmere Road is currently very lightly trafficked, and whilst the increases in the future year scenarios are high, the road has adequate spare capacity to accommodate the additional vehicular demand without detriment to other road users.

7 Network Impact: Public Transport

Introduction

7.1 This chapter considers the impact of the Maximum Commercial Scenario on rail-based modes (LU, DLR and Elizabeth Line) and bus and river services, assessing the predicted increase in trips as a result of the development proposals. As outlined in **Chapter 5**, the Maximum Commercial Scenario is the worst-case scenario in terms of trip generation, derived from the land uses with the highest public transport trip rates and mode shares.

7.2 The planned introduction of Elizabeth Line at Canary Wharf in 2021 will dramatically change travel patterns by rail at Canary Wharf. In order to assess this change, TfL's Railplan model (Version 7.2) for 2031 has been used as it includes Elizabeth Line services. The model makes assumptions about the level of cumulative development that will come forward using the assumptions in the LTS model.

Assumptions

7.3 The impact of the Proposed Development on the rail network is based on the assumptions discussed below.

Railplan Model

7.4 The output from Railplan provides three-hour peak passenger forecasts for the AM (07:00-10:00) and PM (16:00-19:00) peaks. In order to convert the three-hour peaks to a worst case one-hour peak for both the AM (08:00-09:00) and PM (17:00-18:00) peak hours, factors were obtained from the 2018 NUMBAT data. The three-hour AM peak passenger forecasts were factored by 0.408 and the three-hour PM peak passenger forecasts were factored by 0.375 to calculate the one-hour peak flows.

Jubilee Line Capacity

7.5 The capacity of the Jubilee Line is dependent on the number of trains per hour, the number of carriages per train and the car capacity.

7.6 The capacity of the Jubilee Line is specified by London Underground Limited ("LUL") as 972 people per train[3]. As currently there are 30 tph in peak hours, the capacity of the Jubilee Line for the 2031 assessment is assumed to be 29,160 passengers per hour.

7.7 Passenger demand for the Canada Water - Canary Wharf and Canary Wharf - North Greenwich links have been used for assessment purposes in this chapter.

[3] Charles Baker, LUL (2009) *London Underground Train Capacities*

Elizabeth Line Capacity

7.8 The capacity of Elizabeth Line will be 18,000 passengers per hour, which is calculated using the capacity of 150 passengers per car, 10 carriages per train and there being 12 trains per hour. This is based on rolling stock information and service frequencies provided on the Elizabeth Line website (www.crossrail.co.uk).

7.9 Passenger demand for the Whitechapel - Canary Wharf and Canary Wharf - Custom House links have been used for assessment purposes in this chapter.

DLR Capacity

7.10 The capacity of the DLR is dependent on the number of trains per hour, the number of carriages per train and the car capacity.

7.11 The current capacity of the DLR is 180 persons per carriage or 540 people per train[4], however TfL is in the process of procuring new rolling stock which will add additional capacity to the DLR by 2023. Passenger demand for the western branch link between Westferry and Limehouse and the eastern branch link between Poplar and Blackwall has been used for assessment purposes in this chapter.

7.12 Detailed frequencies of DLR services passing through Poplar and West India Quay are summarised in **Table 3.6** and corridor capacities are summarised in **Table 7.1**. Altogether, depending on the direction of travel and the station, there is capacity for between 8,100 and 12,420 passengers per hour.

Table 7.1: DLR Corridors – Passenger Capacities

Through Station	Direction	AM peak (08:00-09:00)	PM peak (17:00-18:00)
West India Quay	Northbound	8,100	8,100
	Westbound	8,100	8,100
	Southbound	11,880	8,100
Poplar	Northbound	8,100	8,100
	Eastbound	8,100	8,100
	Westbound	8,100	8,100
	Southbound	12,420	8,100

North Quay Rail Demand

Jubilee Line Demand

7.13 The Canary Wharf Employee Travel Survey 2019 data has been used to derive the distribution of Jubilee Line trips to/from Canary Wharf Jubilee Line station. The survey showed that 76.8% of Jubilee Line passengers travel to/from the west and 23.2% travel to/from the east to Canary Wharf. For the purposes of this report it was assumed that all Jubilee Line trips to/from North Quay would use Canary Wharf station to access the Site.

[4] DLR figures were obtained from David Arquati (2015). The figures assume 5 standing passengers per m2 i.e. representing practical crush capacity.

7.14 Additional Jubilee Line passengers at Canary Wharf station were calculated for each part of the line. The eastern branch includes trips from/to east of Canary Wharf, while the western branch includes trips from/to west of Canary Wharf.

Proposed Development

7.15 The majority of additional Proposed Development Jubilee Line trips are forecast to be eastbound to Canary Wharf in the morning peak and westbound from Canary Wharf in the afternoon peak.

Table 7.2: Forecast North Quay Jubilee Line Trips at Canary Wharf Station by Direction, Proposed Development

Direction	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Jubilee Line (Eastern Branch)	738	160	136	575
Jubilee Line (Western Branch)	2,444	529	451	1,904
Total	**3,182**	**688**	**587**	**2,480**

7.16 **Table 7.2** shows that 2,973 (2,444 arrivals and 529 departures) of the total 3,870 North Quay Jubilee Line trips in the AM peak hour would travel towards Canary Wharf, on the western part of the line. The remaining 898 (738 arrivals and 160 departures) of the total 3,870 Jubilee Line trips in the AM peak hour would travel on the eastern part of the line.

7.17 In the afternoon peak, there would be 2,355 trips (451 arrivals and 1,904 departures) on the western branch and 711 (126 arrivals and 575 departures) on the eastern branch, resulting in a total of 3,066 trips made in the afternoon peak.

2007 Consent

7.18 The majority of additional 2007 Consent Jubilee Line trips were forecast to be eastbound to Canary Wharf in the morning peak and westbound from Canary Wharf in the afternoon peak, as shown in **Table 7.3**.

Table 7.3: Forecast North Quay Jubilee Line Trips at Canary Wharf Station by Direction, 2007 Consent

Direction	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Jubilee Line (Eastern Branch)	1,181	177	166	916
Jubilee Line (Western Branch)	3,910	587	549	3,032
Total	**5,091**	**764**	**715**	**3,948**

7.19 **Table 7.3** shows that for the 2007 Consent, in the AM peak hour, there would be 4,497 trips (3,910 arrivals and 587 departures) made on the western part of the Jubilee Line. The remaining 1,359 (1,181 arrivals and 177 departures) trips in the AM peak hour would be on the eastern part of the line.

7.20 In the afternoon peak, there would be 3,582 trips (549 arrivals and 3,032 departures) on the western branch and 1,082 trips (166 arrivals and 916 departures) on the eastern branch, resulting in a total of 4,664 trips made in the afternoon peak.

7.21 When compared to the 2007 Scheme, the Proposed Development (Maximum Commercial Scenario) results in a reduction of 1,985 Jubilee Line trips during the AM peak hour and 1,596 fewer trips during the PM peak hour.

Elizabeth Line Demand

7.22 Elizabeth Line will operate with metro-style trains that are expected to provide capacity for an additional 18,000 passengers in the peak hour. For the purposes of this assessment it was assumed that 80% of North Quay trips would access Canary Wharf from the west and 20% from the east, based on observed Railplan demand.

Proposed Development

Table 7.4: Forecast North Quay Elizabeth Line Trips at Canary Wharf by Direction, Proposed Development

Direction	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Elizabeth Line (Eastern Branch)	291	84	67	229
Elizabeth Line (Western Branch)	1,165	337	268	916
Total	**1,457**	**421**	**335**	**1,145**

7.23 **Table 7.4** shows that 1,502 (1,165 arrivals and 337 departures) of the total 1,878 North Quay (Maximum Commercial Scenario) Elizabeth Line trips in the AM peak hour would travel to Canary Wharf on the western part of the line. Similarly, 375 (291 arrivals and 84 departures) of the total 1,878 Elizabeth Line trips in the AM peak hour would travel on the eastern part of the line.

7.24 In the afternoon peak, there would be a total of 1,480 trips (335 arrivals and 1,145 departures), of which 1,184 (268 arrivals and 916 departures) are expected on the western branch and 296 (67 arrivals and 229 departures) on the eastern branch.

2007 Consent

7.25 The majority of the 2007 Consent Jubilee Line trips were forecast to be eastbound to Canary Wharf in the morning peak and westbound from Canary Wharf in the afternoon peak.

Table 7.5: Forecast North Quay Elizabeth Line Trips at Canary Wharf by Direction, 2007 Consent

Direction	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Elizabeth Line (Eastern Branch)	432	66	62	335
Elizabeth Line (Western Branch)	1,729	264	248	1,339
Total	**2,162**	**330**	**310**	**1,674**

7.26 **Table 7.5** shows that for the 2007 Consent 1,993 (1,729 arrivals and 264 departures) of the total 2,492 North Quay Elizabeth Line trips in the AM peak hour would travel to Canary Wharf on the

western part of the line. Similarly, 498 (432 arrivals and 66 departures) trips in the AM peak hour would be made on the eastern part of the line.

7.27 In the afternoon peak, there would be a total of 1,984 trips (310 arrivals and 1,674 departures), of which 1,587 (248 arrivals and 1,339 departures) are expected on the western branch and 397 (62 arrivals and 335 departures) on the eastern branch.

7.28 When compared to the 2007 Scheme, the Proposed Development (Maximum Commercial Scenario) results in a reduction of 614 Elizabeth Line trips during the AM peak hour and 504 fewer trips during the PM peak hour.

7.29 Elizabeth Line will significantly increase the public transport capacity for Canary Wharf, increasing the capability of the public transport network to accommodate trips arising from the Proposed Development, as discussed below.

DLR Demand

7.30 The Canary Wharf Employee Travel Survey 2019 data has been used to derive a distribution of North Quay DLR trips to/from Poplar and West India Quay DLR stations. The survey showed that 34.88% of DLR passengers travel to the west (i.e. Bank and Tower Gateway), 40.15% to/from the south (Lewisham), 19.15% to/from the north (Stratford) and 5.81% to/from the east (Becton and Woolwich Arsenal) of Canary Wharf.

7.31 For the purposes of this TA it was assumed that for arrivals all DLR trips to/from North Quay from the north, west and east would use Poplar DLR station to access the Site. It is assumed that all trips from the south would use West India Quay DLR station to access the Site.

7.32 To account for westbound DLR services travelling from both West India Quay and Poplar, westbound departures on the western corridor were split between the two stations.

Proposed Development

7.33 **Table 7.6** shows the number of North Quay (Maximum Commercial Scenario) DLR trips per branch and station.

Table 7.6: Forecast North Quay DLR Trips by Direction, Proposed Development

Direction	Station	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
		Arrivals	Departures	Arrivals	Departures
DLR (Northern Branch)	Poplar	281	78	61	222
DLR (Eastern Branch)		85	24	18	68
DLR (Western Branch)		513	71	110	203
DLR (Southern Branch)	West India Quay	590	163	127	466
DLR (Western Branch)		-	71	-	203
Total		**1,470**	**405**	**316**	**1,161**

7.34 In total 1,875 (1,470 arrivals and 405 departures) trips are forecast on the DLR network in the AM peak hour. Of those, 753 (590 arrivals and 163 departures) trips would travel to Canary Wharf on the southern branch. Similarly, 593 (127 arrivals and 466 departures) of the total 1,104 (269 arrivals and 835 departures) DLR trips in the PM peak hour would access/leave the Site on the southern branch.

2007 Consent

7.35 The majority of additional 2007 Consent DLR trips were forecast to be northbound to West India Quay in the morning peak and southbound from the same station in the afternoon peak. Compared to the 2007 Scheme, there has been a reduction of 1,268 trips in both morning and afternoon peak hours forecast for the Proposed Development.

7.36 **Table 7.7** shows the number of North Quay DLR trips per branch and station.

Table 7.7: Forecast North Quay DLR Trips by Direction, 2007 Consent

Direction	Station	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
		Arrivals	Departures	Arrivals	Departures
DLR (Northern Branch)	Poplar	428	64	60	332
DLR (Eastern Branch)		130	20	18	101
DLR (Western Branch)		780	59	110	302
DLR (Southern Branch)	West India Quay	898	135	126	696
DLR (Western Branch)		NA	59	NA	302
Total		**2,236**	**336**	**314**	**1,734**

7.37 In total 1,875 (1,470 arrivals and 405 departures) trips were forecast on the DLR network in the AM peak hour. Of those, 753 (590 arrivals and 163 departures) North Quay DLR trips would travel to Canary Wharf on the southern branch. Similarly, 593 (127 arrivals and 466 departures) of the total 1104 (269 arrivals and 835 departures) DLR trips in the PM peak hour would access/leave the Site on the southern branch.

2031 Rail Passenger Demand

7.38 **Table 8.10** and **Table 8.11** show the operating capacity of the Jubilee Line, DLR and Elizabeth Line for the western rail corridor in an eastbound and westbound direction of travel for the AM peak hour. This represents the worst-case scenario both in terms of future baseline demand and for trips generated by the Proposed Development.

7.39 The tables below are based on Railplan outputs which includes the 2007 Consent. As outlined above, the Proposed Development, which is intended to take place instead of the Consented Scheme, is forecast to have significantly lower impacts on the surrounding public transport network.

7.40 To remove the effect of double counting, a Base Minus Reference Case has been calculated and presented in the final assessment, which discounts the Railplan outputs by 2007 forecast trips.

7.41 **Tables 7.8 – 7.11** show the Railplan 2031 operating capacity of the Jubilee Line, DLR and Elizabeth Line for the eastern rail corridor in an eastbound and westbound direction of travel for the AM peak hour.

Table 7.8: Western Rail Corridor Passenger Demand – 2031 AM Peak (Eastbound)

Service	2031 Railplan (3 hour Peak)	2031 Demand (08:00-09:00)	Planning Standard Capacity	Demand / Capacity
Jubilee Line	61,163	24,955	29,160	85.6%
DLR	9,398	3,834	8,100	47.3%
Elizabeth Line	31,594	12,890	18,000	71.6%
Total	**102,155**	**41,679**	**55,260**	**75.4%**

Table 7.9: Western Rail Corridor Passenger Demand – 2031 AM Peak (Westbound)

Service	2031 Railplan (3 hour Peak)	2031 Demand (08:00-09:00)	Planning Standard Capacity	Demand / Capacity
Jubilee Line	55,635	22,699	29,160	77.8%
DLR	13,506	5,510	16,200	34.0%
Elizabeth Line	42,143	17,194	18,000	95.5%
Total	**111,284**	**45,404**	**63,360**	**71.7%**

Table 7.10: Eastern Rail Corridor Passenger Demand – 2031 AM Peak (Eastbound)

Service	2031 Railplan (3 hour Peak)	2031 Demand (08:00-09:00)	Planning Standard Capacity	Demand / Capacity
Jubilee Line	18,303	7,468	29,160	25.6%
DLR	7,705	3,144	8,100	38.8%
Elizabeth Line	31,594	12,890	18,000	71.6%
Total	**57,602**	**23,502**	**55,260**	**42.5%**

Table 7.11: Eastern Rail Corridor Passenger Demand – 2031 AM Peak (Westbound)

Service	2031 Railplan (3 hour Peak)	2031 Demand (08:00-09:00)	Planning Standard Capacity	Demand / Capacity
Jubilee Line	57,127	23,308	29,160	79.9%
DLR	12,734	5,195	16,200	32.1%
Elizabeth Line	37,422	15,268	18,000	84.8%
Total	**107,283**	**43,771**	**63,360**	**69.1%**

7.42 Tables above show that based on the Railplan model forecasts, all three rail services into Canary Wharf from both the east and west would operate well within their planning capacity.

Impact of North Quay on Rail Passenger Demand

7.43 **Tables 7.12 – 7.15** show the 2031 operating capacity of the Jubilee Line, DLR and Elizabeth Line for the western and eastern rail corridors in both directions of travel for the AM peak hour, as this represents the worst-case peak scenario. The forecast trips generated by the Proposed Development are shown separately so that the proportion of the North Quay trips in terms of percentage increase in trips can be seen. The impact of the Proposed Development is shown in the final column of each table.

7.44 **Table 7.16** provides an additional sensitivity test of the capacity of DLR services on the Northern and Southern corridor in both northbound and southbound directions. This assessment has been developed to give due consideration to secondary routes to and from Canary Wharf, which are unlikely to see capacity relief from the Elizabeth Line.

7.45 All values in the tables below are given for a one-hour period, between 08:00 and 09:00.

Table 7.12: North Quay impact on Western Rail Corridor – 2031 AM Peak (Eastbound)

Service	2031 Demand (Scenario 2a)	North Quay 2020	North Quay 2007	Base Minus (Scenario 2b)	Base Minus + North Quay 2020 (Scenario 4)	Demand/ Capacity	NQ Impact (2031-2007 vs NQ)
Jubilee Line	24,955	2,444	3,910	21,044	23,488	80.5%	8.4%
DLR	3,834	513	780	3,054	3,567	44.0%	6.3%
Elizabeth Line	12,890	1,165	1,729	11,161	12,326	68.5%	6.5%
Total	**41,679**	**4,122**	**6,419**	**35,260**	**39,382**	**-**	**-**

Table 7.13: North Quay impact on Western Rail Corridor – 2031 AM Peak (Westbound)

Service	2031 Demand (Scenario 2a)	North Quay 2020	North Quay 2007	Base Minus (Scenario 2b)	Base Minus + North Quay 2020 (Scenario 4)	Demand/ Capacity	NQ Impact (2031-2007 vs NQ)
Jubilee Line	22,699	529	587	22,112	22,641	77.6%	1.8%
DLR	5,510	71	59	5,452	5,522	34.1%	0.4%
Elizabeth Line	17,194	337	264	16,930	17,267	95.9%	1.9%
Total	**45,404**	**936**	**910**	**44,494**	**45,430**	**-**	**-**

Table 7.14: North Quay impact on Eastern Rail Corridor – 2031 AM Peak (Eastbound)

Service	2031 Demand (Scenario 2a)	North Quay 2020	North Quay 2007	Base Minus (Scenario 2b)	Base Minus + North Quay 2020 (Scenario 4)	Demand/ Capacity	NQ Impact (2031-2007 vs NQ)
Jubilee Line	7,468	160	177	7,290	7,450	25.5%	0.5%
DLR	3,144	24	20	3,124	3,148	38.9%	0.3%
Elizabeth Line	12,890	84	62	12,828	12,913	71.7%	0.5%
Total	**23,502**	**267**	**259**	**23,243**	**23,510**	**-**	**-**

Table 7.15: North Quay impact on Eastern Rail Corridor – 2031 AM Peak (Westbound)

Service	2031 Demand (Scenario 2a)	North Quay 2020	North Quay 2007	Base Minus (Scenario 2b)	Base Minus + North Quay 2020 (Scenario 4)	Demand/ Capacity	NQ Impact (2031-2007 vs NQ)
Jubilee Line	23,308	738	1,181	22,127	22,865	78.4%	2.5%
DLR	5,195	85	130	5,065	5,151	31.8%	0.5%
Elizabeth Line	15,268	291	432	14,836	15,127	84.0%	1.6%
Total	**43,771**	**1,115**	**1,744**	**42,028**	**43,143**	**-**	**-**

Table 7.16: North Quay impact on DLR North and South Corridors – 2031 AM Peak

Service	2031 Demand (Scenario 2a)	North Quay 2020	North Quay 2007	Base Minus (Scenario 2b)	Base Minus + North Quay 2020 (Scenario 4)	Demand/ Capacity	NQ Impact (2031-2007 vs NQ)
North Route Northbound	1,600	78	64	1,535	1,613	19%	1.0%
North Route Southbound	4,965	281	428	4,537	4,818	37%	2.3%
South Route Northbound	1,688	590	898	791	1,381	10%	7.3%
South Route Southbound	4,191	163	135	4,056	4,219	34%	1.4%

7.46 The analysis in **Tables 7.12-7.15** shows that the Proposed Development would have the greatest impact on eastbound services along the western rail corridor in the AM peak hour; the greatest impact being an 8.4% increase in trips on the Jubilee Line (Canada Water to Canary Wharf link). The impact of the development would be slightly lower on the westbound services during the AM peak; the greatest impact would be a 2.5% increase in trips on the Jubilee Line along the eastern corridor (North Greenwich to Canary Wharf link). The increases in trips associated with the Proposed Development are less than the 2007 Consent trips and therefore represent an overall reduction in rail based trips compared with the existing 2031 Railplan forecast data. Additionally, TfL intend to improve capacity on the Jubilee Line by increasing peak hour Jubilee Line services to 32tph by December 2021 as noted in the 3rd July 2018 TfL Programme and Investment Committee.

7.47 The tables show that the Jubilee Line, DLR and Elizabeth Line services would still operate within capacity in the peak directions of travel during the AM peak hour. As the AM peak hour is considered the worst-case scenario across the day, the impact of the Proposed Development on the Jubilee Line, DLR and Elizabeth Line services is considered acceptable.

Other Public Transport Services

Bus

7.48 Bus routes serving the Site stop at Canary Wharf Station and Upper Street North and their frequencies are presented in **Table 3.4**. Based on the routing, services 277 and D8 are considered to be the most popular service and it has been assumed that 20% of bus passengers will use each of the services. It is assumed that the remaining services will each capture 10% of bus trips.

Proposed Development

7.49 It is forecast that a total of 248 additional passengers will travel to the Site during the AM (08:00-09:00) peak hour and 87 additional passengers will depart the development during the AM peak hour under the Maximum Commercial Scenario.

7.50 Forecast additional bus passengers and the distribution to each service has been assessed to calculate the average additional number of passengers per route and service. The patronage by service is shown in **Table 7.17** and **Table 7.18** respectively (based on existing service frequencies), which show that there will be an average of four additional inbound passengers and two additional outbound passengers per bus in the AM (08:00-09:00) peak hour.

Table 7.17: Forecast North Quay Bus Demand – AM Peak Hour (Inbound), Proposed Development

Service	Route Assignment (%)	Passengers per hour	Buses per hour	Passengers per bus
15	10%	25	8	3.3
115	10%	25	7	3.7
135	10%	25	6	4.3
277	20%	50	9	5.8
D3	10%	25	6	4.1
D6	10%	25	9	2.9
D7	10%	25	10	2.5
D8	20%	50	5	10.3
Total	**100%**	**248**	**58**	**4.28 (average)**

**May not sum due to rounding*

Table 7.18: Forecast North Quay Bus Demand – AM Peak Hour (Outbound), Proposed Development

Service	Route Assignment (%)	Passengers per hour	Buses per hour	Passengers per bus
15	10%	9	8	1.2
115	10%	9	7	1.3
135	10%	9	6	1.5
277	20%	17	9	2.0
D3	10%	9	6	1.4
D6	10%	9	9	1.0
D7	10%	9	10	0.9
D8	20%	17	5	3.6
Total	**100%**	**87**	**58**	**1.5 (average)**

**May not sum due to rounding*

2007 Consent

7.51 Based on the floor areas and trip generation associated with the 2007 Consent, 394 bus passengers would travel to the Site during the AM (08:00-09:00) peak hour and 63 passengers would depart the development during the AM peak hour.

7.52 Forecast additional bus passengers and the distribution to each service has been assessed to calculate the average additional number of passengers per route and service associated with the 2007 Consent. The patronage by service is shown in **Table 7.19** and **Table 7.20**, respectively (based on existing service frequencies), which show that there will be an average of six to seven additional inbound passengers per bus and one to two additional outbound passengers per bus in the AM (08:00-09:00) peak hour.

Table 7.19: Forecast North Quay Bus Demand – AM Peak Hour (Inbound), 2007 Consent

Service	Route Assignment (%)	Passengers per hour	Buses per hour	Passengers per bus
15	10%	39	8	5.2
115	10%	39	7	5.9
135	10%	39	6	6.9
277	20%	79	9	9.2
D3	10%	39	6	6.6
D6	10%	39	9	4.6
D7	10%	39	10	3.9
D8	20%	79	5	16.4
Total	**100%**	**394**	**58**	**6.8**

**May not sum due to rounding*

Table 7.20: Forecast North Quay Bus Demand – AM Peak Hour (Outbound), 2007 Consent

Service	Route Assignment (%)	Passengers per hour	Buses per hour	Passengers per bus
15	10%	6	8	0.8
115	10%	6	7	0.9
135	10%	6	6	1.1
277	20%	13	9	1.5
D3	10%	6	6	1.0
D6	10%	6	9	0.7
D7	10%	6	10	0.6
D8	20%	13	5	2.6
Total	**100%**	**63**	**58**	**1.1**

**May not sum due to rounding*

7.53 When compared to the 2007 Scheme, the Proposed Development (Maximum Commercial Scenario) results in a reduction of 122 two-way bus trips during the AM peak. The Proposed Development would therefore have less of an impact on bus services than the 2007 Consent.

River Services

7.54 TfL's (2013) "River Action Plan" is actively seeking to encourage an increase in passenger journeys on the Thames to 12 million a year by 2020, with the Mayor of London and TfL "recognising that London's river passenger services are not yet reaching their full potential and that action is required to bring about transformational change".

7.55 As shown in **Table 5.10**, Proposed Development trips forecast to be made by river bus are combined with 'other' modes of transport which fall outside of the categories recorded by Census data. Nonetheless, for the purposes of providing a robust worst-case assessment, all 'other' trips are assumed to be river bus trips.

7.56 The Proposed Development is forecast to generate 96 two-way trips in the AM (08:00-09:00) peak hour, 75 two-way trips in the PM (17:00-18:00) peak hour and 643 two-way daily trips on river services to/from central London and Greenwich from Canary Wharf pier.

The Proposed Development would also increase the number of people using the existing ferry to Rotherhithe.

7.57 Sufficient capacity is expected to be available for river bus service passengers and the Proposed Development is not expected to affect the operation of the river services, apart from increasing its financial viability which is considered beneficial to river bus services.

Summary

7.58 Drawing on the excellent public transport accessibility of the Site, the car-free nature of the Proposed Development is likely to result in an increase of passenger journeys on all transport corridors. Despite the forecast growth in passenger journeys, especially on the Jubilee Line, Elizabeth Line and the DLR, as outlined in the sections above, these services are forecast to operate within capacity in 2031. That is, the Proposed Development will not have significant adverse impacts on the capacity of the services.

7.59 The car-free nature of the development and the resultant growth in public transport trips is an indication of a mode shift away from private vehicles, in line with the Mayor of London's aspirations and the overall transport strategy.

7.60 In terms of impacts at the surrounding stations, particularly West India Quay and Poplar DLR stations, the increase in the number of passengers is unlikely to have an impact on the safe operations, including ingress and egress of passengers to/from the platform level.

7.61 The increase in passenger journeys forecast for the Proposed Development is, in most instances, less than the increase forecast for the 2007 Consent. The impacts presented here are expected to form a worst-case assessment and so it is considered that the Proposed Development will not have significant adverse impacts on the capacity of safe operation of the public transport network.

7.62 The impacts on the bus network, in terms of additional passengers generated by the Proposed Development are shown to be negligible.

8 Network Impact: Pedestrian Movements

Overview

8.1 In order to assess the ability of the main north/south connections into the Site, namely the Aspen Way Footbridge, Elizabeth Line footbridge, and Upper Bank Street, to accommodate the forecast level of demand resulting from the Proposed Development (Maximum Commercial Scenario), a static spreadsheet-based assessment was undertaken of these locations for both the morning (08:00 to 09:00) and evening (17:00 to 18:00) peak hours and a forecast year of 2031, consistent with the highway and public transport modelling and scenarios agreed with TfL.

8.2 The assessment combined current data, assumptions, and trip generation numbers with detailed pedestrian modelling work previously undertaken by Steer (as part of the Transport Assessment prepared in 2017 for the subsequently withdrawn North Quay application PA/17/01193) to forecast pedestrian flows at each of the three analysis locations. For the two southern connections (the Elizabeth Line footbridge and Upper Bank Street), since there are no data available to inform the distribution of north/south movements between these two locations, several scenarios were assessed to cover a range of realistic distributions. These include:

- Scenario 1 – Elizabeth Line 60% and Upper Bank Street 40%;
- Scenario 2 – Elizabeth Line 75% and Upper Bank Street 25%; and
- Scenario 3 – Elizabeth Line 90% and Upper Bank Street 10%.

8.3 The forecast pedestrian flows in these three scenarios for the southern connections and the single scenario for the northern connection were then compared against available capacity using two methodologies:

- Passenger Comfort Level ("PCL") analysis – based on TfL's PCL guidance for London's streets[5], an analysis was undertaken to calculate the expected PCL values given the forecast demand; and
- London Underground station planning analysis – based on LU's station capacity planning guidance[6], an analysis was undertaken to calculate the expected Fruin's Level of Service ("LoS") values given the forecast demand.

8.4 Since the Aspen Way and Elizabeth Line footbridges are owned by DLR and LU respectively, the LU station planning analysis is considered to be the most applicable

[5] Transport for London (2019), S1731 Pedestrian Comfort Level Guidance for London (Version 2)

[6] Transport for London (2019), S1731 Station capacity planning (issue A7)

methodology. Conversely, for Upper Bank Street, the PCL analysis is considered to be the most applicable methodology.

8.5 For both methodologies, where there was found to be spare capacity, a further calculation was conducted to estimate the additional number of peak hour trips that could be accommodated. These trips were then converted into a maximum theoretical number of additional residential units to account for potential proposed future development. Alternatively, where there was found to be insufficient capacity, the amount of additional width that would be required to meet the recommended guidance was calculated.

8.6 In addition to the analysis of the capacity of north/south connections, a further analysis was undertaken of the stair and lift capacity of the two layout options for Poplar Plaza (as presented in the Landscape chapter of the DAS), in order to determine whether there is sufficient capacity for the forecast demand. The methodology used to conduct the analysis was based upon LU's station planning guidance only, since the PCL guidance does not address stair and lift capacity.

8.7 The results presented in this chapter reflect the key pedestrian routes as shown in the 'Access and Circulation Routes' Parameter Plan at **Appendix 8** and a worst-case trip generating scheme, identified in Chapter 6 as the Maximum Commercial Scenario.

Methodology

8.8 Two alternative methodologies, one applied to London's streets and the other applied to LU stations, have been used in the assessment of the north/south connections. Additional calculations, based on LU's station planning guidance, were also performed to assess the stair and lift capacity of Poplar Plaza. All three sets of calculations, two to assess the capacity of north/south connections and another to assess the stair and lift capacity of Poplar Plaza, are outlined below.

Pedestrian Comfort Level Analysis

8.9 The aim of this methodology is to calculate a pedestrian flow rate at a location (in people per minute per metre) and compare it against guidance flow rates to determine whether the calculated flow rate is considered to be acceptable. **Table 8.1** shows how the different PCL values (A+ through to E) are defined in terms of the number of people per minute per metre.

Table 8.1: PCL ranges for footways

PCL	Range	Description
A+	< 3 ppl/min/m	<3% Restricted Movement
A	3 to 5 ppl/ min/m	13% Restricted Movement
A-	6 to 8 ppl/ min/m	22% Restricted Movement
B+	9 to 11 ppl/ min/m	31% Restricted Movement
B	12 to 14 ppl/ min/m	41% Restricted Movement
B-	15 to 17 ppl/ min/m	50% Restricted Movement
C+	18 to 20 ppl/ min/m	59% Restricted Movement
C	21 to 23 ppl/ min/m	69% Restricted Movement
C-	24 to 26 ppl/ min/m	78% Restricted Movement
D	27 to 35 ppl/ min/m	100% Restricted Movement
E	> 35 ppl/ min/m	100% Restricted Movement

8.10 For areas that are predominantly Office and Retail, the PCL guidance considers PCL values up to and including C+ to be acceptable.

8.11 The number of people per minute is obtained by taking the peak hour demand and dividing it by 60. The width of a location is the measured width, less an allowance for a buffer of 0.2m on either side. The purpose of the buffer is to try to account for the reluctance of people to walk right up against the edge of a footway, thereby reducing its effective width.

8.12 Dividing the pedestrian flow by the width then gives a flow rate that can be used to assign a PCL value from **Table 8.1**.

8.13 Where a location has some spare capacity, i.e. when the calculated pedestrian flow rate is less than the upper limit for C+ (20 people per minute per metre), the spare capacity is converted first into peak hour trips, and then into a theoretical maximum number of residential units to account for potential future development that could be added without exceeding the guidance PCL value.

8.14 Where a location is found to have insufficient capacity, the upper and lower limits of the C+ PCL range are used to calculate minimum and maximum values for how much additional width would need to be provided to meet the recommended PCL value, given the level of demand forecast at that location.

London Underground Station Planning Analysis

8.15 The aim of this methodology is similar to the PCL method; however, there are some differences in how peak minute pedestrian flows and capacities are calculated. Additionally, this method uses a different measurement scale (see **Table 8.2**) and has a different recommendation for what is considered to be acceptable.

Table 8.2: Fruin's LoS scale for walkways.

LoS	Range	Description
A	< 23 ppl/min/m	Free circulation.
B	23 to 33 ppl/ min/m	Free circulation for one-directional flows. Minor conflicts for reverse and crossing flows.
C	33 to 49 ppl/ min/m	Some restriction in selection of walking speed and ability to pass others. High probability of conflict.
D	49 to 66 ppl/ min/m	Restricted and reduced walking speed for most pedestrians. Multiple conflicts, momentary stoppages of flows.
E	66 to 82 ppl/ min/m	Restricted and reduced walking speed for all pedestrians. Shuffling progress at higher densities. Extreme difficulties in reverse and cross flows.
F	> 82 ppl/ min/m	Circulation reduced to shuffling. Reverse and cross flows near impossible. Frequent contact. Sporadic forward flow.

8.16 For a level surface experiencing two-ways flows, the LU guidance recommends that pedestrian flows do not exceed 40 people per minute per metre.

8.17 The number of people per minute is calculated by first converting the peak hour demand into peak 15-minute demand using standard LU factors (0.27 for the AM peak and 0.26 for the PM peak), and then dividing the peak 15-minute flows by 15 to get the average peak minute flow.

8.18 For the Aspen Way footbridge and Upper Bank Street, the widths used in the calculations were taken to be the widths of the available floor space (not including any buffers because of the circular geometry of the bridge). For the Elizabeth Line footbridge, a buffer of 0.3m on each side was included.

8.19 Dividing the average peak minute flow by the adjusted width gives a pedestrian flow rate that can be used to assign an LoS value from **Table 8.2**.

8.20 The theoretical maximum number of residential units to account for spare capacity, or minimum and maximum values for the additional width required to meet guidance were calculated, similar to the PCL method.

Poplar Plaza Analysis

8.21 The methodology used to conduct the Poplar Plaza analysis comprises two types of calculations, one to assess stair capacity and another to assess lift capacity.

8.22 The assessment of stair capacity is similar to the assessment of north/south connections. Pedestrian demand (assumed to be the same as that on the Aspen Way footbridge) is converted into a flow of people per minute per metre via the method used in the LU station planning analysis; however, the resulting pedestrian flow rate is assigned an LoS value based on a different scale (see **Table 8.3**).

Table 8.3: Fruin's LoS scale for stairs.

LoS	Range	Description
A	< 16 p/m/min	Free circulation.
B	16 to 23 p/m/min	Free circulation for one-directional flows. Minor conflicts for reverse and crossing flows.
C	23 to 33 p/m/min	Slightly restricted circulation speed due to difficulty in passing others. Some difficulties for reverse and cross flows.
D	33 to 43 p/m/min	Restricted circulation for most pedestrians. Significant difficulties for reverse and cross flows.
E	43 to 56 p/m/min	Restricted circulation for all pedestrians. Intermittent stoppages. Serious difficulties for reverse flows.
F	> 56 p/m/min	Complete breakdown in traffic flow. Many stoppages. Not recommended.

8.23 For a stepped surface experiencing two-ways flows, LU guidance recommends that pedestrian flows do not exceed 28 people per minute per metre.

8.24 The theoretical maximum number of residential units to account for spare capacity, or minimum and maximum values for the additional width required to meet guidance are then calculated.

8.25 The assessment of lift capacity compares the lift capacity provided in each layout option (based on the number of lifts, loading capacities, and cycle times) against the peak minute demand in the busiest direction (i.e. either northbound or southbound flows, not the aggregate of both directions).

8.26 Where there is spare capacity, i.e. where the calculations show the lift capacity in an average minute is greater than the forecast demand for an average minute, the theoretical maximum number of residential units that could be accommodated by that capacity is calculated. Alternatively, where the forecast demand exceeds lift capacity, the additional number of lifts required to accommodate that demand is calculated.

8.27 Since it is unknown precisely what proportion of the pedestrian demand will make use of lifts rather than stairs, the split between stair versus lift usage has been based upon LU Legion modelling best practice guidance[7] for a 'City' type station. Using this guidance, a split of 99.03% and 0.97% for stairs and lifts respectively has been calculated for the AM peak hour, and a split of 97.69% and 2.31% for stairs and lifts respectively has been calculated for the PM peak hour.

8.28 For the stairs, a single layout option with a stair width of 2 × 1.87m between handrails (giving a total clear width of 3.74m) was assessed. For the lifts, two layout options were assessed, an 'Indicative Scheme' and an 'Alternative Option', which incorporate different lift assumptions. The Indicative Scheme has two single lifts separated by a series of plazas,

[7] Transport for London (2016) *Station Modelling with Legion Spaceworks: Best Practice Guide (Version 3.2)*

whereas the Alternative Option has a double lift configuration where both lifts are accessed at the upper level only.

Assessment Scenarios

8.29 The models assessed the typical weekday AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00) as the trip generation data indicated that these are the busiest periods of the day. Pedestrian movements on the Canary Wharf estate are 'tidal', i.e. predominant flows in one direction during the peak, but also with numerous conflicting journey purposes/pedestrian movements.

8.30 For the Aspen Way Footbridge and Poplar Plaza, only a single scenario was assessed for the AM and PM peaks. For the Elizabeth Line footbridge and Upper Bank Street, three scenarios were assessed for both peaks.

8.31 The three scenarios were defined with the aim of addressing the uncertainty in knowing how demand will be distributed between the two southern connections to the Site. By looking at several distribution scenarios it is possible to gauge the range of pedestrian demand that could adequately be accommodated at each location. **Table 8.4** shows the distributions assessed in each scenario.

Table 8.4: Scenario distributions

Scenario	Elizabeth Line Footbridge	Upper Bank Street
1	60%	40%
2	75%	25%
3	90%	10%

Assumptions

Demand

8.32 The demand estimated for the AM and PM peaks was derived from the Maximum Commercial Scenario trip generation. This includes the worst-case assessment of trips in relation to the various modes of transport available.

8.33 Cycle and motorcycle trips have not been included in the estimated walk trips, as it was assumed that these trips will start and finish in the appropriate parking areas for the residential and office buildings and will not go through the development. Additionally, for the car and taxi modes, it has been assumed that 1-person trip has resulted from each car/taxi trip to the residential/retail and office drop-offs.

8.34 In addition to trips generated by the Proposed Development, existing walk trips, trips generated by committed developments in the area, and trips linked to the Elizabeth Line station and its associated over-station development have been considered.

8.35 Following the estimate of the total number of walk trips, the updated numbers were input into an origin-destination ("OD") matrix that was previously developed by Steer, which makes high-level assumptions to assign trips to the various buildings within the Masterplan.

O-D matrix development

Residential trips

8.36 Residential trips, which incorporate both the residential and serviced apartments land uses, were assigned to the OD matrix based on the aim of minimising the distance, as far as possible, when travelling between a building and the different transport modes and the wider area.

Retail trips

8.37 Since neither the size, type, nor tenant are known for each of the individual retail units, the retail trips have been evenly distributed between the different retail areas, based on the Indicative Scheme layout as a reasonable proxy. It has been assumed that all retail trips are to/from shops or food/beverage outlets with short dwell times, because these types of trips will produce a greater degree of movement through the Proposed Development.

Office trips

8.38 Office trips were assigned to the OD matrix based upon the locations of the office buildings (based on the Indicative Scheme layout as a reasonable proxy), and the locations of the different transport modes and trip attractors in the area.

Other trips

8.39 The analysis also includes other walk trips identified in the Legion modelling work which informed the subsequently withdrawn 2017 North Quay application. This considers the number of trips that are likely to go to/from the South Poplar area and therefore will be going through the Proposed Development. These trips include:

- Existing demand as surveyed during a pedestrian count survey in June 2016. This count was carried out at the southern entrance of the Aspen Way Footbridge, which ensures that pedestrians using the bridge to access Poplar DLR station from the southern end were also included in the count. Whilst a more recent survey was conducted in 2017, it was found that the 2017 pedestrian demand was smaller in magnitude when compared to the pedestrian demand from the 2016 survey. Unfortunately, due to current COVID-19 restrictions, it has not been possible to conduct an updated survey. For these reasons, and because there have been no significant changes to the area since the 2016 survey, use of the 2016 survey data is considered to be acceptable;
- Trips from other cumulative schemes in the area. The committed developments in the area were examined and no major developments were identified in close proximity to the

north end of the Aspen Way Footbridge. For the purposes of this assessment, two committed development schemes have been identified which could have an impact on Proposed Development. These are: Poplar Business Park and Blackwall Reach. The TAs for these developments have been reviewed and based on the trip generation and mode share presented in these TAs, the number of walk trips likely to go via the Proposed Development was estimated;

- Potential future development sites not yet committed including the Workhouse Site, the Aspen Way Site and the New City College Site in immediate vicinity of North Quay have also been considered in determining the spare capacity of the assessed links in accommodating further future growth.
- Estimate of the likely increase to the number of trips through the Site due to the improved connectivity to the DLR network in the wider Canary Wharf area. 2031 Railplan data and 2018 NUMBAT data, which shows the origins and destinations of DLR trips, were examined to identify trips which may be shifted to walk instead. These trips include short DLR trips between West India Quay/Canary Wharf and Poplar station and between West India Quay/Canary Wharf and stations on the Beckton and Woolwich Arsenal branches which would require a change at Poplar station. It has been assumed that trips to/from the Poplar area via Poplar station will use the station access at street level and will not impact on movements on the footbridge; and
- Trips generated by the new Elizabeth Line station and Crossrail Place to/from the Poplar area, estimated in the Canary Wharf Elizabeth Line station OSD (Stage F) Transport and Access Study produced by Steer (formerly SDG) in January 2013.

8.40 It should be noted that the trips linked to improved connectivity to the DLR network, which were identified in the 2017 Legion modelling have been superseded by trips extracted from 2031 AM and PM peak Railplan models.

8.41 By extracting trips from 2018 NUMBAT data that could be redirected and comparing them to total boarders and alighters at West India Quay and Canary Wharf DLR stations, it was possible to calculate the proportion of total boarders and alighters at these stations that could be redirected on to the Aspen Way Footbridge. These proportions were then applied to total station boarders and alighters extracted from 2031 AM and PM peak Railplan models.

8.42 These trips extracted from Railplan were compared to the trips identified from the 2018 NUMBAT data, once they had been uplifted to the forecast year of 2031 using a growth rate of 1% per annum, and it was found that, whilst the uplifted trips resulted in more combined demand across both the AM and PM peaks, the trips extracted from Railplan resulted in higher demand in the AM peak. Since the AM peak is expected to be busier than the PM peak, the demand taken from Railplan data was selected over the uplifted NUMBAT data, since it allows for a more robust assessment.

Hourly demand

8.43 After accounting for the different categories of walk trips described above, the forecast number of walk trips at the southern end of the Aspen Way Footbridge during the morning and evening peak hours are shown in **Table 8.5**. Similarly, the forecast number of walk trips on the Elizabeth Line footbridge and Upper Bank Street during the morning and evening peak hours for each scenario are shown in **Table 8.6**. **Table 8.7** and **Table 8.8** show the AM and PM peak hour demand forecast to use the Poplar Plaza stairs and lifts respectively.

Table 8.5: Peak hour forecast demand on Aspen Way Footbridge by period (AM/PM peak)

Period	Peak hour demand on Aspen Way Footbridge [ppl]
AM	2,711
PM	2,390

Table 8.6: Peak hour forecast demand on Elizabeth Line footbridge and Upper Bank Street by period (AM/PM peak) and scenario

Scenario	Period	Peak hour demand on Elizabeth Line footbridge [ppl]	Peak hour demand on Upper Bank Street [ppl]
1	AM	5,341	3,560
1	PM	4,379	2,919
2	AM	6,676	2,225
2	PM	5,473	1,824
3	AM	8,011	890
3	PM	6,568	730

Table 8.7: Peak hour forecast demand using Poplar Plaza stairs by period (AM/PM peak)

Period	Peak hour demand on stairs [ppl]
AM	2,684
PM	2,335

Table 8.8: Peak hour forecast demand using Poplar Plaza lifts by period (AM/PM peak) (one-way flow in busiest direction only)

Period	Peak hour demand for lifts [ppl]
AM	21
PM	41

Results

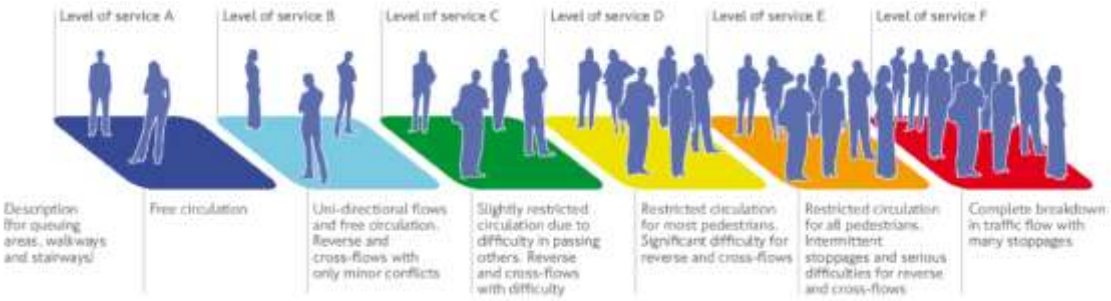
Assessment Scales

8.44 The assessment produced several sets of results based on either TfL's PCL guidance or LU's station planning guidance. A representation of the different PCL levels as defined in TfL's PCL guidance can be seen in **Figure 8.1**. Similarly, a representation of the different levels of service as defined in LU's station planning guidance can be seen in **Figure 8.2**.

Figure 8.1: PCL scale for footways

Source: Transport for London (2019) *S1731 Pedestrian Comfort Level Guidance for London (Version 2)*

Figure 8.2: Fruin's walkways LoS scale



Source: Transport for London (2012) *G371A Station planning standards and guidelines (issue A4)*

8.45 In the PCL methodology, a maximum PCL of C+ is recommended. In the LU station planning methodology, a maximum flow rate of 40 people per minute per metre is recommended for flat surfaces and 28 people per minute per metre is recommended for stepped surfaces, when experiencing two-way flows.

Spare Capacity

8.46 Where the forecast demand at a location is below the recommended threshold, the unused capacity was converted into the additional number of peak hour trips that could be added whilst still maintaining the recommended PCL/LoS value. The method to do this was the reverse of the method used initially to obtain one-minute flows from peak hour flows.

Additional Width Required to Meet Recommended Flow Rates

8.47 Where the forecast demand at a location exceeded the recommended threshold, a calculation was performed to determine how much additional capacity would need to be provided in order to bring the pedestrian flow rates back within the recommended threshold.

8.48 For the PCL analysis, since the threshold is actually a range of flow rate values, the calculation returns the minimum and maximum amount of additional width that would need to be provided, i.e. adding any amount of width between the minimum and maximum values would return the pedestrian flow rates to within the recommended threshold.

8.49 For the LU station planning analysis, since the threshold is a target flow rate, the calculation returns a single figure for the amount of additional width required, or the additional number of lifts required in the case of the lift analysis.

Aspen Way Footbridge

Table 8.9: Aspen Way Footbridge PCL analysis results

Period	Peak Hour Demand [ppl]	Width (PCL) [m]	Target LoS (PCL)	PCL	Description	Spare Capacity [ppl/hour]	Additional Width (Lower Limit) [m]	Additional Width (Upper Limit) [m]
AM	2,710.60	4.3	C+	B+	31% Restricted Movement	2,707.40	-	-
PM	2,389.85	4.3	C+	B+	31% Restricted Movement	3,028.15	-	-

Table 8.10: Aspen Way footbridge LU station planning analysis results

Period	Peak Hour Demand [ppl]	Width (Fruin) [m]	Target LoS (Fruin) [ppl/min/m]	Flow Rate [ppl/min/m]	Description	Spare Capacity [ppl/hour]	Additional Width [m]
AM	2,710.60	4.7	40	11.09	LoS A. Free circulation.	7,067.18	-
PM	2,389.85	4.7	40	9.41	LoS A. Free circulation.	7,764.00	-

8.50 **Table 8.9** and **Table 8.10** show the results for the PCL and LU station planning analysis respectively of the Aspen Way Footbridge. Whilst the LU station planning analysis is considered to be the most applicable to the Aspen Way Footbridge, both sets of results show that the width of the footbridge is sufficient to accommodate the forecast demand whilst maintaining pedestrian flow rates that are within the recommended values – TfL's target PCL is C+ (59% Restricted Movement) whereas the analysis demonstrates that PCL B+ (31% Restricted Movement) will still be achieved.

Elizabeth Line Footbridge

Table 8.11: Elizabeth Line footbridge PCL analysis results

Scenario	Distribution	Period	Peak Hour Demand [ppl]	Width (PCL) [m]	Target LoS (PCL)	PCL	Description	Spare Capacity [ppl/hour]	Additional Width (Lower Limit) [m]	Additional Width (Upper Limit) [m]
1	60%	AM	5,340.63	4.91	C+	C+	59% Restricted Movement	845.97	-	-
1	60%	PM	4,378.65	4.91	C+	B	41% Restricted Movement	1,807.95	-	-
2	75%	AM	6,675.79	4.91	C+	C	69% Restricted Movement	-489.19	0.39	1.27
2	75%	PM	5,473.31	4.91	C+	C+	59% Restricted Movement	713.29	-	-
3	90%	AM	8,010.95	4.91	C+	D	100% Restricted Movement	-1,824.35	1.45	2.51
3	90%	PM	6,567.97	4.91	C+	C	69% Restricted Movement	-381.37	0.30	1.17

Table 8.12: Elizabeth Line footbridge LU station planning analysis results

Scenario	Distribution	Period	Peak Hour Demand [ppl]	Width (Fruin) [m]	Target LoS (Fruin) [ppl/min/m]	Flow Rate [ppl/min/m]	Description	Spare Capacity [ppl/hour]	Additional Width [m]
1	60%	AM	5,340.63	5.01	40	19.19	LoS A. Free circulation.	5,792.70	-
1	60%	PM	4,378.65	5.01	40	15.15	LoS A. Free circulation.	7,182.89	-
2	75%	AM	6,675.79	5.01	40	23.98	LoS B. Free circulation for one-directional flows. Minor conflicts for reverse and crossing flows.	4,457.54	-
2	75%	PM	5,473.31	5.01	40	18.94	LoS A. Free circulation.	6,088.23	-
3	90%	AM	8,010.95	5.01	40	28.78	LoS B. Free circulation for one-directional flows. Minor conflicts for reverse and crossing flows.	3,122.38	-
3	90%	PM	6,567.97	5.01	40	22.72	LoS A. Free circulation.	4,993.57	-

8.51 **Table 8.11** and **Table 8.12** show the results for the PCL and LU station planning analysis respectively of the Elizabeth Line footbridge. The results of the PCL analysis show that the recommended threshold value is exceeded in the AM peak in Scenario 2 and in both the AM and PM peaks in Scenario 3.

The AM peak in Scenario 3 is predicted to be the worst case, since it is calculated to require an additional 1.45m to 2.51m of width to meet the recommended guidance value.

8.52 The results of the LU station planning analysis however, which is considered to be the most applicable of the two methodologies at this location, show that the width of the footbridge is sufficient to accommodate the forecast demand whilst maintaining pedestrian flow rates that are within the recommended values in all three scenarios. The PCL analysis for the Elizabeth Line footbridge has been carried out for consistency with the Aspen Way Footbridge and Upper Bank Street analysis, however the PCL analysis is not considered relevant as this is typically applied to streets, whereas the LU station planning analysis applies to station access for TfL infrastructure.

Upper Bank Street

Table 8.13: Upper Bank Street PCL analysis results

Scenario	Distribution	Period	Peak Hour Demand [ppl]	Width (PCL) [m]	Target LoS (PCL)	PC L	Description	Spare Capacity [ppl/hour]	Additional Width (Lower Limit) [m]	Additional Width (Upper Limit) [m]
1	40%	AM	3,560.42	3.98	C+	B	41% Restricted Movement	1,454.38	-	-
1	40%	PM	2,919.10	3.98	C+	B	41% Restricted Movement	2,095.70	-	-
2	25%	AM	2,225.26	3.98	C+	B+	31% Restricted Movement	2,789.54	-	-
2	25%	PM	1,824.44	3.98	C+	A-	22% Restricted Movement	3,190.36	-	-
3	10%	AM	890.11	3.98	C+	A	13% Restricted Movement	4,124.69	-	-
3	10%	PM	729.77	3.98	C+	A	13% Restricted Movement	4,285.03	-	-

Table 8.14: Upper Bank Street LU station planning analysis results

Scenario	Distribution	Period	Peak Hour Demand [ppl]	Width (Fruin) [m]	Target LoS (Fruin) [ppl/min/m]	Flow Rate [ppl/min/m]	Description	Spare Capacity [ppl/hour]	Additional Width [m]
1	40%	AM	3,560.42	4.08	40	15.71	LoS A. Free circulation.	5,506.24	-
1	40%	PM	2,919.10	4.08	40	12.40	LoS A. Free circulation.	6,496.29	-
2	25%	AM	2,225.26	4.08	40	9.82	LoS A. Free circulation.	6,841.40	-
2	25%	PM	1,824.44	4.08	40	7.75	LoS A. Free circulation.	7,590.95	-
3	10%	AM	890.11	4.08	40	3.93	LoS A. Free circulation.	8,176.56	-
3	10%	PM	729.77	4.08	40	3.10	LoS A. Free circulation.	8,685.61	-

8.53 **Table 8.13** and **Table 8.14** show the results for the PCL and LU station planning analysis respectively of Upper Bank Street. Whilst the PCL analysis is considered to be the most applicable to Upper Bank Street, both sets of results show that the width of the footway is sufficient to accommodate the forecast demand whilst maintaining pedestrian flow rates that are within the recommended values.

Poplar Plaza – Stairs

Table 8.15: Poplar Plaza stair analysis results

Period	Peak Hour Demand [ppl]	Width [m]	Target LoS [ppl/min/m]	Flow Rate [ppl/min/m]	Description	Spare Capacity [ppl/hour]	Additional Width [m]
AM	2,684.31	3.74	28	12.93	LoS A. Free circulation.	3,130.36	-
PM	2,334.65	3.74	28	10.83	LoS A. Free circulation.	3,703.66	-

8.54 **Table 8.15** shows the results of the stair analysis for Poplar Plaza. The results indicate that there is sufficient stair capacity to accommodate the forecast demand whilst maintaining pedestrian flows rates that are within the recommended values.

Poplar Plaza - Lifts

Table 8.16: Poplar Plaza lift analysis results

Layout	Period	Peak Hour Demand [ppl]	No. of Lifts	Loading Capacity [ppl/lift]	Cycle Time [mins/lift]	Total Capacity [ppl/min]	Utilisation [%]	Spare Capacity [ppl/hour]	Additional Width [m]
Indicative Scheme	AM	20.58	1	3.76	4.00	0.94	39.40%	31.65	-
Indicative Scheme	PM	40.85	1	3.76	4.00	0.94	75.33%	13.38	-
Alternative Option	AM	20.58	2	3.76	8.00	0.94	39.40%	31.65	-
Alternative Option	PM	40.85	2	3.76	8.00	0.94	75.33%	13.38	-

8.55 **Table 8.16** shows the results of the lift analysis for the two layout options for the Poplar Plaza lifts. The results show that there is sufficient lift capacity in both layout options to accommodate the forecast demand.

8.56 The assumed lift cycle times used in the analysis (4 minutes per cycle) are significantly above those expected to be employed on the scheme (ca. 72 seconds per cycle). Despite the worst-case assumptions, the assessment shows that there is ample capacity for additional development.

Future Proposed Developments

8.57 A number of sites north of Aspen Way (incl. the Workhouse Site, the Aspen Way Site and the New City College Site) in immediate vicinity of North Quay have been identified for potential development. The construction and operation of the neighbouring sites will have a cumulative impact on the assessed links. The quantum of development for those sites has not yet been agreed, but it is suggested that the Aspen Way Site could accommodate 2,000 units (LBTH & TfL, Statement of Common Ground, 2018) and the College Site could accommodate 600 units (GLA, ADD2284 Potential development on New City College site, 2018).

8.58 A high-level assessment of potential theoretical quantum of supported development was conducted. The forecast spare capacity (in people per hour) has been used to calculate the potential number of residential units that can be supported by the discussed links. For simplicity and in the absence of specific transport assessment associated with the future proposed developments, the spare capacity has been divided by the residential trip rates used for the proposed North Quay presented in Chapter 6. Proposed Development's mode shares were applied, including all Elizabeth Line, London Underground and Riverbus trips and a third of walking trips. The discount rate was applied to take into account the trips which would continue or originate south of Aspen Way, i.e. to/from Canary Wharf stations, piers and local services.

8.59 The results for station planning analysis, considered to be the most applicable of LoS methodologies, are shown in **Table 8.17**.

Table 8.17: Spare Capacity Converted to Residential Units – Station Planning Analysis

Scenario	Location	Period	Spare Capacity [ppl/hour]	Max Future Residential Units
-	Aspen Way Footbridge	AM	7,067	21,416
-	Aspen Way Footbridge	PM	7,764	33,038
1	Elizabeth Line Footbridge	AM	5,793	17,554
1	Elizabeth Line Footbridge	PM	7,183	30,566
2	Elizabeth Line Footbridge	AM	4,458	13,508
2	Elizabeth Line Footbridge	PM	6,088	25,907
3	Elizabeth Line Footbridge	AM	3,122	9,462
3	Elizabeth Line Footbridge	PM	4,994	21,249

8.60 As shown in **Table 8.17**, the assessed links can support a minimum of 9,462 additional residential units (Scenario 3) and a ceiling of 17,554 (Scenario 1) additional units. The number of residential units is, in both cases, limited by the capacity of the Elizabeth Line Footbridge as opposed to the Aspen Way Footbridge.

8.61 **Table 8.18** shows spare capacity of Poplar Plaza stairs and lifts, as well as the number of additional residential units those link would be capable of supporting. The number of residential units is limited to 3,272 units dependent on the northbound lift capacity.

Table 8.18: Poplar Plaza Spare Capacity Converted to Residential Units

Location	Period	Spare Capacity [ppl/hour]	Choice Factor	Peak Direction	Max Future Residential Units
Stairs	AM	3,130.36	-	-	9,486
Stairs	PM	3,703.66	-	-	15,760
Lifts	AM	31.65	0.97%	Southbound	13,511
Lifts	PM	13.38	2.31%	Northbound	3,272

8.62 The results presented assume a maximum number of residential units a link can support, assuming that all trips generated use said link based on the aforementioned assumptions. This presents a worst-case assessment, as realistically the trips would be dispersed across a number of routes and not all via the Aspen Way and Elizabeth Line footbridges. Despite the worst-case assumptions, the assessment shows that there is ample capacity for additional development, significantly above the current estimates of the potential quanta from the proposed future sites identified above.

Summary

8.63 The assessment shows that under all the scenarios tested, both the Aspen Way Footbridge and Upper Bank Street are expected to be able to accommodate the forecast level of demand whilst maintaining pedestrian flow rates that do not exceed the recommended threshold values.

8.64 For the Elizabeth Line footbridge, the results of the PCL analysis predict that when the proportion of southbound demand is between 60% and 75%, the resulting pedestrian flow rates are expected to exceed the recommended guidance. However, the results of the LU station planning analysis, which is considered to be the most applicable methodology at this location, indicate that the footbridge has sufficient spare capacity.

8.65 The results of the stair and lift analysis for the Indicative Scheme and Alternative Option layouts for Poplar Plaza indicate that there is anticipated to be sufficient capacity in both options to accommodate the forecast demand.

9 Construction

Introduction

9.1 This chapter forms the Outline Construction Logistics Plan ("CLP") and has been produced in accordance with TfL's 'Construction Logistics Plan Guidance' (July 2017).

9.2 It is envisaged that a Detailed CLP will be secured by an appropriately worded planning condition and developed by Canary Wharf Contractors Ltd or another contractor once appointed. This includes the development of specific targets which have been established only in outline in this report.

9.3 The overall objective of this CLP is:

"*To minimise the impacts of construction-related vehicle movements and facilitate sustainable construction travel to the Site*".

9.4 To support the realisation of this objective, several sub-objectives have been set out and include:

- Encouraging construction workers to travel to the Site by non-car modes.
- Promote smarter operations that reduce the need for construction travel or that reduce or eliminate trips in peak periods.
- Encouraging greater use of sustainable freight modes.
- Encouraging the use of greener vehicles.
- Managing the on-going development and delivery of the CLP with construction contractors.
- Communication of Site delivery and servicing facilities to workers and suppliers.
- Encouraging the most efficient use of construction freight vehicles.

Context

9.5 As set out in Chapter 3, the nearest part of the TLRN to the Site is the A1261 (Aspen Way), which runs immediately north of the Site.

9.6 The Site in its local context can be seen in **Figure 1.1**.

Considerations and Challenges

Rail Infrastructure

9.7 Railway infrastructure associated with the DLR is present in the northern and western part of the Site. Formal permissions will be obtained from the administrator prior to the commencement of works in order to:

- operate plant and equipment adjacent to the DLR assets.
- ensure that construction activities do not create unacceptable ground movements or undermine the assets.

Vulnerable Road Users

9.8 Situated next to Cycleway 3, the streets around the Site experience relatively high cycle activity. It is therefore important to ensure that appropriate measures are put in place to minimise and mitigate the adverse effects of the construction phase of the Proposed Development on the adjacent public realm and streets to reduce potential conflict with vulnerable road users.

Neighbouring Construction Sites

9.9 There are ongoing or planned construction works underway in the local area. Therefore, consideration will be given by the Applicant to minimise cumulative impacts associated with overlapping demolition and construction programmes of nearby schemes.

9.10 This will involve the Applicant liaising with nearby developers to understand and share issues and information. Where possible, efficiencies will be sought through discussions with the relevant parties.

Programme and Methodology

9.11 The indicative phasing plan is presented in **Appendix 14** and the construction programme based on the Indicative Scheme is summarised in **Table 9.1**.

Table 9.1: Programme by Phase (Indicative Scheme)

Phase	Buildings/Structures	Duration (months)	Dates works commence	Dates works completed
Phase 1	• Marine Promenade • Basement • NQ.A1 (Residential) • NQ.A4 (Residential)	62	10/2021	11/2026
Phase 2	• Basement • NQ.A5 (Retail) • NQ.D3 (Commercial and Retail) • NQ.D4 (Serviced Apartments and Retail)	45	10/2022	06/2028
Phase 3	• Basement • NQ.B1 (Commercial and Retail)	57	02/2024	10/2028
Phase 4	• Basement • NQ.D1 (Commercial and Retail)	59	09/2024	07/2029

9.12 Each phase will consist of several sub-stages. A brief description of the works associated with each demolition and construction stage is provided below, though these would apply as necessary as each block is implemented.

Enabling and Infrastructure Works

9.13 All existing buildings and structures are expected to be demolished or dismantled to enable the site to be cleared.

9.14 It is intended to recycle as many of the materials and waste streams as possible, either on-site (concrete, plasterboard and timber) or off-site (metals, clean soil and inert waste). 'Take-back' schemes would be utilised for the recycling and reuse of packaging.

Substructure

9.15 Site-wide substructure works will include: basement excavation; bearing piling; capping bean construction and basement raft construction. Following the construction of the perimeter capping beam on top of the secant pile wall, the excavation of the basement would be able to commence progressively across the Site.

9.16 A small number of large diameter bearing piles would be required within the West India North Dock to support the buildings to the south of the Site.

9.17 Once the piles are completed a reinforced concrete raft would be constructed at the lower basement level to support the buildings above. At this stage, tower cranes would be erected to aid the construction of the reinforced concrete structure of the basement.

9.18 The substructure concrete works would progress across the Site relevant to each building and would be phased to suit the site logistics and the construction programme for each of the buildings above ground. Works would include the construction of the basement slab and the ground floor slab.

Superstructure and Envelope

9.19 The superstructure construction would also be phased across the Site to follow the completion of the substructure works and the construction programme for each of the buildings above ground.

9.20 The superstructure of the commercial buildings would consist of a concrete core and steel frame. The concrete core would be constructed ahead of the steel frame. The core would be constructed using either a slipform or jumpform method of construction with tower cranes and hoists provided to supply materials to the core construction. The steel frame would be erected using a number of tower cranes which will climb as the steel frame progresses.

9.21 The residential buildings would be constructed of reinforced concrete frame. If these buildings came forward as student accommodation, hotel or retail buildings it would predominately be in the same way with a reinforced concrete frame. Tower cranes would be required for the supply of materials for the concrete core and slab construction. The tower cranes would also aid the installation of the cladding and balconies for the residential buildings.

9.22 The final tower crane schemes would be developed with input of specialist trade contractors. Initial meetings have been held with the DLR to understand the constraints for the tower crane scheme and the final schemes would be agreed with these key stakeholders.

9.23 The cladding of the commercial buildings will be a unitised system wherever possible and would be erected using small floor cranes, or similar, situated on the completed floor slabs. Where the

panel sizes and site logistics dictate, mast climbers and tower cranes may be required to complete the cladding installation.

Fit Out and Urban Realm Works

9.24 Once the structural frame is complete and envelope is being applied, trades persons will commence the fit out of the internal areas and individual units.

9.25 Urban realm, including landscaping of the public amenity areas and perimeter public realm works will be progressively rolled out as the construction progresses.

Vehicle Routing and Access

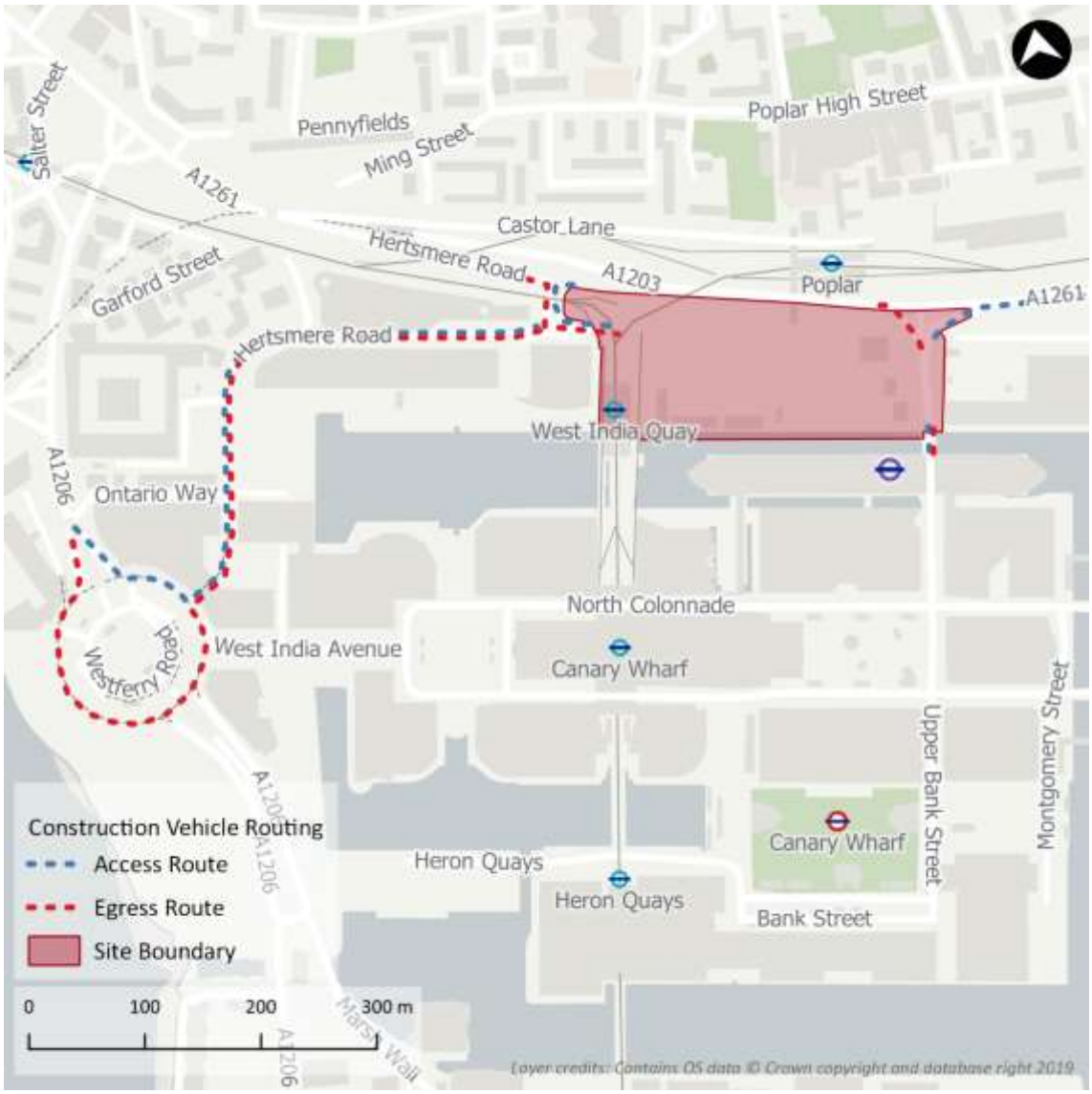
9.26 The main route for deliveries to site would be via Aspen Way (A1261) using site entrances located off Upper Bank Street and Hertsmere Road, as shown in **Figure 9.1**. A secondary route via the lower roundabout of Westferry Circus would enable access to the Site in the event that Aspen Way is not traversable. The use of this secondary route is unlikely to be a common occurrence only ever being used when access and egress from Aspen Way is not possible and therefore the assessment of construction vehicle trips on the network considers movements via Aspen Way/West India Dock Road only.

9.27 Construction traffic exiting the site onto Aspen Way via either Upper Bank Street or Hertsmere Road would be distributed onto the major London transport road network.

9.28 In the event of an emergency situation the emergency services would be notified via the Estate Control Centre (“ECC”) and would enter the Site from either Aspen Way Westbound via Upper Bank Street, or Eastbound via Hertsmere Road and the Westferry Circus lower roundabout.

9.29 The proposed vehicle routing is presented in **Figure 9.1**.

Figure 9.1: Proposed Construction Vehicle Routing



Strategies to Reduce Impacts

9.30 The Proposed Development is considered to be a 'high impact' scheme, according to TfL's 'Construction Logistics Plan Guidance' (2017). Therefore, the following Planned Measures in **Table 9.2** have been identified to help the contractor achieve the goals of the CLP and better manage the challenges set out earlier in this chapter.

Table 9.2: Planned Measures

Planned Measures Checklist	Committed	Proposed	Considered
Measures influencing construction vehicles and deliveries			
Safety and environmental standards and programmes	x		
Adherence to designated routes	x		
Delivery scheduling	x		
Re-timing for out of peak deliveries		x	
Re-timing for out of hours deliveries		x	
Use of holding area		x	
Use of logistics and consolidation centres		x	
Measures to encourage sustainable freight			
Freight by Water			x
Freight by Rail			x
Material procurement measures			
DfMA and off-Site manufacture		x	
Re-use of material on Site		x	
Smart procurement		x	
Other measures			
Collaboration amongst other Sites in the area		x	
Implement a staff travel plan		x	

Measures Influencing Construction Vehicles and Deliveries

Safety and Environmental Standards and Programmes

9.31 The contractor will be committed to ensuring all contractor and sub-contractor vehicles arriving at Site comply with sufficient safety measures and requirements relating to Work Related Road Risk; TfL's freight safety initiative and aligned with the Mayor's Vision Zero.

9.32 Industry best practice will be adopted wherever possible to support the construction phase of the Proposed Development. This will be achieved by ensuring that, through the procurement process, the main and sub-contractors employed will be members of or signed up to relevant best practice schemes and initiatives including, for example:

- Considerate Constructors Scheme ("CCS") – promotes best practice that relates to on-Site activities and those in the vicinity of the Site. It is noted that the Site will be registered under this scheme.
- Fleet Operator Recognition Scheme ("FORS") – for suppliers that deliver to, and hauliers that visit the Site, we will mandate these businesses to be members of FORS before they could deliver to the Site.
- Construction Logistics and Community Safety ("CLOCS") – CLOCS brings the construction logistics industry together to revolutionise the management of work-related road risk and ensure a road safety culture is embedded across the industry. The aim is to ultimately help protect vulnerable road users who share the roads with construction vehicles.

Adherence to Designated Routes

9.33 Routes to/from the TLRN and SRN have been specified. These routes have been reviewed with respect to potential impacts, conflicts and hazards. Junctions and parts of the routes of potential concern have been identified in terms of possible conflict with other road users, with particular attention paid to pedestrians and cyclists around access to the Site.

9.34 Trade contractors and suppliers would be required to ensure that local business people and residents are not adversely affected by any off-site parking. All traffic will be required to comply with directions given by the Applicant security staff and/or sub contracted security services, the Metropolitan police and the local highways authority.

Delivery Scheduling

9.35 Delivery scheduling will be put in place to book and manage deliveries to the Site; accounting for likely dwell times and capacity.

Re-Timing for Out of Peak Deliveries

9.36 Re-timing out of peak time will aid the operational efficiency of the construction Site and the neighbouring area. The contractor will attempt to re-time as many deliveries as possible out of the morning (07:00-10:00) and evening (16:00-19:00) peak periods.

Use of Holding Areas

9.37 A lorry holding park on a main access route to the Site would be sought to minimise unscheduled deliveries and an online delivery management system would be implemented on the Site. The lorry holding park location will be identified as part of the Construction Environmental Management Plan ("CEMP"), but best practice control measures will be put in place at the park (such as switching off engines) to ensure that no significant air quality or noise effects would occur, and all vehicle movements would be regulated.

Use of Logistics and Consolidation Centres

9.38 It is expected that a consolidation centre would not be used, however the final decision will be made when the contractor has investigated its need and viability in greater detail. This will be set out in the Detailed CLP.

Measures to Encourage Sustainable Freight

Freight by Water

9.39 The transportation by water of construction materials to sites, as well as waste away from sites, has been considered many times across the various development sites within Canary Wharf over the past decade. For sites where this has been implemented, such as the Canary Wharf Elizabeth Line station project, it has often been at significant additional cost compared to road-based transport. For other sites such as 1 and 10 Bank Street and Wood Wharf, Freight by Water Feasibility studies have been undertaken as part of the planning Conditions for these sites. These

have generally concluded at the use of water was not feasible compared to road based transport for the majority of the construction programme for the following reasons:

- Costs of water based transport are almost always more than road based transport
- Water based transport is less flexible as barges can not access each part of a given construction site, resulting in double or triple handling compared to road based transport
- Access and egress routes connecting Thames with the Site by are constrianed by external waterway infrastructure (locks and bridges), limiting vessel size and capacity as well as times of operation
- Due to the mainly 'just-in-time' principles of deliveries on most sites, deliveries are not considered viable via water based transport
- Other constraints such as restrictions on when vessels can arrive and depart due to adverse weather and low tide events also impacts the resilience and reliability of water based transport

9.40 In summary, it is considered that freight by water is not appropriate to be employed by the Site, due to constraints regarding time of access and egress, as well as financial viability.

Freight by Rail

9.41 The nearby Underground lines are not suitable for freight use. The nearest National Rail line is considered too far from the development site to be a feasible option.

Material Procurement Measures

DfMA and Off-Site Manufacture

9.42 The potential for the use pre-fabrication techniques will be considered in order to reduce the number of vehicle movements.

Re-Use of Material On-Site

9.43 Although minimal, it is intended to recycle as many of the on-site materials and waste streams as possible, either on-site (concrete, plasterboard and timber) or off-site (metals, clean soil and inert waste). 'Take-back' schemes would be utilised for the recycling and reuse of packaging.

Smart Procurement

9.44 Identify suppliers who have been recognised to implement measures in line with the CLP's objectives, such as reducing vehicle movements.

9.45 In addition to sourcing local suppliers where possible, the contractor will explore suppliers in the procurement stage that use rail freight (noting that water freight is not feasible for this Site). Coordination with suppliers for other nearby developments will also be considered.

Other Measures

Collaboration with Nearby Construction Sites

9.46 The Applicant is advised to work with other construction contractors in the Site's vicinity. Prior to commencement of construction, the Applicant expects to discuss opportunities to collaborate in order to minimise any disruption caused by the construction phase.

9.47 The Applicant and appropriate subcontractors have in-depth knowledge and experience working in collaboration with other Sites in the vicinity and is able to provide a top-down approach to coordinate major development sites (e.g. Wood Wharf).

Implement a Staff Travel Plan

9.48 There will be limited on-Site parking for construction workers. The local roads have restricted parking and construction workers will be advised against parking off-Site. Travel by cycle and public transport will be strongly encouraged.

Estimated Vehicle Movements

9.49 Construction traffic will be limited to times agreed with LBTH, typically 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 on Saturdays.

9.50 In order to maintain the above core working hours, the contractor will require a (de)mobilisation period of up to one hour before and after core working hours to start and close down activities (this will not include works that are likely to exceed any pre-agreed maximum construction works noise levels). Specialist construction operations and deliveries may also be required to be carried out outside these core hours, in agreement with LBTH and other relevant parties.

9.51 To minimise the likelihood of congestion during the construction period, strict monitoring and control of vehicles entering and egressing the Site will be implemented. Deliveries will be planned with times agreed with each sub-contractor using a booking system and throught the use of a hold site.

9.52 Schedules will be produced to determine profiles of upcoming deliveries and to regulate deliveries and eliminate bottle necks. Where possible, deliveries will be coordinated with any adjacent construction Sites.

9.53 Demolition and construction traffic is expected to fluctuate throughout the programme, with peak traffic of up to 4,000 vehicles per month (peak traffic average of 154 vehicles per day). This represents a worst-case assessment as it considers only the peak operational periods; at other times of construction traffic movements would be less.

9.54 Based on a 10-hour working day with vehicles strictly managed to arrive and depart Site based on a relatively flat hourly profile through the day, this equates to an average of 16 vehicles per hour or 32 two-way movements.

9.55 The vehicle movements will be confirmed and set out in greater detail as part of the Detailed CLP.

Implementing, Monitoring and Updating

9.56 This chapter, which forms the Outline CLP, cannot include a detailed and defined description of how the CLP will be implemented, monitored and updated. This will need to be set out as part of the Detailed CLP to be approved by LBTH under a planning condition. However, the following strategy can be confirmed at this stage.

9.57 It is anticipated that an appointed Construction Logistics Manager will be in charge of implementing the Detailed CLP on behalf of the contractor. This person will collect data on:

- Number of vehicle movements to Site; collected through a delivery booking-in system
- Total
- By vehicle type/size/age
- Time spent on Site
- Consolidation centre utilisation (if applicable)
- Delivery/collection accuracy compared to schedule
- Breaches and complaints
- Vehicle routing
- Unacceptable queuing
- Unacceptable parking
- Supplier FORS accreditation
- Ultra Low Emissions Zone (“ULEZ”) compliance
- Safety
- Logistics-related accidents
- Record of associated fatalities and serious injuries
- Staff travel patterns
- Vehicles and operations not meeting safety requirements
- Description of the contractor’s handbook
- Description of the driver’s handbook

9.58 The data collected will be reported back to the contractor with full transparency to LBTH and TfL.

10 Summary and Conclusions

Summary

10.1 This TA has assessed the impact of the North Quay Proposed Development.

10.2 As an OPA is being submitted any number of development scheme configurations within the bounds of the Development Specification, Parameter Plans and Design Guidelines may come forward in the detailed design of the scheme through RMAs. As agreed with LBTH and TfL through pre-application discussions, the has TA considered a worst-case assessment based on the floor areas within the Development Specification that would generate the highest quantum of trips. This comprises a development with the maximum retail and commercial offering, with serviced apartments making up the difference to the total permitted Site wide floorspace.

10.3 However, the Indicative Scheme has also been used to provide a more realistic comparison of the type of mix-used development likely to come forward and to demonstrate how policy compliant cycle parking, accessible car parking, servicing and waste storage facilities can be provided within the Proposed Development.

10.4 Further, the approach to highway and public transport modelling has been agreed with TfL, deriving a future baseline scenario which excludes the 2007 Consent to assess the Proposed Development in isolation without double counting trips.

10.5 **Table 10.1** summarises the key aspects of the Proposed Development and the proposed design solutions, mitigation and current agreed positions with LBTH and TfL.

10.6 The Proposed Development puts people first and achieves strategic and local transport objectives which are embedded within the OPA (Parameter Pland and Design Guildelines) through:

- Providing safe, direct and coherent walking and cycling routes within the Site and connecting to the local area and amenities for all users. The Proposed Development will contribute to the LBTH's vision and policies of improved connection between South Poplar and Canary Wharf through enhancing existing links and providing new routes across the Site, including the Aspen Way Footbridge to enhance north-south connections and the Aspen Way Gardens pedestrian and cycle route for east-west connections, which are a key part of the LBTH and IoD OAPF objectives for the area.
- High-quality short- and long-stay cycle parking in accordance with Draft London Plan for all land uses, with the exception of retail short-stay cycle parking which would be provided in accordance with the Adopted London Plan standards initially with a mechanism to monitor usage and increase provision should the need arise.
- Providing a car-free development in an area with excellent public transport links.

- Managing deliveries and refuse collection to minimise their impacts upon other users. Ensuring that the construction impacts on local residents, schools and sensitive receptors will be minimised through measures included in the CLP.

Table 10.1: Transport Assessment Summary

Criteria	Key Transport Impacts and Issues	Design Solutions and Mitigation
Site & Surroundings	• Borough air quality and health initiatives amongst the local population. • Improve local connectivity and reduce severance.	• Excellent PTAL with no general car parking and appropriate cycle parking provision to encourage active travel. • Good connectivity to local area through provision of direct, safe routes in accordance with the Healthy Streets Approach and Vision Zero and meeting LBTH and IoD OAPF aspirations.
London-Wide Network	• Impacts on public transport and highways network • Capacity concerns at Aspen Way/Upper Bank Street junction	• Modifications to the Aspen Way/ Upper Bank Street junction to enhance the public realm and improve pedestrian and cycle connections in line with the Healthy Streets objectives. • Travel Plans to encourage sustainable movements among residents, workers and visitors to the Site. • Suitable delivery and servicing facilities provided and an outline DSP to better manage deliveries and encourage sustainable freight.
Borough	• Potential for overspill parking	• Occupiers of scheme ineligible to apply for on-street parking permits in any future CPZs.
Construction	• Vehicle routing to be agreed with LBTH and TfL such that impacts on local residents, schools and sensitive receptors are minimised.	• To be discussed and set out within the Detailed CLP submitted prior to commencement of construction.

Conclusions

10.7 Overall, this document has considered the Proposed Development's existing context and proposed enhancements to and impacts on the area. As part of the analysis, both the Indicative Scheme trip generation and worst-case trip generation and subsequent impacts on the highways, public transport and pedestrian movements were quantified and analysed.

10.8 It can be concluded that the Proposed Development is a sustainable scheme which supports both the Mayor's Healthy Streets initiative and Vision Zero approach to road safety. Furthermore, even when considering the worst-case scenario for the maximum quantum of trips which could be generated, the surrounding transport networks are forecast to operate within capacity.

Appendix 1 - Abbreviations

In alphabetical order

CCS	Considerate Constructors Scheme
CEMP	Construction Environmental Management Plan
CLOCS	Construction Logistics and Community Safety
CLP	Construction Logistics Plan
CPZ	Controlled Parking Zone
DBFO	Design, Build, Finance and Operate
DLR	Docklands Light Railway
DoS	Degree of Saturation
DSP	Delivery and Servicing Plan
ECC	Estate Control Centre
EVCP	Electric Vehicle Charging Point
FORS	Fleet Operator Recognition Scheme
FTP	Framework Travel Plan
GEA	Gross External Area
GIA	Gross Internal Area
IoD OAPF	Isle of Dogs and South Poplar Opportunity Area Planning Framework
KSI	Killed or Seriously Injured
LBCA	Listed Building Consent Application
LBTH	London Borough of Tower Hamlets
LoHAM	London Highway Assessment Model
LoS	Level of Service
LTS	London Transport Study
LU *and*	London Underground *and*
LUL	London Underground Limited
MMQ	Mean Maximum Queue
NIA	Net Internal Area
OD	Origin-Destination
OPA	Outline Planning Application

OPP	Outline Planning Permission
PCL	Passenger Comfort Level
PCU	Passenger Car Unit
PDMP	Parking Design and Management Plan
PTAL	Public Transport Accessibility Level
RMA	Reserved Matter Application
RTP	Residential Travel Plan
SWMP	Site Waste Management Plan
TA	Transport Assessment
TCoL	Transport Classification of Londoners
TfL	Transport for London
TLRN	Transport for London Road Network
tph	Trains per hour

Appendix 2 - Proposed Plans – Indicative Scheme

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

HERTSMERE ROAD

NQA1

NQB1

NQD1

Security Hut

Vehicle Ramp to B2

Retail

Residential Amenities

Refuse Store

Cycle Lifts

Resi Lobby

Office Lobby

MUGA

POPLAR PLAZA

Office Lobby

NORTH QUAY WAY

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

WEST INDIA QUAY

GARDEN SQUARE

QUAY SQUARE

DOCK SQUARE

UPPER BANK STREET

BILLINGSGATE MARKET

NQA4

NQA5

NQD3

NQD4

reception/entrance

Cycle Store

Store

BOH

S. apt. Lobby

CROSSRAIL PLACE

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1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP

85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

North Quay Masterplan

INDICATIVE SCHEME GROUND FLOOR LEVEL
GENERAL ARRANGEMENT
19141-00-07-100

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

(WEST INDIA DOCK ROAD ABOVE)

(LIMEHOUSE LINK TUNNEL ABOVE)

(WEST INDIA DOCK ROAD ABOVE)

(HERTSMERE ROAD ABOVE)

(MARRIOTT HOTEL ABOVE)

(WEST INDIA QUAY ABOVE)

(WEST INDIA QUAY DLR STATION ABOVE)

(CASTOR LANE ABOVE)

(POPLAR DLR STATION ABOVE)

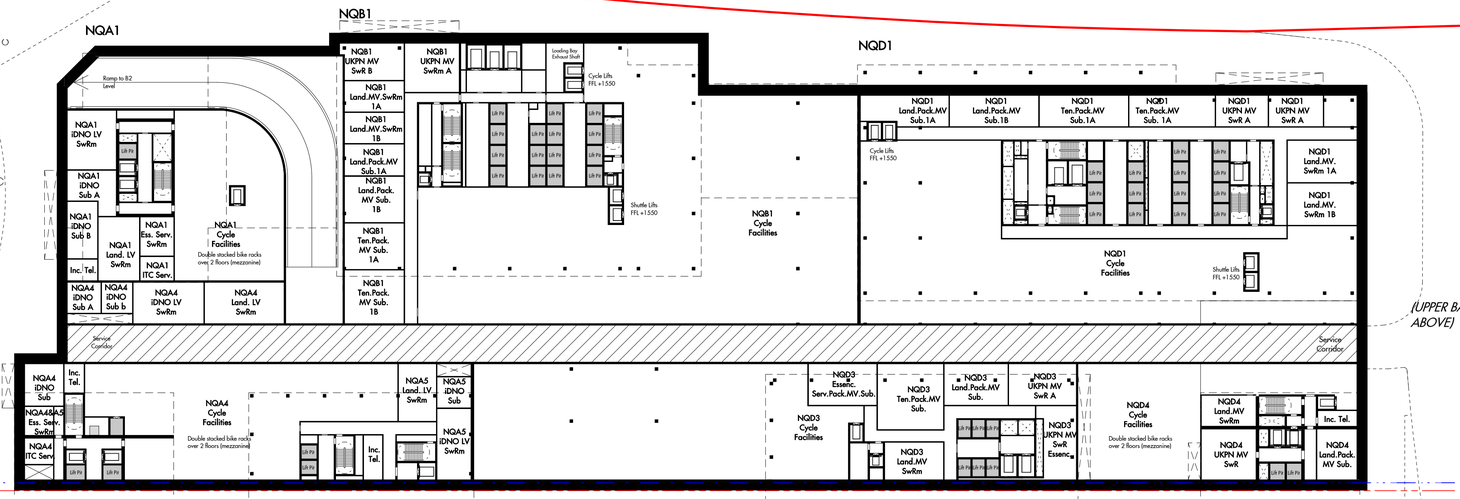
(ASPEN WAY PEDESTRIAN BRIDGE ABOVE)

(ASPEN WAY ABOVE)

(UPPER BANK STREET ABOVE)

(NORTH QUAY DOCK ABOVE)

(CROSSRAIL PLACE ABOVE)



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REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

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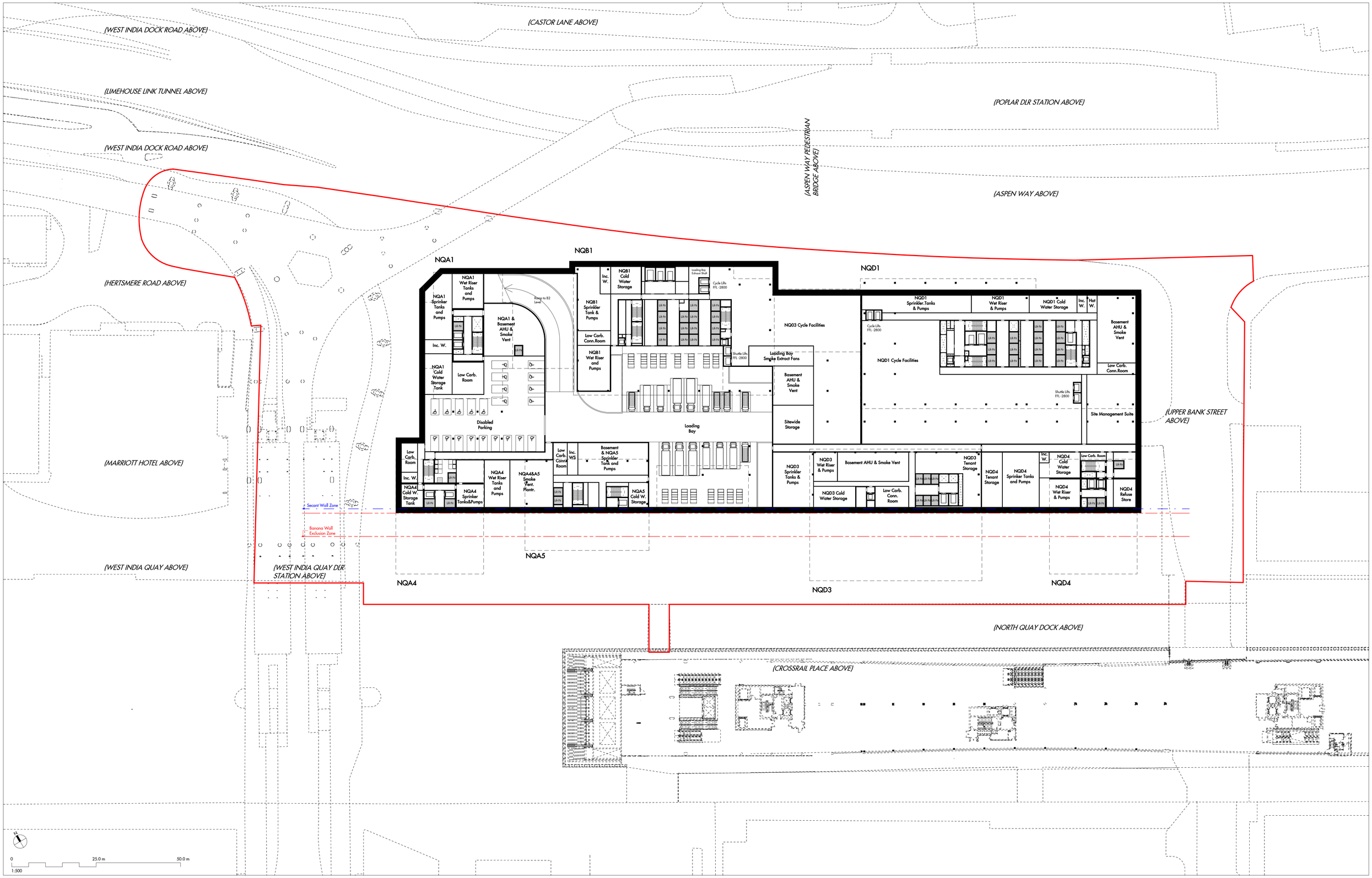
North Quay Masterplan

INDICATIVE SCHEME BASEMENT 1 LEVEL
GENERAL ARRANGEMENT
19141-00-07-099

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION



REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

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North Quay Masterplan

INDICATIVE SCHEME BASEMENT 2 LEVEL GENERAL ARRANGEMENT

19141-00-07-098

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

Appendix 3 - Transport Assessment and Trip Generation Scoping Notes

To	Transport for London and London Borough of Tower Hamlets	**Technical Note**	
Date	07 November 2019		
Project	North Quay	Project No.	22902510

Transport Scoping Note

Introduction

1. This Scoping Note sets out the suggested approach to assessing the Proposed Development at North Quay as part of the Canary Wharf Estate within the London Borough of Tower Hamlets (LBTH). The approach conforms with Transport for London's (TfL's) new Healthy Streets Transport Assessment (TA) guidance.

2. The TA will address how all areas of the development will be accessed, including provision for car / cycle parking and servicing. The TA will demonstrate means of access to the development for vehicles, public transport passengers, pedestrians and cyclists.

3. A planning application for the North Quay site was submitted to LBTH in 2017 (LPA ref. PA/17/01193) for a mixed-use development. Although withdrawn in December 2017, significant pre-application scoping consultation was carried out with TfL, DLR and LBTH prior to submission. In addition, consultation responses were received from both stakeholders during the planning application determination period. The advice and comments received from TfL, DLR and LBTH have been considered in the development of the latest proposals and transport assessment methodology set out within this scoping note.

Policy Context

4. The TA will have regard to the National Planning Policy Framework (NPPF) (2019). The policies within the NPPF convey the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

5. In addition, particular reference will be made to the guidance contained within, but not limited to:

   - The Draft London Plan (2019).
   - The London Plan (2016): Spatial Development Strategy for London Consolidated with Alternations.
   - Isle of Dogs and South Poplar Opportunity Area Planning Framework (OAPF) (2019).
   - London Borough of Tower Hamlets Managing Development Document (2013).
   - London Borough of Tower Hamlets Core Strategy (2010).

6. Consideration will also be given to emerging relevant Greater London Authority (GLA) and London Borough of Tower Hamlets (LBTH) planning policy, such as the new Local Plan as well as guidance documents relating to Healthy Streets, accessibility and travel planning.

Baseline Conditions

7. The North Quay site is bounded to the south by North Dock, north by Aspen Way, east by Upper Bank Street and west by Hertsmere Road. It is positioned in a pivotal location where transport nodes intersect and interact. Pedestrian movement to/from residential communities north of Aspen Way currently use the footbridge connecting to Poplar DLR station.

8. The site has a public transport accessibility level (PTAL) of 6a to the east adjacent to Upper Bank Street and 5 across the rest of the site. The PTAL report is provided at **Appendix A**. The opening of the Elizabeth Line will increase the PTAL of the entire site to 6a.

9. There are three DLR stations in close proximity to the site:

- Poplar – within 250m of entire site (< 3-minute walk);
- West India Quays – within 250m of entire site (< 3-minute walk); and
- Canary Wharf Station – within 450m of entire site (< 6-minute walk).

10. Canary Wharf London Underground station is located within 450m of the entire site (< 6-minute walk) and provides access to Jubilee line services running northeast to Stratford and northwest to Stanmore. The Jubilee line Night Tube also runs every 10 minutes on average on Friday and Saturday.

11. The Elizabeth Line station is located immediately adjacent to the site, built within and over the North Dock. The new station is accessible for all users with step-free access and will provide high frequency, high capacity services that connect Reading in the west to Shenfield in the east via central London.

12. There are five frequent daytime bus services which operate close to the site. The closest bus stops (F and H) are located on North Colonnade and Canada Square North respectively, accessible within 500m (< 6-minute walk) of the entire site.

Proposed Development and Planning Strategy

13. The masterplan seeks to re-emphasise and strengthen the desirable pedestrian route from Poplar via the Aspen Way footbridge and public realm at ground (dock side) level to ensure the North Quay site provides both a destination and transitional space linking Canary Wharf and the Isle of Dogs to the wider Poplar area.

14. The development proposals comprise a mix of office, residential and retail uses split between seven buildings. The applicant is currently exploring the feasibility of serviced apartments, student accommodation and hotel uses, and the development design is still progressing. The floor areas and land use mix are therefore subject to change, although a high level of flexibility will be retained.

15. It is anticipated that an outline planning application will be submitted in Spring 2020 which sets out the maximum parameters in terms of land use mix and building heights. An indicative scheme schedule of the development mix and quantum likely to come forward is also being prepared. The current indicative scheme areas and unit numbers are provided in Table 1 against the previous North Quay scheme for comparison.

Table 1: North Quay (Draft) Indicative Scheme Schedule – Comparison with Previous Proposals

Land Use	Indicative Scheme (GEA m^2)	Previous 2017 Scheme (GEA m^2)
Residential	704 units	1,423 units, 216 serviced apartments
Office	135,000	166,662
Retail/Leisure	24,562	25,872
Flexible Use – Student Housing / Hotel / Serviced Apartments	40,040	n/a

Cycle Parking

16. Cycle parking will be provided in accordance with the minimum cycle parking standards set out in the Draft London Plan (July 2019). For office and retail uses, cycle parking will be calculated based on GEA above grade and exclude basement and plant areas.

17. Given that many of the trips to the retail elements of the proposed development are expected to be linked to other uses (i.e. residential or commercial) or those already on the wider Canary Wharf Estate, and that a high percentage of retail floorspace is likely to come forward as A3/A4 food and beverage, a reduction to the short-stay cycle parking requirements associated with the retail units is considered appropriate. We would welcome a discussion with TfL and LBTH to agree a suitable quantum.

Car Parking

18. In accordance with Draft London Plan policy, the development will be car-free with the exception of disabled persons parking which will be provided for 3% of dwellings. Where possible, we will seek to demonstrate how additional disabled persons parking provision could be made should the need arise in the future, however all local public transport is step-free offering a realistic and attractive alternative to car ownership/use.

Previous Consultation

19. In developing the design for the proposed development, the responses from TfL, DLR and LBTH to the previous proposals have been considered. The table provided at **Appendix A** summarises these concerns/considerations and demonstrates how these are addressed within the latest proposals.

Supporting Documents

20. The outline planning application will be supported by the following transport documents which will be prepared in accordance with the latest TfL and LBTH guidance.:

- Healthy Streets Transport Assessment (including Construction Logistics Plan)
- Framework Travel Plan
- Residential Travel Plan
- Delivery and Servicing Plan

Proposed Improvements

Pedestrian Access

21. The emerging layout of the North Quay site is being designed to maximise pedestrian permeability and accessibility through the development, with clear, attractive connections to destinations beyond. The large podiums that had formed part of the previous scheme have been removed bringing the public realm areas down to ground (dock) level.

22. The connections through the site will benefit from active retail frontages at ground level, giving the area an identity and creating a pleasant pedestrian environment. A clear north-south pedestrian route will be provided through the site at ground level, connecting Canary Wharf Elizabeth Line station in the south via the North Dock bridge connection through to the Aspen Way footbridge via stairs and lifts to the north. Pedestrians will also be able to access the Canary Wharf estate via Upper Bank Street.

23. Improvements along North Dock will improve east-west connectivity and also provide an attractive respite location, whilst dedicated walkways and crossing facilities via West India Quay DLR station and across Hertsmere Road will improve permeability.

24. The LBTH and TfL aspirations to have a cycleway adjacent to Aspen Way along the north boundary are being integrated into the proposals and enhancements to the environment/landscaping under Delta Junction as identified in the OAPF are being considered.

25. Pedestrian accessibility to/from Hertsmere Road will also improve with formal crossing points on the site access road and an extension of the public realm to West India Quay DLR station west of the site.

Santander Cycle Hire Docking Station

26. As part of the previous application, TfL requested that consideration was given to the implementation of a new cycle hire docking station as part of the Proposed Development. There is currently a gap in the cycle hire network at this location and careful consideration was given to find a location for a new docking facility which maximises visibility to users, facilitates servicing and restocking of bikes, and which is integrated with the surrounding cycle network.

27. It was agreed in principle with TfL to locate a new 32-point docking station under the Delta Junction. This location provides good visibility for users, integrates with the wider cycle network and Cycle Superhighway and also activates the space under Delta Junction. Options for integrating this facility into the emerging proposals are currently being explored.

Active Travel Zone

28. **Figure 2** presents key destinations within a 20-minute cycle of the site, as set out in TfL's Healthy Streets TA guidance. **Figure 3** includes only those key destinations which are relevant to the Proposed Development and **Table 2** identifies the key destinations and their priority in relation to the proposals. Steer would welcome agreement from TfL and LBTH on the key destinations and routes identified below.

Table 2: Key Destinations

Destination		Priority
Public transport stops	Canary Wharf – Stop F	High
	Canada Square North – Stop H	High
	Canada Square South – Stop J	High
Public transport stations	West India Quay DLR	High
	Poplar DLR	High
	Canary Wharf Station	High
Current and future strategic cycle network	Cycle Superhighway 3	High
	Proposed cycleway between Hackney and Isle of Dogs	Medium
Town centres	Canary Wharf Shopping Centre	Low
Parks	Jubilee Park	Low
Schools/colleges	New City College, Tower Hamlets College	High
	Our Lady & St Joseph Catholic Primary School	High
Hospitals/doctors	Gough Walk Surgery	Low
	Boots Pharmacy	Low
Places of worship	All Saints Church	Low

Figure 1: ATZ Area Plan

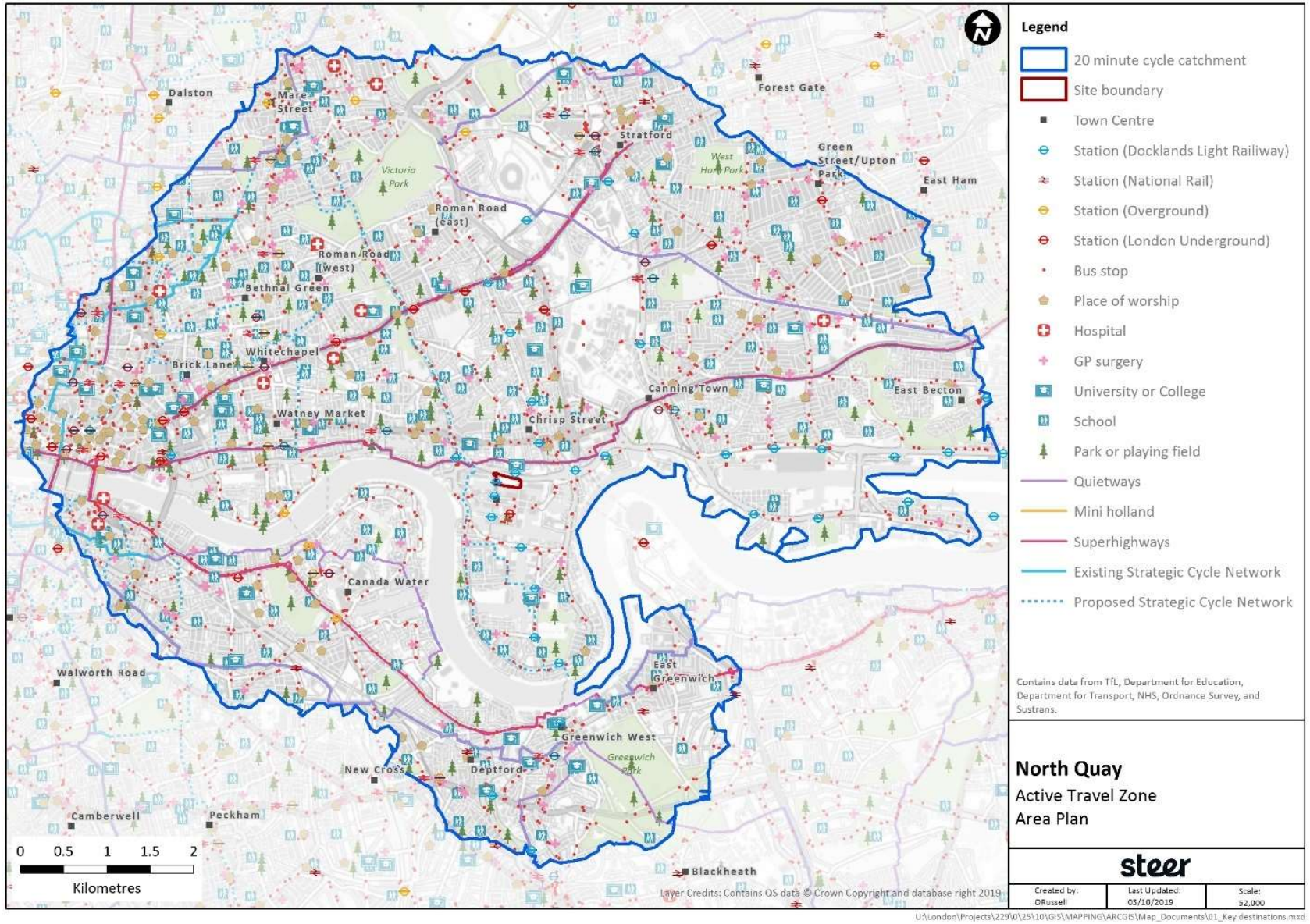
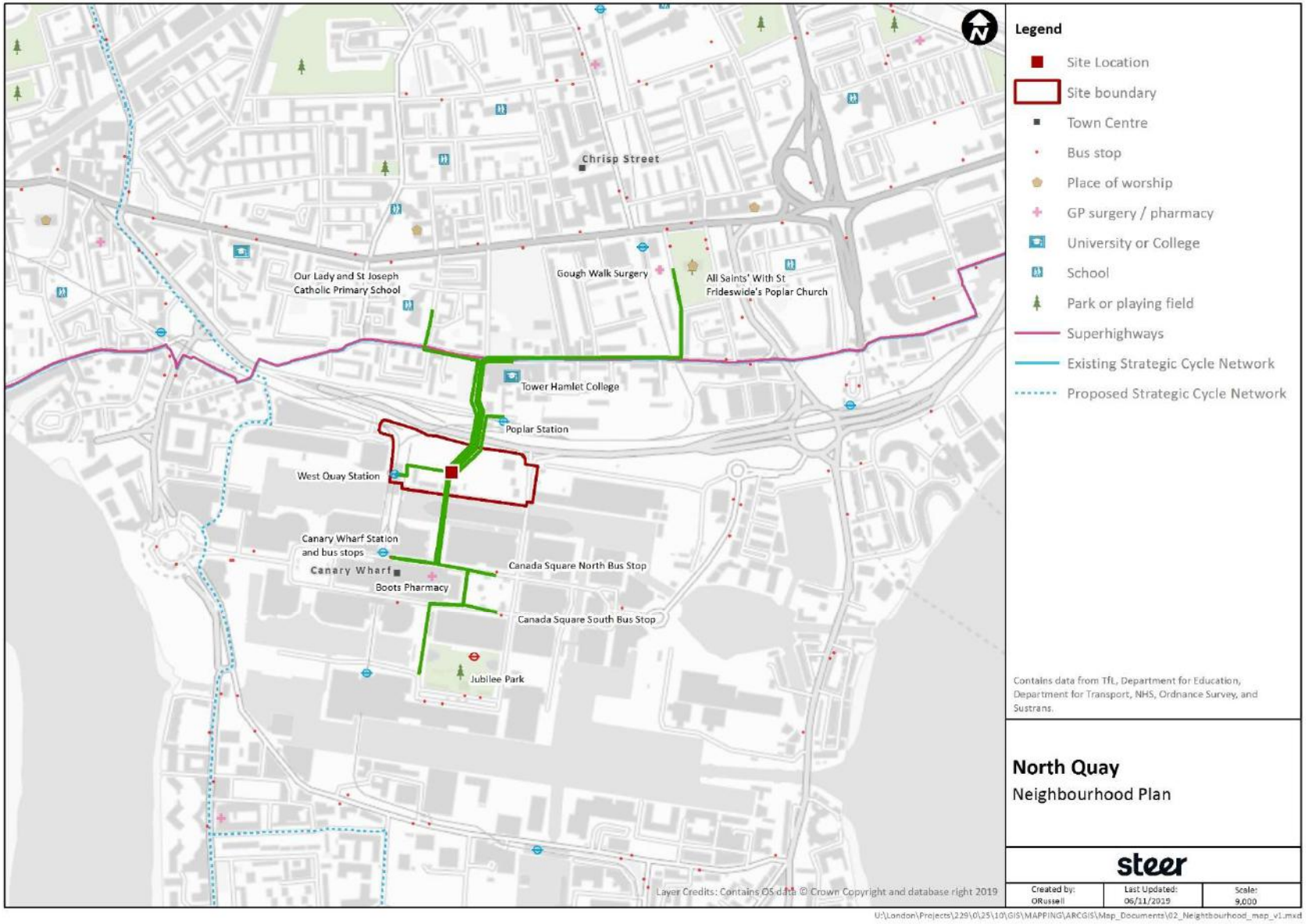


Figure 2: ATZ Neighbourhood Plan



Trip Generation Methodology

29. The trip generation assessment will follow the same methodology as that agreed in principle through pre-application discussions with TfL and LBTH on the previous proposals, albeit recognising that outline planning permission is sought to allow a degree of flexibility in massing and land use mix.

30. Given this flexibility, different scenarios will be used within the trip generation assessment to assess a) an indicative scheme which is likely to come forward; and b) a worst-case scenario with regards to the quantum of trips generated in accordance with the maximum floorspace parameters set out in Table 1. Justification for the scenarios tested to provide a robust assessment will be set out within the TA once the maximum massing and floor area parameters have been fixed.

31. No consideration will be given to the trips associated with any previous land uses or planning consents on the North Quay site.

Residential Trip Generation

32. The forecast average residential person trip rates (per unit) have been derived from TRICS (version 7.6.3). A total of five surveys were obtained using the following search criteria:

- 03 Residential: C – Flats Privately Owned
- Greater London sites
- Exclude town centre locations
- PTAL 5 to 6b

33. The full TRICS outputs can be found at Appendix C of this note.

Table 3: Residential Person Trip Rates per Dwelling

Period	In	Out	Total
AM Peak (08.00 - 09.00)	0.111	0.546	0.657
PM Peak (17.00 - 18.00)	0.295	0.179	0.474
Daily	2.534	2.637	5.171

34. Table 4 specifies the 2011 Census method of travel to work data with the location of usual residence set as Middle Super Output Area (MSOA) Tower Hamlets 033.

35. As the proposed development will be car-free, with the exception of disabled persons parking, car trips have been capped at 3% to reflect the level of parking provision proposed. Adjustments have also been made to London Underground and Train mode shares to account for DLR and the Elizabeth Line as these are not accounted for within the Census data.

Table 4: 2011 Census Method of Travel to Work (Tower Hamlets 033)

Mode	2011 Census	Adjusted
London Underground	48%	19%
DLR		19%
Elizabeth Line		19%
Train	4%	0%
Bus	4%	4%
Taxi	1%	1%
Motorcycle	0%	0%
Car Driver + Passenger	8%	3%
Cycle	2%	2%
Walk	31%	31%
Other (inc. Riverbus)	2%	2%
Total	**100%**	**100%**

Commercial Trip Generation

36. The forecast average office person trip rates (per 100m^2) have been derived from the Canary Wharf Cordon Survey (2017) for people travelling to and from the estate, assessed against average employee densities, as shown in Table 5.

Table 5: Office Person Trip Rates (per 100m^2)

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.00	0.44	3.44
PM Peak (17.00 - 18.00)	0.41	2.33	2.74
Daily	11.02	11.02	22.04

37. The forecast office mode share has been derived from the Canary Wharf Employee Survey (2017) and adjustments have been made to reflect that no general car parking is proposed for office uses. The mode shares presented in Table 6 may also be refined further to take account of the latest Railplan data once available.

Table 6: Forecast Office Mode Split

Mode	Adjusted
London Underground	46%
DLR	21%
Elizabeth Line	19%
Train	0%
Bus	3%
Taxi	1%
Motorcycle	1%
Car Driver + Passenger	0%
Cycle	4%
Walk	4%
Other (inc. Riverbus)	1%
Total	**100%**

Retail Trip Generation

38. The retail trip generation for North Quay will be measured using the same methodology applied to the retail floorspace within Canary Wharf Elizabeth Line Station, with retail trip rates (per 100m^2) extracted from the Isle of Dogs Over Station Development TA.

39. Responses from the Canary Wharf retail survey (2008) have been used to determine that 72% or retail trips on the Canary Wharf estate are linked trips. These will be discounted from the analysis given that they are already on the transport network.

40. The data and methodology proposed to assess retail trip generation at North Quay is considered robust and relevant, as Canary Wharf has unique retail spaces, with employees (120,000 in 2019) working on the estate often shopping on their way to/from work and at lunchtime. This is the reason for the high proportion of linked trips especially during the AM and PM peak hours. This trip linking is not picked up in traditional retail trip rate surveys included in the TRICS database.

Table 7: Retail Person Trip Rates (per 100m^2) – including linked trips

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.20	1.60	4.80
PM Peak (17.00 - 18.00)	1.70	2.10	3.80
Daily	39.70	36.20	75.90

41. The forecast retail mode share has been calculated based on the 2005 Retail Shopper Survey undertaken when converting Cabot Hall to retail use. This mode split was used for the Wood Wharf TA. Car trips and London Underground trips have been reduced, with Elizabeth Line trips increased accordingly due to the proximity of the site to the new station.

42. The forecast retail mode share is shown in Table 8.

Table 8: Forecast Retail Mode Split

Mode	Adjusted
London Underground	29%
DLR	13%
Elizabeth Line	22%
Train	0%
Bus	8%
Taxi	3%
Motorcycle	0%
Car Driver + Passenger	1%
Cycle	3%
Walk	21%
Other (inc. Riverbus)	0%
Total	**100%**

Servicing Trip Generation

43. Servicing trips rates will be derived from Steer's database which includes rates from similar developments in Canary Wharf and across London. Retail servicing trips rates are based in information provided by Canary Wharf for existing retail areas including Jubilee Place and Crossrail Place. Office servicing trip rates are taken from the observed movements at One Canada Square. The servicing trips rates are as follows:

- Residential – 0.2 daily trips per 100m^2 NIA;
- Office – 0.21 daily trips per 100m^2 NIA;
- Retail A1 – 0.7 daily trips per 100m^2 NIA; and
- Retail A3 – 2.60 daily trips per 100m^2 NIA.

44. In determining the worst-case scenario with regards to the quantum of vehicular trips generated on the local highway network, the high trip rates associated with retail uses will be considered to ensure that a robust assessment is carried out.

Traffic Modelling

45. Outputs from TfL's LoHAM strategic traffic model will be used to assess the highway network in the vicinity of the site, using a 2031 assessment year, at two specific junctions:

- Hertsmere Road / West India Dock Road; and
- Upper Bank Street / Aspen Way.

46. Although the Proposed Development is anticipated to be completed earlier, the use of 2031 LoHAM data provides a worst-case assessment as it covers all future cumulative development schemes up to 2031. The highway impact assessment scenarios considered are as follows:

- Baseline Scenario – 2019 traffic surveys;
- 2031 Baseline Without Development – 2031 LoHAM Traffic Model; and
- 2031 Baseline With Development – 2031 LoHAM Traffic Model + Proposed Development.

47. Manual Classified Counts (MCC) surveys will be carried out to inform the creation of LinSig models for each junction. The 2019 baseline and 2031 future traffic flow scenarios will be tested to assess the impact of the development on the operation of these junctions. This is the same methodology as agreed previously with TfL for the 2017 application.

Pedestrian Movement Assessment

48. As part of the previous planning application for North Quay (LPA ref. PA/17/01193), it was agreed with LBTH and TfL that dynamic microsimulation pedestrian modelling would be carried out using Legion modelling software.

49. The results of this analysis demonstrated that the design would provide a good level of service to pedestrians during the peak hours of a typical weekday. Only the Elizabeth Line footbridge and Upper Bank Street where forecast to experience a level of service C – defined as 'slightly restricted circulation for most pedestrians and significant difficulty for reverse or cross-flows.

50. Although the proposed scheme is different to that proposed in 2017, the key access points/pedestrian routes and therefore the origin-destination matrices are similar. The indicative scheme, even considering the flexibility and maximum parameters provided in Table 1, is similar to that proposed in 2017 (apart from residential units which have decreased) and more space is provided to pedestrians within the public realm. Given that no issues were identified previously, we do not therefore propose to rerun the Legion modelling.

51. The TA will consider critical points such as the footbridge to the Elizabeth line station, Aspen Way footbridge and Upper Bank Street to demonstrate that pedestrian throughflow associated with the proposed development will be reduced from that assessed in 2017, resulting in improved level of service for pedestrians.

Public Transport Assessment

52. The proposed public transport assessment methodology is the same as that previously agreed with TfL for the 2017 North Quay application.

53. The outputs from Railplan will be used to assess the impact of the proposed development on London Underground, Elizabeth Line and DLR services. The data also includes assumptions about the level of cumulative development that will come forward to 2031 in accordance with TfL's LTS model.

54. The Canary Wharf Employee Travel Survey (2017) will be used to derive the distribution of North Quay trips on London Underground and DLR services, whilst assumptions built into the Railplan model will be used to assign North Quay trips on Elizabeth Line services. The impact of additional North Quay demand on all three services will be assessed against current and future passenger capacity to consider the future operation of these services.

55. Bus trip generation by service and direction will be set out in the TA for each of the AM and PM peak hours. The results in relation to additional passengers per bus will assessed against existing bus capacity.

Design Considerations

56. LBH, TfL and Greater London Authority guidance and policy will be considered in designing the Proposed Development. The streets will be designed to accord with Manual for Streets where relevant and in consideration of the ten Healthy Street indicators.

57. Therefore, these design considerations principally include:

- Accessible parking will be provided for 3% of all dwellings. The feasibility of providing accessible parking for an additional 7% of all dwellings will be considered as part of the TA.
- 20% of all residential parking bays will have active electric vehicle charging points (EVCPs).
- 20% of all residential parking bays will have passive EVCPs.
- Cycle parking will be provided in accordance with the Draft London Plan (2019) standards and London Cycling Design Standards.
- The design of the refuse stores and broader refuse strategy will be developed through discussions with LBTH.

Next Steps

58. The targeted planning submission is Spring 2020 and further discussion with TfL and LBTH on this Scoping Note is welcomed whilst Steer commence assessments.

59. In summary, Steer would like and seek agreement on:

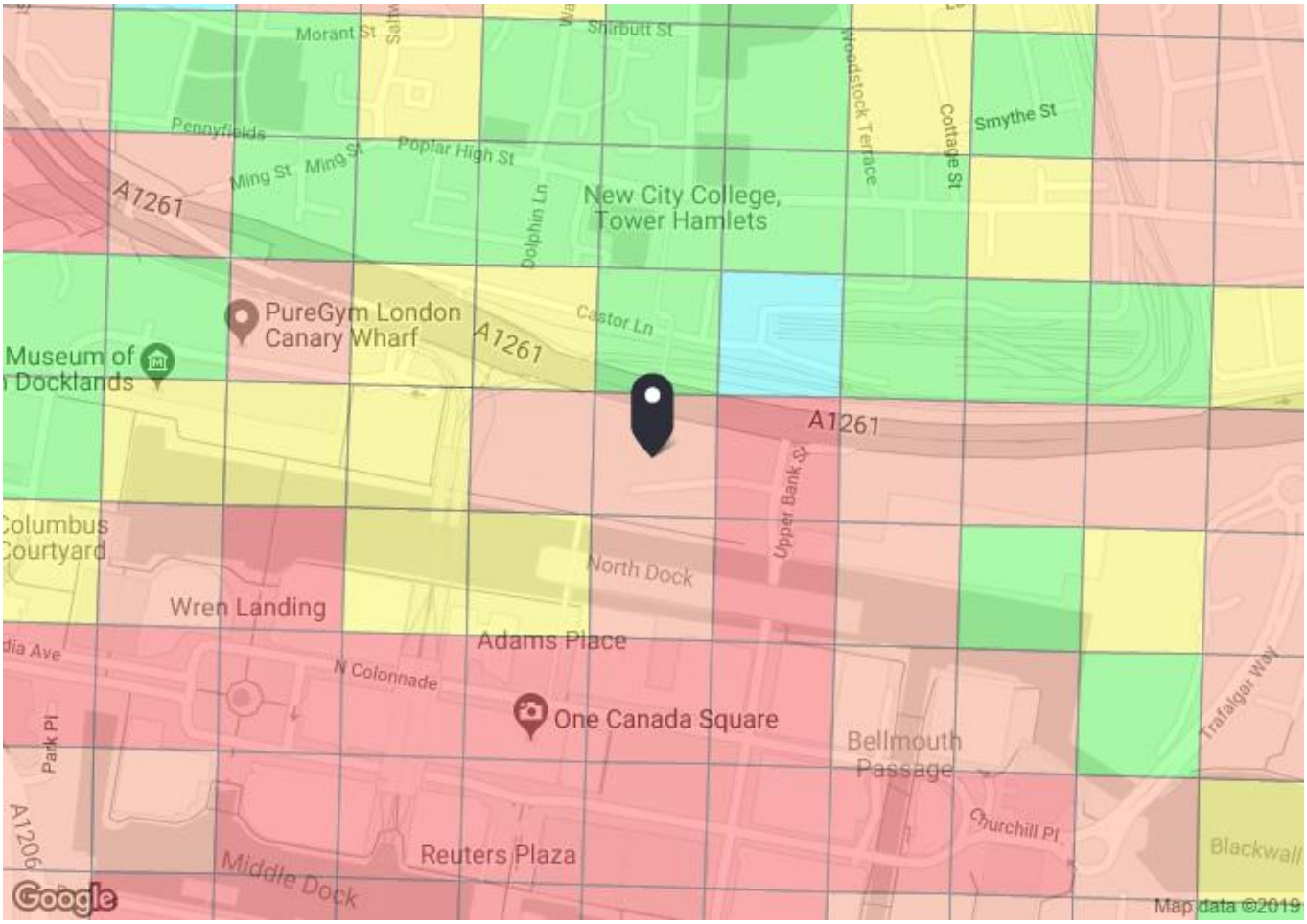
- The ATZ destinations and routing.
- The proposed trip generation methodology including trip rates and mode shares.
- The proposed highway, public transport and pedestrian modelling methodologies, including the use of specific outputs from LoHAM and Railplan.
- Reduction in retail short-stay cycle parking.
- Flexibility in provision of further 7% accessible parking given the excellent PTAL and step-free access, as well as the desire to reduce car trips as set out in the Mayor's Transport Strategy.

60. At the pre-application meeting, we would also like to discuss the options for enhancements under Delta Junction in light of the OAPF aspirations and DLR asset protection requirements.

Appendix A

PTAL Report

TRANSPORT FOR LONDON



PTAL output for Base Year
5

Poplar, Poplar, London E14 0AF, UK
Easting: 537646, Northing: 180539

Grid Cell: 80889

Report generated: 06/11/2019

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Canada Square Canary Whf	D7	410.03	9	5.13	5.33	10.46	2.87	0.5	1.43
Bus	Canada Square Canary Whf	135	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	D8	410.03	5	5.13	8	13.13	2.29	0.5	1.14
Bus	Canada Square Canary Whf	D3	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	277	410.03	9	5.13	5.33	10.46	2.87	1	2.87
LUL	Poplar	'WWARSL-BANK'	250.48	7.5	3.13	4.75	7.88	3.81	1	3.81
LUL	Poplar	'BECKTON-TWRGWAY'	250.48	7.5	3.13	4.75	7.88	3.81	0.5	1.9
LUL	Poplar	'STRATF-LEWISHAM'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Poplar	'CNRYWH-STRATF'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Canary Wharf	'LEWISHAM-BANK'	503.47	15	6.29	2.75	9.04	3.32	0.5	1.66
LUL	Canary Wharf	'WembleyPark-Stratfo'	503.47	3.67	6.29	8.92	15.22	1.97	0.5	0.99
LUL	Canary Wharf	'Stratford-Willesden'	503.47	4.33	6.29	7.68	13.97	2.15	0.5	1.07
LUL	Canary Wharf	'Stanmore-Stratford'	503.47	17.65	6.29	2.45	8.74	3.43	0.5	1.72
									Total Grid Cell AI:	**22.11**

Appendix B

TfL, DLR and LBTH Concerns/Considerations from Previous Proposals

Table 9: Proposed Design Responses to Previous TfL, DLR and LBTH Comments

Topic	Author	Comments on Previous Proposals	Considerations in Latest Proposals
Car Parking	TfL & LBTH	The residential car parking ratio of 0.02 spaces per unit is not supported. The site should be 'car free' save for blue badge parking	The current proposals are for car free development, albeit providing 3% disabled persons parking for residents in accordance with Draft London Plan standards.
	TfL & LBTH	One accessible car parking space per designated wheelchair accessible unit should be provided to bring the proposal in line with London Plan Housing SPG standard	As per comment above. The TA will consider how up to an additional 7% disabled persons parking for residents could be provided should the demand arise.
	LBTH	All new occupiers of residential units should be prohibited from obtaining on-street parking permits.	Agreed. To be secured via condition/S106.
Cycle Parking	TfL	Provision for users of larger cycles should be considered.	5% of total long stay cycle parking provision will be provide as Sheffield stands in accordance with TfL requirements.
	LBTH	Long-stay cycle parking should be comprised of Sheffield stands as these offer the most inclusive form of cycle parking	See above. The remaining long stay cycle parking will be provided as two-tier racks to maximise the efficiency of basement areas.
Cycle Access	TfL & LBTH	Cycle movements on Hertsmere Road (used for servicing) and Upper Bank St (which represents a hostile environment for cycling) should be reconsidered.	In comparison to the previous proposals, vehicular activity will be significantly reduced on Hertsmere Road. Nonetheless, public realm improvements, a dedicated cycle lane on the southern footway of Aspen Way and crossings on Hertsmere Road will be provided to improve the cycling amenity and connectivity.
	TfL	It is recommended that residential lifts are not used to access cycle parking.	The emerging masterplan incorporates dedicated cycle ramps to basement areas, access to the north via the proposed cycle link adjacent to Aspen Way.
Impact Assessment	TfL	A true worst-case scenario should be represented in the trip generation. Utilising a max retail scenario and then discounting a large % of trips should be replaced with a max office scenario	As discussed within this note, a true worst-case assessment will be carried out and fully justified within the TA. This will also consider the servicing trips associated retail uses to ensure the highway impacts are fully considered.
	TfL	An impact assessment on the South and North DLR corridors should be included.	This will be considered as part of the TA and in light of the latest DLR distributions from the 2017 Canary Wharf Employee Survey. The dominant rail distribution across all lines is via the Western and Eastern rail corridors which will continue to form the basis of the overall assessment.

DLR infrastructure protection	TfL	Any development should not infringe on TfL assets, including DLR infrastructure protection zones	A constraints plan of TfL and DLR assets has been developed following consultation on the previous proposals. These have been considered throughout the development design process.
Interface with Aspen Way	TfL	Sharing the southern footway of Aspen Way between pedestrians and cyclists was not supported in its current form. No buffering between pedestrians, cyclists and vehicles is provided.	Noted. Emerging proposals will ensure that a buffer is provided between pedestrians, cyclists and vehicles.
Integration with Hertsmere Road, West India Quay and DLR Delta Junction	TfL	More integration is needed on Delta junction, the separation of pedestrians and vehicles and treatment of routes prioritises vehicles.	The LBTH and TfL aspirations to have a cycleway adjacent to Aspen Way along the north boundary are being integrated into the proposals and enhancements to the environment/landscaping under Delta Junction as identified in the OAPF are being considered.
	TfL	Hertsmere Road should not be treated as a minor route into the site, movements along this road generated by the development will have an impact on the character of the rest of the corridor and should be dealt with appropriately.	Previous proposals showed all servicing vehicles (14 loading bays) and all general traffic (accessing 68 parking spaces) entering North Quay via Hertsmere Road. Vehicle movements on this link will be significantly reduced in the latest scheme, with around half of all servicing vehicles (accessing 8 loading bays) and access to circa 24 disabled parking spaces provided via this route.
Access to the dock edge and Billingsgate	TfL	More details about the dockside walkway should be provided to ensure passive provision for continuing the route into Billingsgate.	The latest proposals bring the development down to ground (dock) level which will allow pedestrian routes between North Quay and the future Billingsgate development to be better integrated along the dock edge and also Upper Bank Street and Aspen Way.

Appendix C

TRICS Output Reports

Calculation Reference: AUDIT-720101-191030-1049

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON		
	IS	ISLINGTON	1 days
	KI	KINGSTON	1 days
	KN	KENSINGTON AND CHELSEA	2 days
	SK	SOUTHWARK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 53 to 294 (units:)
Range Selected by User: 50 to 493 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 21/06/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	2 days
100,001 or More	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
500,001 or More	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

5 Very Good	2 days
6a Excellent	2 days
6b (High) Excellent	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	IS-03-C-07	Site area:	0.21 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	185
Location:	ISLINGTON	Housing density:	1423
Postcode:	EC1V 1AD	Total Bedrooms:	292
Main Location Type:	Edge of Town Centre	Survey Date:	06/06/19
Sub-Location Type:	Development Zone	Survey Day:	Thursday
PTAL:	5 Very Good	Parking Spaces:	86
Site(2):	KI-03-C-02	Site area:	0.72 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	132
Location:	KINGSTON UPON THAMES	Housing density:	455
Postcode:	KT2 5AQ	Total Bedrooms:	232
Main Location Type:	Edge of Town Centre	Survey Date:	14/06/10
Sub-Location Type:	No Sub Category	Survey Day:	Monday
PTAL:	6a Excellent	Parking Spaces:	149
Site(3):	KN-03-C-02	Site area:	0.71 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	294
Location:	SOUTH KENSINGTON	Housing density:	588
Postcode:	W14 8TR	Total Bedrooms:	609
Main Location Type:	Edge of Town Centre	Survey Date:	15/06/10
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	6a Excellent	Parking Spaces:	290
Site(4):	KN-03-C-03	Site area:	0.56 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	72
Location:	KENSINGTON	Housing density:	180
Postcode:	W8 6UT	Total Bedrooms:	252
Main Location Type:	Edge of Town Centre	Survey Date:	11/05/12
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	5 Very Good	Parking Spaces:	60
Site(5):	SK-03-C-01	Site area:	0.20 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	53
Location:	SOUTHWARK	Housing density:	589
Postcode:	SE1 9ES	Total Bedrooms:	88
Main Location Type:	Edge of Town Centre	Survey Date:	19/09/14
Sub-Location Type:	Built-Up Zone	Survey Day:	Friday
PTAL:	6b (High) Excellent	Parking Spaces:	59

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	147	0.043	5	147	0.208	5	147	0.251
08:00 - 09:00	5	147	0.111	5	147	0.546	5	147	0.657
09:00 - 10:00	5	147	0.124	5	147	0.223	5	147	0.347
10:00 - 11:00	5	147	0.086	5	147	0.175	5	147	0.261
11:00 - 12:00	5	147	0.125	5	147	0.117	5	147	0.242
12:00 - 13:00	5	147	0.174	5	147	0.163	5	147	0.337
13:00 - 14:00	5	147	0.167	5	147	0.154	5	147	0.321
14:00 - 15:00	5	147	0.151	5	147	0.167	5	147	0.318
15:00 - 16:00	5	147	0.236	5	147	0.148	5	147	0.384
16:00 - 17:00	5	147	0.223	5	147	0.168	5	147	0.391
17:00 - 18:00	5	147	0.295	5	147	0.179	5	147	0.474
18:00 - 19:00	5	147	0.363	5	147	0.160	5	147	0.523
19:00 - 20:00	2	240	0.269	2	240	0.127	2	240	0.396
20:00 - 21:00	2	240	0.167	2	240	0.102	2	240	0.269
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.534			2.637			5.171

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

To	Transport for London and London Borough of Tower Hamlets	**Technical Note**	
Date	26 November 2019		
Project	North Quay	Project No.	22902510

North Quay - Trip Generation and Impact Assessment Note

Introduction

1. This note has been prepared by Steer following the pre-application meeting with Transport for London (TfL) on 13 November 2019 regarding the proposed redevelopment of the North Quay site on the Canary Wharf estate. It has been prepared in response to comments raised at the meeting by TfL representatives regarding the trip generation methodology and proposed approach to assessing the impacts of the development.

2. As part of the 2017 North Quay Scheme (PA/17/01193 - subsequently withdrawn post submission) a bespoke approach to highways and public transport modelling was agreed by TfL (described in more detail below). At the pre-application meeting, Steer proposed to apply the same assessment methodology for the latest North Quay scheme, however TfL has requested that further evidence is provided in terms of likely trip generation by mode before they are willing to confirm this is acceptable.

3. This note should be read in conjunction with the Transport Scoping Note (dated 7.11.19 and provided in **Appendix A**) issued by Steer in advance of the pre-application meeting. The following sections describe the emerging indicative development proposals, as described at the pre-app meeting, with regard to floor areas, unit numbers and proposed land use mix. The total quantum of trips likely to be generated by the proposed scheme is compared against the 2007 Implemented Scheme (PA/03/00379 - lawfully implemented in November 2016). The likely impact of the proposed development on the public transport network and surrounding highway is also discussed based on previous analysis.

4. Following the pre-application meeting, TfL's Strategic Analysis team has confirmed that the 2007 Implemented Scheme is included within the latest LTS v7.2 and Railplan. At the time of submitting the 2017 North Quay Scheme application, TfL said that the 2007 Implemented Scheme was not included within LTS v7.1. The implication of this is that a much larger scheme than currently proposed is included within TfL's strategic modelling. Any assessment of the proposed development would simply result in a reduction in trips from the current future baseline within the strategic models.

5. To this extent, the methodology set out within the Transport Scoping Note is, in part, superseded by the methodology and assessment provided in the following sections within this note.

Previously Accepted Methodology in 2017

6. For the purposes of assessing the public transport rail network (Jubilee Line / DLR / Elizabeth Line) and highway network in the future, it was agreed with TfL through emails dated 1st and 4th November 2016 that Railplan v7.1 and the LoHAM strategic traffic model should be used. It was agreed with TfL that all cumulative schemes were included within the future year Railplan and LoHAM data provided. Both the Railplan v7.1 and LoHAM model uses population and employment forecasting from the LTS v7.1 model but did not include the 2007 Implemented Scheme.

7. Railplan v7.1 2031 trip data was used to assess line loads for critical points of the Jubilee Line, DLR and Crossrail network providing a flow to capacity assessment.

8. TfL's LoHAM strategic traffic model was used to assess the highway network in the vicinity of the Site, using a 2031 assessment year, at two specific junctions:

- Hertsmere Road / West India Dock Road; and
- Upper Bank Street / Aspen Way.

Emerging Development Proposals

9. As described in the Transport Scoping Note, an outline planning application will be submitted in Spring 2020 which will set out the maximum parameters in terms of land use mix and building heights. Alongside this, an Indicative Scheme is to be prepared which sets out the development mix and quantum which may come forward via subsequent Reserved Matters applications.

10. Although the development design is still progressing, **Table 1** presents the 'work in progress' 2019 Indicative Scheme. The 2007 Implemented Scheme is presented for comparison. Table 1 shows that the emerging 2019 Indicative Scheme is significantly smaller than the 2007 Implemented Scheme which is included in LTS v7.2, Railplan and other strategic models.

Table 1: North Quay (Draft) 2019 Indicative Scheme Schedule – Comparison with 2007 Implemented Scheme

Land Use	2019 Indicative Scheme (GEA m^2)	2007 Implemented Scheme (GEA m^2)
Residential	80,990 (704 units)	n/a
Office	142,446	372,660
Retail/Leisure	23,529	5,324
Flexible Use – Student Housing / Hotel / Serviced Apartments	38,220	n/a
Total	**285,185**	**377,984**

11. The 2019 Indicative Scheme schedule presented in Table 1 forms the basis of the trip generation presented within this note. However, it should be noted that whilst design development is continuing, floor areas are evolving and as part of the submitted TA and EIA, a worst case approach for the assessment will be completed to determine the maximum number of person trips on the public transport network and maximum number of vehicle trips on the highway network based on land use quantums. At this stage, the trip estimates in this note provided a best interim estimate of the likely trip generation of the proposed North Quay scheme based on the current 2019 Indicative Scheme.

2019 Indicative Scheme Trip Generation

12. Steer propose to apply the same broad methodology agreed with TfL/LBTH for the 2017 North Quay Scheme in assessing the impacts of the current emerging proposals. Although some small adjustments have been made in terms of car use mode share, given the latest scheme will be a car-free development. This was accepted in principle at the most recent TfL pre-app meeting held on 13th November 2019. The Transport Scoping Note sets out the proposed assessment methodology, however the total people trip rates for each proposed land use are set out in **Table 2**.

Table 2: Total People Trip Rates by Land Use

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Residential (per unit)	0.11	0.55	0.66	0.30	0.18	0.48	2.53	2.64	5.17
Commercial (per 100m^2)	3.00	0.44	3.44	0.41	2.33	2.74	11.02	11.02	22.04
Retail (per 100m^2)	3.20	1.60	4.80	1.70	2.10	3.80	39.70	36.20	75.90
Hotel (per 100m^2)	0.23	0.59	0.82	0.72	0.76	1.48	9.23	10.37	19.59

13. Based on the floor areas and unit numbers presented in Table 1 and the trip rates presented in Table 2, the total person trip generation of the 2019 Indicative Scheme is presented in **Table 3**. For the purposes of this assessment, the 'flexible use' set out in Table 1 has been assessed as hotel land use as this is considered to present the worst case – in comparison to any student accommodation/serviced apartment uses.

Table 3: 2019 Indicative Scheme - Total Person Trip Generation by Land Use

Total People Trips	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Residential	78	384	462	208	126	334	1,784	1,856	3,640
Commercial	4,273	627	4,900	584	3,319	3,903	15,698	15,698	31,396
Retail	753	376	1,129	400	494	894	9,341	8,517	17,858
Hotel	89	225	314	273	291	564	3,526	3,962	7,488
Total	**5,193**	**1,612**	**6,805**	**1,465**	**4,230**	**5,695**	**30,349**	**30,033**	**60,382**

14. As set out in the Transport Scoping Note, the proposed mode shares which will be applied to the above total people trips for each land use are presented in **Table 4**. As per the agreed methodology for other hotel developments across London, mode shares associated with the hotel are expected to be similar to the commercial uses, albeit the proportion of taxis has been increased in lieu of cycle trips.

Table 4: Proposed Mode Shares by Land Use

Mode	Mode Split by Land Use			
	Residential	Commercial	Retail	Hotel
London Underground	19%	46.1%	29%	46%
DLR	19%	19.8%	13%	21%
Elizabeth Line	19%	19.0%	22%	19%
Bus	4%	3.4%	8%	3%
Taxi	1%	1.2%	3%	4%
Motorcycle	0%	1.1%	0%	0%
Car Driver + Passenger	3%	0.5%	1%	0%
Cycle	2%	4.6%	3%	2%
Walk	31%	4.0%	21%	4%
Other (inc. Riverbus)	2%	0.3%	0%	1%
Total	**100%**	**100%**	**100%**	**100%**

15. Application of the mode shares presented above to the total people trips set out in Table 3 provides the combined multi-modal trip generation for the 2019 Indicative Scheme, as set out in **Table 5**.

Table 5: 2019 Indicative Scheme – Total Multi-Modal Trips

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
London Underground	2,244	575	2,819	550	1,831	2,381	11,906	11,882	23,788
DLR	977	293	1,271	264	806	1,071	5,402	5,400	10,802
Elizabeth Line	1,009	318	1,327	290	819	1,109	6,046	5,962	12,008
Bus	211	74	285	68	166	235	1,458	1,408	2,866
Taxi	78	32	110	32	68	100	627	621	1,248
Motorcycle	47	7	54	6	37	43	173	173	345
Car Driver + Passenger	31	18	50	13	25	38	225	219	445
Cycle	222	52	275	48	176	224	1,109	1,094	2,202
Walk	357	232	589	183	287	470	3,284	3,151	6,434
Other (inc. Riverbus)	15	12	27	9	15	24	118	124	242
Total	**5,193**	**1,612**	**6,805**	**1,465**	**4,230**	**5,695**	**30,349**	**30,033**	**60,382**

2007 Implemented Scheme

16. As set out in the introduction, TfL have confirmed that the 2007 Implemented Scheme is included in LTS v7.2. Whilst the total floor area associated with the 2007 Implemented Scheme is significantly larger than the 2019 Indicative Scheme, this section considers the trip generation of the 2007 Implemented Scheme to understand the net impact across all transport modes.

17. The trip generation associated with the 2007 Implemented Scheme is considered in accordance with the methodology set out above. This is considered appropriate as the trip rates and mode shares would have changed since the planning application and supporting Transport Assessment was submitted. Using the commercial and retail trip rates presented in Table 2, the total person trips generated by the 2007 Implemented Scheme are presented in **Table 6**.

Table 6: 2007 Indicative Scheme - Total Person Trip Generation by Land Use

Total People Trips	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Commercial	11,180	1,640	12,820	1,528	8,683	10,211	41,067	41,067	82,134
Retail	170	85	256	91	112	202	2,114	1,927	4,041
Total	**11,350**	**1,725**	**13,075**	**1,619**	**8,795**	**10,414**	**42,181**	**42,994**	**86,175**

18. The mode shares presented in Table 4 have also been applied to the above total person trips to provide the total multi-modal trip generation of the site. However, as the 2007 Implemented Scheme included 241 on-site car parking spaces for commercial uses, the 'car driver + passenger' mode share has been adjusted accordingly to 1.5%, with a reduction in London Underground trips by 1%. This methodology is considered to robustly demonstrate what could be built now under the 2007 Implemented Scheme consent.

19. The adjusted mode shares for the 2007 Implemented Scheme are presented in **Table 7**.

Table 7: 2007 Implemented Scheme Mode Shares by Land Use

Mode	Mode Split by Land Use	
	Commercial	Retail
London Underground	45.1%	29%
DLR	19.8%	13%
Elizabeth Line	19.0%	22%
Bus	3.4%	8%
Taxi	1.2%	3%
Motorcycle	1.1%	0%
Car Driver + Passenger	1.5%	1%
Cycle	4.6%	3%
Walk	4.0%	21%
Other (inc. Riverbus)	0.3%	0%
Total	**100%**	**100%**

20. Application of the mode shares presented above to the total person trips presented in Table 6 provides the combined multi-modal trip generation for the 2007 Implemented Scheme, as set out in **Table 8**.

Table 8: 2007 Implemented Scheme – Total Multi-Modal Trips

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
London Underground	5,091	764	5,856	715	3,948	4,664	19,134	19,080	38,214
DLR	2,236	336	2,571	314	1,734	2,048	8,406	8,382	16,788
Elizabeth Line	2,162	330	2,492	310	1,674	1,985	8,268	8,227	16,495
Bus	394	63	456	59	304	363	1,565	1,550	3,116
Taxi	139	22	162	21	108	129	556	551	1,107
Motorcycle	123	18	141	17	96	112	452	452	903
Car Driver + Passenger	169	25	195	24	131	155	637	635	1,272
Cycle	519	78	597	73	403	476	1,952	1,947	3,899
Walk	483	83	566	80	371	451	2,087	2,047	4,134
Other (inc. Riverbus)	34	5	38	5	26	31	123	123	246
Total	**11,350**	**1,725**	**13,075**	**1,618**	**8,795**	**10,413**	**43,181**	**42,994**	**86,175**

Net Trip Generation

21. The 2019 Indicative Scheme has been compared to the 2007 Implemented Scheme to provide the net trip generation of the development proposals, as shown in **Table 9**.

Table 9: Net Trip Generation – 2019 Indicative Scheme and 2007 Implemented Scheme

Trip Rates	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
London Underground	-2,847	-189	-3,037	-165	-2,117	-2,283	-7,228	-7,198	-14,426
DLR	-1,259	-43	-1,300	-50	-928	-977	-3,004	-2,982	-5,986
Elizabeth Line	-1,153	-12	-1,165	-20	-855	-876	-2,222	-2,265	-4,487
Bus	-183	11	-171	9	-138	-128	-107	-142	-250
Taxi	-61	10	-52	11	-40	-29	71	70	141
Motorcycle	-76	-11	-87	-11	-59	-69	-279	-279	-558
Car Driver + Passenger	-138	-7	-145	-11	-106	-117	-412	-416	-827
Cycle	-297	-26	-322	-25	-227	-252	-843	-853	-1,697
Walk	-126	149	23	103	-84	19	1,197	1,104	2,300
Other (inc. Riverbus)	-19	7	-11	4	-11	-7	-5	1	-4
Total	**-6,157**	**-113**	**-6,270**	**-153**	**-4,565**	**-4,718**	**-12,832**	**-12,961**	**-25,793**

22. As shown in Table 9, the 2019 Indicative Scheme would generate significantly fewer trips across all public transport and vehicular modes than the 2007 Implemented Scheme. Walking trips are the exception given the high walking mode share associated with residential uses in the 2019 Indicative Scheme. However, when considering all pedestrian movements, including those using public transport services locally, the level of pedestrian activity is significantly reduced from the 2007 Implemented Scheme.

23. On the basis that the 2007 Implemented Scheme is included in LTS v.7.2 and fully represented in the 2031 and 2041 strategic models for both Railplan and LoHAM, and given that the 2019 Indicative Scheme coming forward presents a significant net reduction in both public transport and vehicle trips compared with the 2007 Implemented Scheme, we propose that no additional strategic modelling analysis should be undertaken as part of the Transport Assessment.

Public Transport Assessment

24. Although the public transport trips associated with the 2019 Indicative Scheme are significantly reduced from the 2007 Implemented Scheme considered in TfL's strategic modelling, we propose to use the same methodology as agreed previously for the 2017 North Quay Scheme to assess the impact of the development on line loadings at key stations.

25. Line loading data will be purchased from TfL's Railplan v7.2 model for specific nodes within the vicinity of the site. In 2017, this included the following nodes which we will seek updated data for: Canary Wharf (Jubilee, Elizabeth Line, DLR) and the following DLR stations; Heron Quay, South Quay, Poplar, Westferry, Limehouse, Blackwall, East India, West India Quay and Crossharbour.

26. As per the assessment methodology agreed for the 2017 North Quay Scheme, data from the Canary Wharf Employee Travel Survey will be used to derive a distribution of DLR trips to/from Poplar and West India Quay DLR stations. The 2015 Canary Wharf Employee Survey showed that 45% of DLR passengers travel to/from the west, 31% to/from the south, 17% to/from the north and 7% to/from the east of Canary Wharf.

27. For the purposes of the TA, and to address TfL comments from the 2017 North Quay Scheme, it will be assumed that all DLR trips to/from the north and east would use Poplar DLR station to access the site. All trips from the south would use West India Quay DLR station to access the site, whilst trips from the west would be split proportionately between West India Quay and Poplar DLR stations in accordance with west route service frequency to these stations.

28. The net reduction in trips presented in Table 9 for each service will then be considered to understand the actual impact of the proposed development on Jubilee line, DLR and Elizabeth line capacity. As noted earlier, the final North Quay scheme assessed will be the variation within the maximum parameters which would generate the greatest quantum of trips on the public transport network to provide a robust assessment.

Highway Assessment

Servicing Trips

29. As set out in the Transport Scoping Note, servicing trips will be assessed based on Steer's database which includes rates from similar developments in Canary Wharf and across London, including retail servicing trip rates from Jubilee Place and Crossrail Place within the estate.

30. The forecast quantum of servicing trips associated with the 2019 Indicative Scheme are set out in **Table 10**. Servicing activity forecast during the typical highway peak hour (08:00-09:00) is presented alongside the actual peak hour servicing activity (10:00-11:00) derived from the arrival profiles of surveyed sites.

Table 10: 2019 Indicative Scheme – Servicing Trips

Land Use	Daily Trip Rate (per 100m^2)	AM Peak (08:00 – 09:00)			Actual Peak (10:00 – 11:00)			Daily		
		Arrive	Depart	Total	Arrive	Depart	Total	Arrive	Depart	Total
Residential	0.2	6	6	12	10	10	20	118	118	236
Commercial	0.21	22	22	44	18	18	36	218	218	436
Retail A1	0.7	4	4	8	19	19	38	70	70	140
Retail A3	2.6	24	24	48	28	28	56	197	197	394
Hotel	0.3	11	11	22	9	9	18	84	84	168
Total		**67**	**67**	**134**	**84**	**84**	**168**	**687**	**687**	**1,374**

Impact Assessment

31. The total servicing trips associated with all land uses have been added to the vehicular trips presented in Table 5 (cars, taxis and motorcycles) to understand the quantum of trips generated by the 2019 Indicative Scheme on the local highway network. Although peak servicing activity occurs between 10:00-11:00, the worst-case when considering other vehicular trips occurs during the typical AM Peak (08:00-09:00) which also coincides with the highway network peak.

32. As per the above analysis, the quantum of vehicular trips associated with the 2007 Implemented Scheme (including servicing, cars, taxis and motorcycles) are presented for comparison with the 2019 Indicative Scheme in **Table 11**.

Table 11: Highway Network Impact – Comparison with 2007 Implemented Scheme

Vehicular Trips – Including Servicing	AM Peak (08:00 – 09:00)		
	Arrive	Depart	Total
2019 Indicative Scheme	223	124	347
2007 Implemented Scheme	495	129	624
Net Change	**-272**	**-5**	**-277**

33. As shown in Table 11, the total vehicular trips associated with the 2019 Indicative Scheme are significantly lower than those associated with the 2007 Implemented Scheme.

34. The TA supporting the 2017 North Quay Scheme assumed that 26% of trips would arrive/depart via Upper Bank Street, with 74% of trips arriving/departing via Hertsmere Road. The latest emerging development

proposals suggest that all servicing activity could occur to the west of the site via Hertsmere Road, as per the 2017 North Quay Scheme. The impacts on either the Upper Bank Street/Aspen Way junction or the Hertsmere Road/West India Dock Road junction are therefore likely to be no worse than those previously assessed. This concluded that both junctions would operate within capacity, with the inclusion of background traffic growth, cumulative developments included in the LoHAM model and flows from North Quay.

35. Nonetheless, the same assessment carried out for the 2017 North Quay scheme, as described above and in the Transport Scoping Note, will be carried out to fully assess the impacts of the proposed development on the Upper Bank Street/Aspen Way and Hertsmere Road/West India Dock Road junctions. As noted earlier, the final North Quay scheme assessed will be the variation within the maximum parameters which would generate the greatest quantum of vehicular trips on the local highway network.

Assessment Scenarios

36. Given the above and the flexibility to be provided in massing, use classes, floorspace and unit mix associated with the outline planning application for the Proposed Development, two future with development scenarios will be tested to account for a reasonable worst-case in terms of the trips generated by the Proposed Development across different transport modes:

- **Scenario (a) – 2041 Future Baseline (Do Minimum)** – future baseline including committed developments + 2007 North Quay but excluding the Proposed Development;

- **Scenario (b) – 2041 Future Baseline (Do Something) Maximum Traffic** – future baseline including committed developments + 2007 North Quay and the net change in maximum traffic generating Proposed Development scheme; and

- **Scenario (c) – 2031 Future Baseline (Do Something) Maximum Public Transport** – future baseline including committed developments + 2007 North Quay and the net change in maximum public transport generating Proposed Development scheme.

Appendix A – TfL Transport Scoping Note

To	Transport for London and London Borough of Tower Hamlets	**Technical Note**	
Date	07 November 2019		
Project	North Quay	Project No.	22902510

Transport Scoping Note

Introduction

1. This Scoping Note sets out the suggested approach to assessing the Proposed Development at North Quay as part of the Canary Wharf Estate within the London Borough of Tower Hamlets (LBTH). The approach conforms with Transport for London's (TfL's) new Healthy Streets Transport Assessment (TA) guidance.

2. The TA will address how all areas of the development will be accessed, including provision for car / cycle parking and servicing. The TA will demonstrate means of access to the development for vehicles, public transport passengers, pedestrians and cyclists.

3. A planning application for the North Quay site was submitted to LBTH in 2017 (LPA ref. PA/17/01193) for a mixed-use development. Although withdrawn in December 2017, significant pre-application scoping consultation was carried out with TfL, DLR and LBTH prior to submission. In addition, consultation responses were received from both stakeholders during the planning application determination period. The advice and comments received from TfL, DLR and LBTH have been considered in the development of the latest proposals and transport assessment methodology set out within this scoping note.

Policy Context

4. The TA will have regard to the National Planning Policy Framework (NPPF) (2019). The policies within the NPPF convey the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.

5. In addition, particular reference will be made to the guidance contained within, but not limited to:

   - The Draft London Plan (2019).
   - The London Plan (2016): Spatial Development Strategy for London Consolidated with Alternations.
   - Isle of Dogs and South Poplar Opportunity Area Planning Framework (OAPF) (2019).
   - London Borough of Tower Hamlets Managing Development Document (2013).
   - London Borough of Tower Hamlets Core Strategy (2010).

6. Consideration will also be given to emerging relevant Greater London Authority (GLA) and London Borough of Tower Hamlets (LBTH) planning policy, such as the new Local Plan as well as guidance documents relating to Healthy Streets, accessibility and travel planning.

Baseline Conditions

7. The North Quay site is bounded to the south by North Dock, north by Aspen Way, east by Upper Bank Street and west by Hertsmere Road. It is positioned in a pivotal location where transport nodes intersect and interact. Pedestrian movement to/from residential communities north of Aspen Way currently use the footbridge connecting to Poplar DLR station.

8. The site has a public transport accessibility level (PTAL) of 6a to the east adjacent to Upper Bank Street and 5 across the rest of the site. The PTAL report is provided at **Appendix A**. The opening of the Elizabeth Line will increase the PTAL of the entire site to 6a.

9. There are three DLR stations in close proximity to the site:

- Poplar – within 250m of entire site (< 3-minute walk);
- West India Quays – within 250m of entire site (< 3-minute walk); and
- Canary Wharf Station – within 450m of entire site (< 6-minute walk).

10. Canary Wharf London Underground station is located within 450m of the entire site (< 6-minute walk) and provides access to Jubilee line services running northeast to Stratford and northwest to Stanmore. The Jubilee line Night Tube also runs every 10 minutes on average on Friday and Saturday.

11. The Elizabeth Line station is located immediately adjacent to the site, built within and over the North Dock. The new station is accessible for all users with step-free access and will provide high frequency, high capacity services that connect Reading in the west to Shenfield in the east via central London.

12. There are five frequent daytime bus services which operate close to the site. The closest bus stops (F and H) are located on North Colonnade and Canada Square North respectively, accessible within 500m (< 6-minute walk) of the entire site.

Proposed Development and Planning Strategy

13. The masterplan seeks to re-emphasise and strengthen the desirable pedestrian route from Poplar via the Aspen Way footbridge and public realm at ground (dock side) level to ensure the North Quay site provides both a destination and transitional space linking Canary Wharf and the Isle of Dogs to the wider Poplar area.

14. The development proposals comprise a mix of office, residential and retail uses split between seven buildings. The applicant is currently exploring the feasibility of serviced apartments, student accommodation and hotel uses, and the development design is still progressing. The floor areas and land use mix are therefore subject to change, although a high level of flexibility will be retained.

15. It is anticipated that an outline planning application will be submitted in Spring 2020 which sets out the maximum parameters in terms of land use mix and building heights. An indicative scheme schedule of the development mix and quantum likely to come forward is also being prepared. The current indicative scheme areas and unit numbers are provided in Table 1 against the previous North Quay scheme for comparison.

Table 1: North Quay (Draft) Indicative Scheme Schedule – Comparison with Previous Proposals

Land Use	Indicative Scheme (GEA m^2)	Previous 2017 Scheme (GEA m^2)
Residential	704 units	1,423 units, 216 serviced apartments
Office	135,000	166,662
Retail/Leisure	24,562	25,872
Flexible Use – Student Housing / Hotel / Serviced Apartments	40,040	n/a

Cycle Parking

16. Cycle parking will be provided in accordance with the minimum cycle parking standards set out in the Draft London Plan (July 2019). For office and retail uses, cycle parking will be calculated based on GEA above grade and exclude basement and plant areas.

17. Given that many of the trips to the retail elements of the proposed development are expected to be linked to other uses (i.e. residential or commercial) or those already on the wider Canary Wharf Estate, and that a high percentage of retail floorspace is likely to come forward as A3/A4 food and beverage, a reduction to the short-stay cycle parking requirements associated with the retail units is considered appropriate. We would welcome a discussion with TfL and LBTH to agree a suitable quantum.

Car Parking

18. In accordance with Draft London Plan policy, the development will be car-free with the exception of disabled persons parking which will be provided for 3% of dwellings. Where possible, we will seek to demonstrate how additional disabled persons parking provision could be made should the need arise in the future, however all local public transport is step-free offering a realistic and attractive alternative to car ownership/use.

Previous Consultation

19. In developing the design for the proposed development, the responses from TfL, DLR and LBTH to the previous proposals have been considered. The table provided at **Appendix A** summarises these concerns/considerations and demonstrates how these are addressed within the latest proposals.

Supporting Documents

20. The outline planning application will be supported by the following transport documents which will be prepared in accordance with the latest TfL and LBTH guidance.:

- Healthy Streets Transport Assessment (including Construction Logistics Plan)
- Framework Travel Plan
- Residential Travel Plan
- Delivery and Servicing Plan

Proposed Improvements

Pedestrian Access

21. The emerging layout of the North Quay site is being designed to maximise pedestrian permeability and accessibility through the development, with clear, attractive connections to destinations beyond. The large podiums that had formed part of the previous scheme have been removed bringing the public realm areas down to ground (dock) level.

22. The connections through the site will benefit from active retail frontages at ground level, giving the area an identity and creating a pleasant pedestrian environment. A clear north-south pedestrian route will be provided through the site at ground level, connecting Canary Wharf Elizabeth Line station in the south via the North Dock bridge connection through to the Aspen Way footbridge via stairs and lifts to the north. Pedestrians will also be able to access the Canary Wharf estate via Upper Bank Street.

23. Improvements along North Dock will improve east-west connectivity and also provide an attractive respite location, whilst dedicated walkways and crossing facilities via West India Quay DLR station and across Hertsmere Road will improve permeability.

24. The LBTH and TfL aspirations to have a cycleway adjacent to Aspen Way along the north boundary are being integrated into the proposals and enhancements to the environment/landscaping under Delta Junction as identified in the OAPF are being considered.

25. Pedestrian accessibility to/from Hertsmere Road will also improve with formal crossing points on the site access road and an extension of the public realm to West India Quay DLR station west of the site.

Santander Cycle Hire Docking Station

26. As part of the previous application, TfL requested that consideration was given to the implementation of a new cycle hire docking station as part of the Proposed Development. There is currently a gap in the cycle hire network at this location and careful consideration was given to find a location for a new docking facility which maximises visibility to users, facilitates servicing and restocking of bikes, and which is integrated with the surrounding cycle network.

27. It was agreed in principle with TfL to locate a new 32-point docking station under the Delta Junction. This location provides good visibility for users, integrates with the wider cycle network and Cycle Superhighway and also activates the space under Delta Junction. Options for integrating this facility into the emerging proposals are currently being explored.

Active Travel Zone

28. **Figure 2** presents key destinations within a 20-minute cycle of the site, as set out in TfL's Healthy Streets TA guidance. **Figure 3** includes only those key destinations which are relevant to the Proposed Development and **Table 2** identifies the key destinations and their priority in relation to the proposals. Steer would welcome agreement from TfL and LBTH on the key destinations and routes identified below.

Table 2: Key Destinations

Destination		Priority
Public transport stops	Canary Wharf – Stop F	High
	Canada Square North – Stop H	High
	Canada Square South – Stop J	High
Public transport stations	West India Quay DLR	High
	Poplar DLR	High
	Canary Wharf Station	High
Current and future strategic cycle network	Cycle Superhighway 3	High
	Proposed cycleway between Hackney and Isle of Dogs	Medium
Town centres	Canary Wharf Shopping Centre	Low
Parks	Jubilee Park	Low
Schools/colleges	New City College, Tower Hamlets College	High
	Our Lady & St Joseph Catholic Primary School	High
Hospitals/doctors	Gough Walk Surgery	Low
	Boots Pharmacy	Low
Places of worship	All Saints Church	Low

Figure 1: ATZ Area Plan

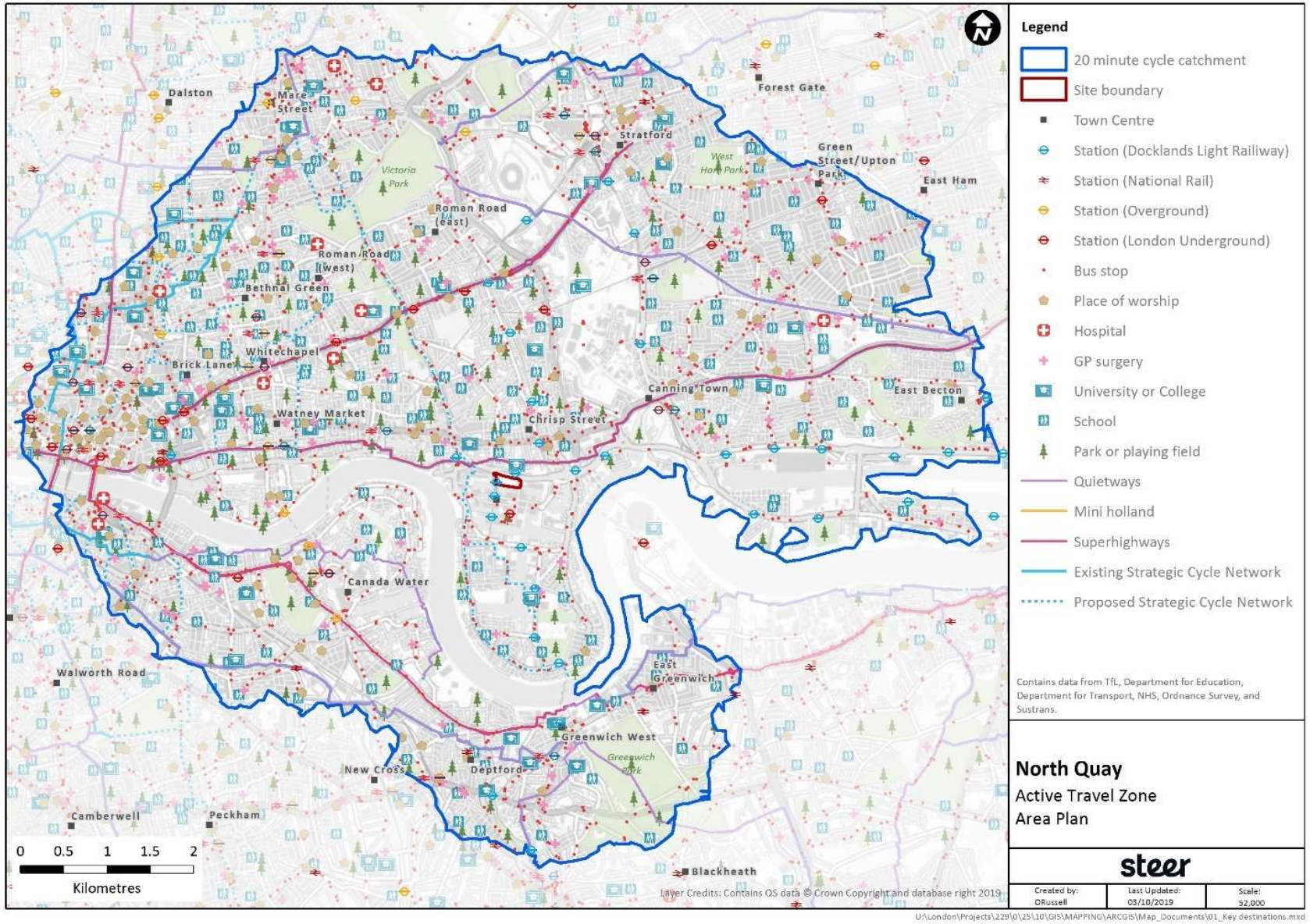
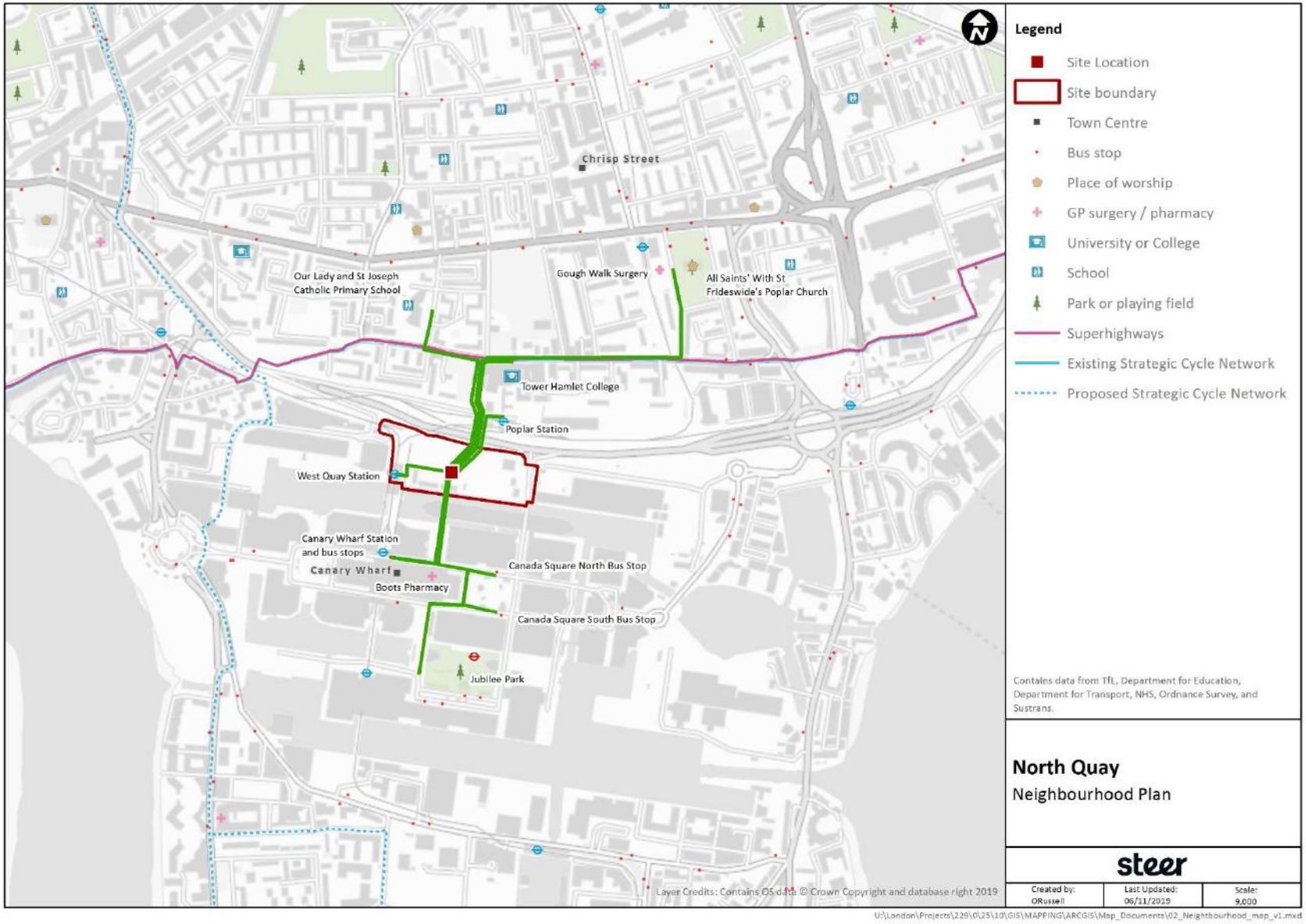


Figure 2: ATZ Neighbourhood Plan



Trip Generation Methodology

29. The trip generation assessment will follow the same methodology as that agreed in principle through pre-application discussions with TfL and LBTH on the previous proposals, albeit recognising that outline planning permission is sought to allow a degree of flexibility in massing and land use mix.

30. Given this flexibility, different scenarios will be used within the trip generation assessment to assess a) an indicative scheme which is likely to come forward; and b) a worst-case scenario with regards to the quantum of trips generated in accordance with the maximum floorspace parameters set out in Table 1. Justification for the scenarios tested to provide a robust assessment will be set out within the TA once the maximum massing and floor area parameters have been fixed.

31. No consideration will be given to the trips associated with any previous land uses or planning consents on the North Quay site.

Residential Trip Generation

32. The forecast average residential person trip rates (per unit) have been derived from TRICS (version 7.6.3). A total of five surveys were obtained using the following search criteria:

- 03 Residential: C – Flats Privately Owned
- Greater London sites
- Exclude town centre locations
- PTAL 5 to 6b

33. The full TRICS outputs can be found at Appendix C of this note.

Table 3: Residential Person Trip Rates per Dwelling

Period	In	Out	Total
AM Peak (08.00 - 09.00)	0.111	0.546	0.657
PM Peak (17.00 - 18.00)	0.295	0.179	0.474
Daily	2.534	2.637	5.171

34. Table 4 specifies the 2011 Census method of travel to work data with the location of usual residence set as Middle Super Output Area (MSOA) Tower Hamlets 033.

35. As the proposed development will be car-free, with the exception of disabled persons parking, car trips have been capped at 3% to reflect the level of parking provision proposed. Adjustments have also been made to London Underground and Train mode shares to account for DLR and the Elizabeth Line as these are not accounted for within the Census data.

Table 4: 2011 Census Method of Travel to Work (Tower Hamlets 033)

Mode	2011 Census	Adjusted
London Underground	48%	19%
DLR		19%
Elizabeth Line		19%
Train	4%	0%
Bus	4%	4%
Taxi	1%	1%
Motorcycle	0%	0%
Car Driver + Passenger	8%	3%
Cycle	2%	2%
Walk	31%	31%
Other (inc. Riverbus)	2%	2%
Total	**100%**	**100%**

Commercial Trip Generation

36. The forecast average office person trip rates (per 100m^2) have been derived from the Canary Wharf Cordon Survey (2017) for people travelling to and from the estate, assessed against average employee densities, as shown in Table 5.

Table 5: Office Person Trip Rates (per 100m^2)

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.00	0.44	3.44
PM Peak (17.00 - 18.00)	0.41	2.33	2.74
Daily	11.02	11.02	22.04

37. The forecast office mode share has been derived from the Canary Wharf Employee Survey (2017) and adjustments have been made to reflect that no general car parking is proposed for office uses. The mode shares presented in Table 6 may also be refined further to take account of the latest Railplan data once available.

Table 6: Forecast Office Mode Split

Mode	Adjusted
London Underground	46%
DLR	21%
Elizabeth Line	19%
Train	0%
Bus	3%
Taxi	1%
Motorcycle	1%
Car Driver + Passenger	0%
Cycle	4%
Walk	4%
Other (inc. Riverbus)	1%
Total	**100%**

Retail Trip Generation

38. The retail trip generation for North Quay will be measured using the same methodology applied to the retail floorspace within Canary Wharf Elizabeth Line Station, with retail trip rates (per 100m^2) extracted from the Isle of Dogs Over Station Development TA.

39. Responses from the Canary Wharf retail survey (2008) have been used to determine that 72% or retail trips on the Canary Wharf estate are linked trips. These will be discounted from the analysis given that they are already on the transport network.

40. The data and methodology proposed to assess retail trip generation at North Quay is considered robust and relevant, as Canary Wharf has unique retail spaces, with employees (120,000 in 2019) working on the estate often shopping on their way to/from work and at lunchtime. This is the reason for the high proportion of linked trips especially during the AM and PM peak hours. This trip linking is not picked up in traditional retail trip rate surveys included in the TRICS database.

Table 7: Retail Person Trip Rates (per 100m^2) – including linked trips

Period	In	Out	Total
AM Peak (08.00 - 09.00)	3.20	1.60	4.80
PM Peak (17.00 - 18.00)	1.70	2.10	3.80
Daily	39.70	36.20	75.90

41. The forecast retail mode share has been calculated based on the 2005 Retail Shopper Survey undertaken when converting Cabot Hall to retail use. This mode split was used for the Wood Wharf TA. Car trips and London Underground trips have been reduced, with Elizabeth Line trips increased accordingly due to the proximity of the site to the new station.

42. The forecast retail mode share is shown in Table 8.

Table 8: Forecast Retail Mode Split

Mode	Adjusted
London Underground	29%
DLR	13%
Elizabeth Line	22%
Train	0%
Bus	8%
Taxi	3%
Motorcycle	0%
Car Driver + Passenger	1%
Cycle	3%
Walk	21%
Other (inc. Riverbus)	0%
Total	**100%**

Servicing Trip Generation

43. Servicing trips rates will be derived from Steer's database which includes rates from similar developments in Canary Wharf and across London. Retail servicing trips rates are based in information provided by Canary Wharf for existing retail areas including Jubilee Place and Crossrail Place. Office servicing trip rates are taken from the observed movements at One Canada Square. The servicing trips rates are as follows:

- Residential – 0.2 daily trips per 100m^2 NIA;
- Office – 0.21 daily trips per 100m^2 NIA;
- Retail A1 – 0.7 daily trips per 100m^2 NIA; and
- Retail A3 – 2.60 daily trips per 100m^2 NIA.

44. In determining the worst-case scenario with regards to the quantum of vehicular trips generated on the local highway network, the high trip rates associated with retail uses will be considered to ensure that a robust assessment is carried out.

Traffic Modelling

45. Outputs from TfL's LoHAM strategic traffic model will be used to assess the highway network in the vicinity of the site, using a 2031 assessment year, at two specific junctions:

- Hertsmere Road / West India Dock Road; and
- Upper Bank Street / Aspen Way.

46. Although the Proposed Development is anticipated to be completed earlier, the use of 2031 LoHAM data provides a worst-case assessment as it covers all future cumulative development schemes up to 2031. The highway impact assessment scenarios considered are as follows:

- Baseline Scenario – 2019 traffic surveys;
- 2031 Baseline Without Development – 2031 LoHAM Traffic Model; and
- 2031 Baseline With Development – 2031 LoHAM Traffic Model + Proposed Development.

47. Manual Classified Counts (MCC) surveys will be carried out to inform the creation of LinSig models for each junction. The 2019 baseline and 2031 future traffic flow scenarios will be tested to assess the impact of the development on the operation of these junctions. This is the same methodology as agreed previously with TfL for the 2017 application.

Pedestrian Movement Assessment

48. As part of the previous planning application for North Quay (LPA ref. PA/17/01193), it was agreed with LBTH and TfL that dynamic microsimulation pedestrian modelling would be carried out using Legion modelling software.

49. The results of this analysis demonstrated that the design would provide a good level of service to pedestrians during the peak hours of a typical weekday. Only the Elizabeth Line footbridge and Upper Bank Street where forecast to experience a level of service C – defined as 'slightly restricted circulation for most pedestrians and significant difficulty for reverse or cross-flows.

50. Although the proposed scheme is different to that proposed in 2017, the key access points/pedestrian routes and therefore the origin-destination matrices are similar. The indicative scheme, even considering the flexibility and maximum parameters provided in Table 1, is similar to that proposed in 2017 (apart from residential units which have decreased) and more space is provided to pedestrians within the public realm. Given that no issues were identified previously, we do not therefore propose to rerun the Legion modelling.

51. The TA will consider critical points such as the footbridge to the Elizabeth line station, Aspen Way footbridge and Upper Bank Street to demonstrate that pedestrian throughflow associated with the proposed development will be reduced from that assessed in 2017, resulting in improved level of service for pedestrians.

Public Transport Assessment

52. The proposed public transport assessment methodology is the same as that previously agreed with TfL for the 2017 North Quay application.

53. The outputs from Railplan will be used to assess the impact of the proposed development on London Underground, Elizabeth Line and DLR services. The data also includes assumptions about the level of cumulative development that will come forward to 2031 in accordance with TfL's LTS model.

54. The Canary Wharf Employee Travel Survey (2017) will be used to derive the distribution of North Quay trips on London Underground and DLR services, whilst assumptions built into the Railplan model will be used to assign North Quay trips on Elizabeth Line services. The impact of additional North Quay demand on all three services will be assessed against current and future passenger capacity to consider the future operation of these services.

55. Bus trip generation by service and direction will be set out in the TA for each of the AM and PM peak hours. The results in relation to additional passengers per bus will assessed against existing bus capacity.

Design Considerations

56. LBH, TfL and Greater London Authority guidance and policy will be considered in designing the Proposed Development. The streets will be designed to accord with Manual for Streets where relevant and in consideration of the ten Healthy Street indicators.

57. Therefore, these design considerations principally include:

- Accessible parking will be provided for 3% of all dwellings. The feasibility of providing accessible parking for an additional 7% of all dwellings will be considered as part of the TA.
- 20% of all residential parking bays will have active electric vehicle charging points (EVCPs).
- 20% of all residential parking bays will have passive EVCPs.
- Cycle parking will be provided in accordance with the Draft London Plan (2019) standards and London Cycling Design Standards.
- The design of the refuse stores and broader refuse strategy will be developed through discussions with LBTH.

Next Steps

58. The targeted planning submission is Spring 2020 and further discussion with TfL and LBTH on this Scoping Note is welcomed whilst Steer commence assessments.

59. In summary, Steer would like and seek agreement on:

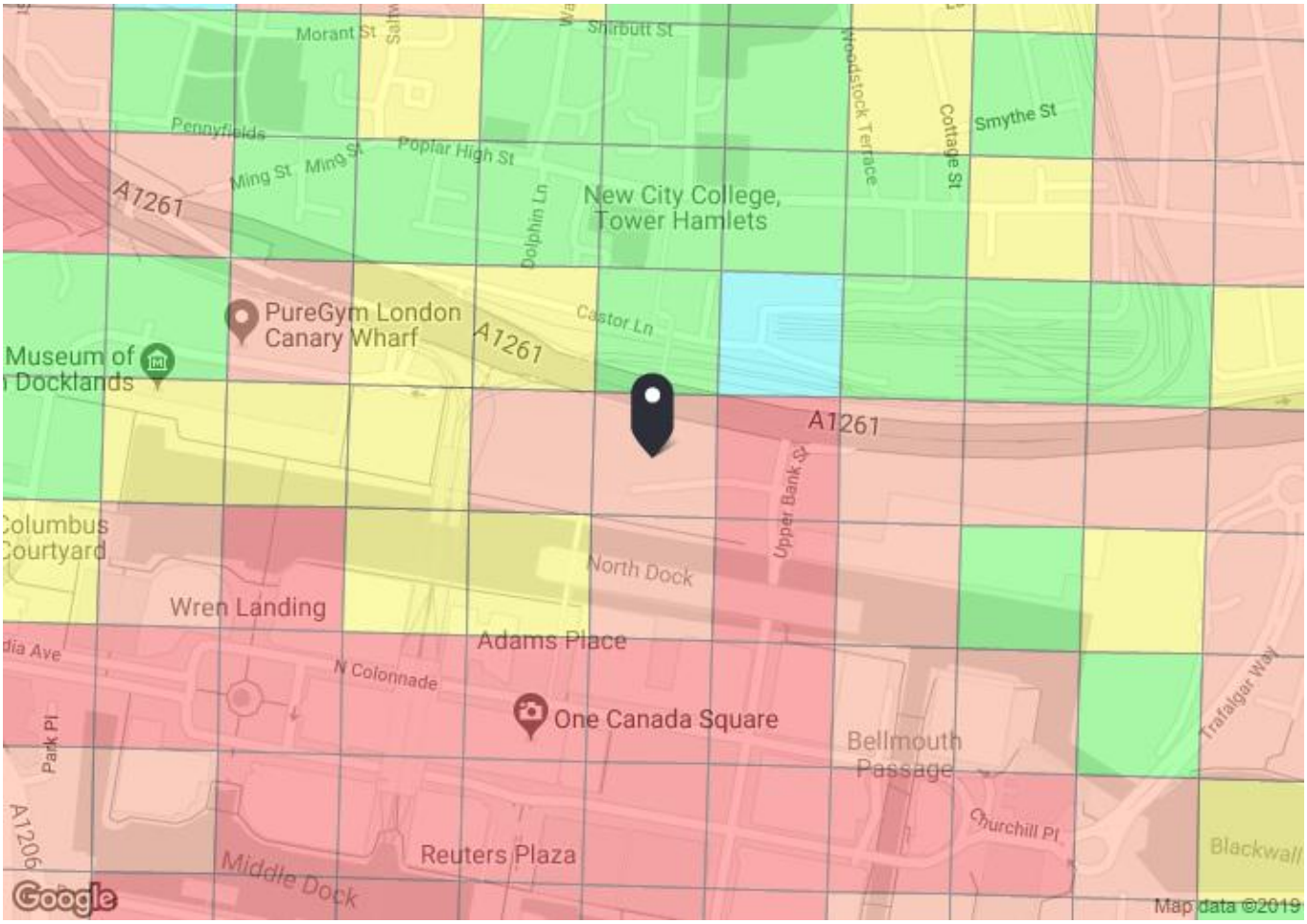
- The ATZ destinations and routing.
- The proposed trip generation methodology including trip rates and mode shares.
- The proposed highway, public transport and pedestrian modelling methodologies, including the use of specific outputs from LoHAM and Railplan.
- Reduction in retail short-stay cycle parking.
- Flexibility in provision of further 7% accessible parking given the excellent PTAL and step-free access, as well as the desire to reduce car trips as set out in the Mayor's Transport Strategy.

60. At the pre-application meeting, we would also like to discuss the options for enhancements under Delta Junction in light of the OAPF aspirations and DLR asset protection requirements.

Appendix A

PTAL Report

TRANSPORT FOR LONDON



PTAL output for Base Year
5

Poplar, Poplar, London E14 0AF, UK
Easting: 537646, Northing: 180539

Grid Cell: 80889

Report generated: 06/11/2019

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Canada Square Canary Whf	D7	410.03	9	5.13	5.33	10.46	2.87	0.5	1.43
Bus	Canada Square Canary Whf	135	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	D8	410.03	5	5.13	8	13.13	2.29	0.5	1.14
Bus	Canada Square Canary Whf	D3	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	277	410.03	9	5.13	5.33	10.46	2.87	1	2.87
LUL	Poplar	'WWARSL-BANK'	250.48	7.5	3.13	4.75	7.88	3.81	1	3.81
LUL	Poplar	'BECKTON-TWRGWAY'	250.48	7.5	3.13	4.75	7.88	3.81	0.5	1.9
LUL	Poplar	'STRATF-LEWISHAM'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Poplar	'CNRYWH-STRATF'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Canary Wharf	'LEWISHAM-BANK'	503.47	15	6.29	2.75	9.04	3.32	0.5	1.66
LUL	Canary Wharf	'WembleyPark-Stratfo'	503.47	3.67	6.29	8.92	15.22	1.97	0.5	0.99
LUL	Canary Wharf	'Stratford-Willesden'	503.47	4.33	6.29	7.68	13.97	2.15	0.5	1.07
LUL	Canary Wharf	'Stanmore-Stratford'	503.47	17.65	6.29	2.45	8.74	3.43	0.5	1.72
									Total Grid Cell AI:	**22.11**

Appendix B

TfL, DLR and LBTH Concerns/Considerations from Previous Proposals

Table 9: Proposed Design Responses to Previous TfL, DLR and LBTH Comments

Topic	Author	Comments on Previous Proposals	Considerations in Latest Proposals
Car Parking	TfL & LBTH	The residential car parking ratio of 0.02 spaces per unit is not supported. The site should be 'car free' save for blue badge parking	The current proposals are for car free development, albeit providing 3% disabled persons parking for residents in accordance with Draft London Plan standards.
	TfL & LBTH	One accessible car parking space per designated wheelchair accessible unit should be provided to bring the proposal in line with London Plan Housing SPG standard	As per comment above. The TA will consider how up to an additional 7% disabled persons parking for residents could be provided should the demand arise.
	LBTH	All new occupiers of residential units should be prohibited from obtaining on-street parking permits.	Agreed. To be secured via condition/S106.
Cycle Parking	TfL	Provision for users of larger cycles should be considered.	5% of total long stay cycle parking provision will be provide as Sheffield stands in accordance with TfL requirements.
	LBTH	Long-stay cycle parking should be comprised of Sheffield stands as these offer the most inclusive form of cycle parking	See above. The remaining long stay cycle parking will be provided as two-tier racks to maximise the efficiency of basement areas.
Cycle Access	TfL & LBTH	Cycle movements on Hertsmere Road (used for servicing) and Upper Bank St (which represents a hostile environment for cycling) should be reconsidered.	In comparison to the previous proposals, vehicular activity will be significantly reduced on Hertsmere Road. Nonetheless, public realm improvements, a dedicated cycle lane on the southern footway of Aspen Way and crossings on Hertsmere Road will be provided to improve the cycling amenity and connectivity.
	TfL	It is recommended that residential lifts are not used to access cycle parking.	The emerging masterplan incorporates dedicated cycle ramps to basement areas, access to the north via the proposed cycle link adjacent to Aspen Way.
Impact Assessment	TfL	A true worst-case scenario should be represented in the trip generation. Utilising a max retail scenario and then discounting a large % of trips should be replaced with a max office scenario	As discussed within this note, a true worst-case assessment will be carried out and fully justified within the TA. This will also consider the servicing trips associated retail uses to ensure the highway impacts are fully considered.
	TfL	An impact assessment on the South and North DLR corridors should be included.	This will be considered as part of the TA and in light of the latest DLR distributions from the 2017 Canary Wharf Employee Survey. The dominant rail distribution across all lines is via the Western and Eastern rail corridors which will continue to form the basis of the overall assessment.

DLR infrastructure protection	TfL	Any development should not infringe on TfL assets, including DLR infrastructure protection zones	A constraints plan of TfL and DLR assets has been developed following consultation on the previous proposals. These have been considered throughout the development design process.
Interface with Aspen Way	TfL	Sharing the southern footway of Aspen Way between pedestrians and cyclists was not supported in its current form. No buffering between pedestrians, cyclists and vehicles is provided.	Noted. Emerging proposals will ensure that a buffer is provided between pedestrians, cyclists and vehicles.
Integration with Hertsmere Road, West India Quay and DLR Delta Junction	TfL	More integration is needed on Delta junction, the separation of pedestrians and vehicles and treatment of routes prioritises vehicles.	The LBTH and TfL aspirations to have a cycleway adjacent to Aspen Way along the north boundary are being integrated into the proposals and enhancements to the environment/landscaping under Delta Junction as identified in the OAPF are being considered.
	TfL	Hertsmere Road should not be treated as a minor route into the site, movements along this road generated by the development will have an impact on the character of the rest of the corridor and should be dealt with appropriately.	Previous proposals showed all servicing vehicles (14 loading bays) and all general traffic (accessing 68 parking spaces) entering North Quay via Hertsmere Road. Vehicle movements on this link will be significantly reduced in the latest scheme, with around half of all servicing vehicles (accessing 8 loading bays) and access to circa 24 disabled parking spaces provided via this route.
Access to the dock edge and Billingsgate	TfL	More details about the dockside walkway should be provided to ensure passive provision for continuing the route into Billingsgate.	The latest proposals bring the development down to ground (dock) level which will allow pedestrian routes between North Quay and the future Billingsgate development to be better integrated along the dock edge and also Upper Bank Street and Aspen Way.

Appendix C

TRICS Output Reports

Calculation Reference: AUDIT-720101-191030-1049

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON		
	IS	ISLINGTON	1 days
	KI	KINGSTON	1 days
	KN	KENSINGTON AND CHELSEA	2 days
	SK	SOUTHWARK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 53 to 294 (units:)
Range Selected by User: 50 to 493 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 21/06/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	2 days
100,001 or More	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
500,001 or More	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

5 Very Good	2 days
6a Excellent	2 days
6b (High) Excellent	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	IS-03-C-07	Site area:	0.21 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	185
Location:	ISLINGTON	Housing density:	1423
Postcode:	EC1V 1AD	Total Bedrooms:	292
Main Location Type:	Edge of Town Centre	Survey Date:	06/06/19
Sub-Location Type:	Development Zone	Survey Day:	Thursday
PTAL:	5 Very Good	Parking Spaces:	86
Site(2):	KI-03-C-02	Site area:	0.72 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	132
Location:	KINGSTON UPON THAMES	Housing density:	455
Postcode:	KT2 5AQ	Total Bedrooms:	232
Main Location Type:	Edge of Town Centre	Survey Date:	14/06/10
Sub-Location Type:	No Sub Category	Survey Day:	Monday
PTAL:	6a Excellent	Parking Spaces:	149
Site(3):	KN-03-C-02	Site area:	0.71 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	294
Location:	SOUTH KENSINGTON	Housing density:	588
Postcode:	W14 8TR	Total Bedrooms:	609
Main Location Type:	Edge of Town Centre	Survey Date:	15/06/10
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	6a Excellent	Parking Spaces:	290
Site(4):	KN-03-C-03	Site area:	0.56 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	72
Location:	KENSINGTON	Housing density:	180
Postcode:	W8 6UT	Total Bedrooms:	252
Main Location Type:	Edge of Town Centre	Survey Date:	11/05/12
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	5 Very Good	Parking Spaces:	60
Site(5):	SK-03-C-01	Site area:	0.20 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	53
Location:	SOUTHWARK	Housing density:	589
Postcode:	SE1 9ES	Total Bedrooms:	88
Main Location Type:	Edge of Town Centre	Survey Date:	19/09/14
Sub-Location Type:	Built-Up Zone	Survey Day:	Friday
PTAL:	6b (High) Excellent	Parking Spaces:	59

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	147	0.043	5	147	0.208	5	147	0.251
08:00 - 09:00	5	147	0.111	5	147	0.546	5	147	0.657
09:00 - 10:00	5	147	0.124	5	147	0.223	5	147	0.347
10:00 - 11:00	5	147	0.086	5	147	0.175	5	147	0.261
11:00 - 12:00	5	147	0.125	5	147	0.117	5	147	0.242
12:00 - 13:00	5	147	0.174	5	147	0.163	5	147	0.337
13:00 - 14:00	5	147	0.167	5	147	0.154	5	147	0.321
14:00 - 15:00	5	147	0.151	5	147	0.167	5	147	0.318
15:00 - 16:00	5	147	0.236	5	147	0.148	5	147	0.384
16:00 - 17:00	5	147	0.223	5	147	0.168	5	147	0.391
17:00 - 18:00	5	147	0.295	5	147	0.179	5	147	0.474
18:00 - 19:00	5	147	0.363	5	147	0.160	5	147	0.523
19:00 - 20:00	2	240	0.269	2	240	0.127	2	240	0.396
20:00 - 21:00	2	240	0.167	2	240	0.102	2	240	0.269
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.534			2.637			5.171

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Appendix 4 - Pre-Application Feedback

Transport for London

Victoria Rees
Steer

Via email only

Transport for London
City Planning

5 Endeavour Square
Westfield Avenue
Stratford
London E20 1JN

Phone 020 7222 5600
www.tfl.gov.uk

11 November 2019

Dear Victoria,

RE: North Quay, LB Tower Hamlets

Thank you for taking part in formal pre-application discussions with TfL, the aim of which is to ensure that this development is successful in transport terms and in line with relevant London Plan policies.

This letter concerns the pre-application meeting that took place on 13 November 2019 in relation to development proposals at the above site. The following advice is based on the views of Transport for London (TfL) officers on a 'without prejudice' basis only. You should not interpret them as indicating any subsequent Mayoral decision on any planning application based on the proposed scheme.

The meeting took place at Endeavour Square Stratford, and was attended by the following:

TfL
Clare Seiler - Spatial Planning (case officer)
Marcus Adams – Growth Area Lead
Amanda Cadwell – Strategic Analysis
Thomas Stone - Public Transport Service Planning (LU)
Katerina Spitieri - Investment Delivery Planning
Mark Pulley – Investment Delivery Planning
John Nicholas – Investment Delivery Planning
David Molyneux – DLR
Stephen Jones - DLR
Elena Rys – Cycle Hire
Michal Miklasz – Network Performance Modelling Liaison Manager

Applicant
Victoria Rees – Steer
Jack Williams – Steer
Emma Dandy – Canary Wharf

Sean Bashforth – Quod
Jason Syrett – Allies and Morrison

Tower Hamlets Council:
Jack Ettinger – Team Leader Highways Development

Apologies: Hayley Oberlander - Public Transport Service Planning (DLR)

A Transport Scoping Note dated 7 November 2019 was submitted in advance of the meeting and formed the basis of discussions. A further note covering trip generation and approach to strategic analysis was submitted on 26 November 2019 and this is also discussed in this advice letter.

Policy update

The draft London Plan (dLP) was subject to examination in public between January and May 2019. The panel report on the plan was issued on the 8th October 2019. Although the plan is not yet published, based on the panel recommendations, TfL does not expect the majority of strategic transport policies, including Healthy Streets, to be materially different. TfL therefore expects that they should be given considerable weight in determining these proposals.

The Isle of Dogs and South Poplar Opportunity Area Planning Framework has now been adopted. This provides strategic planning guidance with a vision for comprehensive social, environmental and economic change in the area. The OAPF seeks to address the issues around local connectivity and severance in the OA, including improving north – south movement for which this site plays a crucial role.

Site and context

The North Quay site is bound to the north Aspen Way (A1261), the east by Upper Bank Street (and Billingsgate Market), the south by North Quay and the west by the DLR Delta junction and DLR west India Quay station. Hertsmere Road provides highway access from the west of the site.

The entrance to West India Quay DLR station is within the red line boundary and is served by the Bank, Lewisham, Stratford and Tower Gateway lines. Poplar DLR station is just to the north of Aspen Way can be accessed via the DLR Aspen Way Footbridge and is served by the Bank, Lewisham, Stratford, and Tower Gateway lines.

Five bus routes can be accessed at North Colonnade within the Canary Wharf estate just to the south of site.

The site currently records a public transport access level (PTAL) of 5, on a scale of 0 to 6b, where 6 is highest. When services commence from Canary Wharf Elizabeth line station just to the south of the site, the PTAL will increase to 6a.

Aspen Way (A1261) forms part of the Transport for London Road Network (TLRN). Cycle Superhighway 3 runs east west along Poplar High Street approximately 200m north of the site. TfL is also planning a new cycleway between hackney and the Isle of Dogs at West India Dock, with a link directly into Hertsmere Road. The scheme is also served by the Mayor's cycle hire scheme with the closest docking station being at Fisherman's Walk West (35 docking points).

It should be noted that Aspen Way forms part of the RMS Design Build Finance Operate (DBFO) scheme and as such there are particular requirements and restrictions to be taken account of here, more detail is provided later in this letter.

Indicative development proposals

An outline planning application is being prepared for submission in Spring 2020. It is understood that several development options for seven buildings are being explored across land uses and that the outline application will be seeking a high level of flexibility within maximum parameters in terms of land use mix and building heights.

Indicative scheme areas are provided below:

704 residential units
135,000 sqm office
24,562 sqm retail/leisure
40,040 sqm flexible use (student housing/hotel/serviced apartments)

It is noted that there is a 2007 planning consent on the site that was lawfully implemented in 2016. This is described as the '2007 North Quay consent' in this letter and comprises:

372,660 sqm office
5,324 sqm retail
241 car parking spaces, 215 motorcycle spaces and 285 cycle spaces.

An application for the redevelopment of the North Quay site was also submitted in 2017, but subsequently withdrawn. TfL provided detailed comments on the application and much of this advice still stands. It is noted that the TA scoping notes seeks to address some of the comments made in 2017. The proposals broadly comprised:

Up to 1,423 residential units
Up to 158,586 sqm office
Up to 25, 213 sqm retail
Up to 2,391 sqm cultural / leisure

Transport Assessment

The application should be supported by a full Healthy Streets transport assessment (TA). As part of TfL's ongoing work embedding Healthy Streets in London's planning system, new guidance and resources for planning applicants has been provided at the TfL website, including Vision Zero and Road Safety Audit recommendations, a new Healthy Street TA template and advice on how Healthy Street tools and guidance documents should apply to planning applications and policy. Applicants and others involved in planning in London should check the TfL website for the latest updates.

Policy objectives set out in the 2018 Mayor's Transport Strategy and OAPF, include but are not limited to: a strategic sustainable travel mode share of 80% (95% in Inner London) South Poplar and Isle of Dogs), delivering Healthy Streets, reducing car dominance, improving walking and cycle connectivity and increasing active travel and improving road safety. The Isle of Dogs and South Poplar OA target for sustainable travel is 90%.

Car parking

The scoping note sets out that the development will be car free with the exception of disabled persons parking which will be provided for 3% of dwellings. We discussed the draft London Plan policy T6.1 requirement for applicants to identify space for a further 7% of dwellings in the future, should the demand arise. In this instance the scheme is otherwise car – free, which is supported, therefore the only feasible alternative would be conversion of on-street parking bays. Given the severe constraints of the site and advice from LBTH, this is unlikely to be an option. It will therefore be necessary provide the full amount of disabled persons parking from the outset (i.e. approximately 70 spaces) or accept that on balance that the passive provision will not be possible. This would be reliant on high-quality, inclusive access routes being provided from the site to accessible public transport. It is noted that all public transport on the Isle of Dogs is step-free, including forthcoming Elizabeth line. This is a matter that TfL would like to discuss further with the applicant and Council prior to submission.

In relation to the non-residential floorspace, draft London Plan policy T6.5 applies here and again any deviations will need to be justified.

All disabled persons parking provided on site should be allocated for Blue Badge holders only from the outset. A parking design and management plan (PDMP) should set out how access to these spaces will be managed alongside provision of electric vehicle charging points. A permit free obligation will need to be attached to any permission.

Cycle parking

Long stay cycle parking meeting the minimum standards in the draft London Plan policy T5 for all land uses is proposed.

We discussed your request for a reduced level of short stay cycle parking for the retail floorspace on the basis that you consider a high percentage of trips are likely to be linked to other uses with on site on the Canary Wharf Estate. You also mentioned that providing the full complement of short stay cycle parking could have detrimental impacts on the public realm.

TfL's position is that the draft London Plan standards should be met in all but exceptional circumstances. To inform this discussion TfL will require further evidence that the retail units will just serve the immediate locality or if they will in fact have wider appeal, noting that Canary Wharf is designated as a Metropolitan Centre in the draft London Plan. Furthermore, TfL's cycling database identifies this part of Tower Hamlets as needing significantly more on-street cycling parking to meet current and future demand. On this basis TfL would be reluctant to accept any lower provision as this development should be supporting growth in active travel in LBTH and beyond, allowing people to take advantage of existing and planned strategic cycling routes in the area. The development should not exacerbate the existing shortage of on-street cycle parking in the area.

Full details of all cycle parking including reference to the London Cycle Design Standards (LCDS) should be secured by condition attached to any permission.

Highways and vehicle access

As mentioned above, the A1261 Aspen Way forms part of the TLRN, part of the wider A13 Thames Gateway Design, Build, Finance and Operate (DBFO) concession. The DBFO begins at Butcher Row and finishes at Wennington Interchange and a further section including Aspen Way (A1261), Limehouse Link Tunnel and East India Dock Tunnel (known as the Docklands Roads). The contract is let to Road Management Services (RMS).

As such, any changes to Aspen Way and the junction with Upper Bank Street will need to be reviewed and agreed by RMS, this consultation is undertaken via TfL's A13 DBFO team. It is understood that the applicant is aware of the

various obligations and contractual arrangements involved at this location through discussions on the 2017 application.

It is proposed that vehicular access to the site would be via Hertsmere Road to the west and Upper Bank Street to the east of the site. Subject to detailed design and the necessary highway modelling and safety audits, this is acceptable in principle and it is welcomed that these locations will form part of the highway assessment.

The emerging landscape plans and scoping note highlight the key interface of the site with Aspen Way along its northern boundary. This will form an important part of improving connectivity at this location. The emerging plans should be discussed in more detail with TfL as they are developed to ensure that they are deliverable in highway terms and achieve the wider objectives of the OAPF.

An outline construction logistics plan (CLP) prepared in accordance with TfL's guidance will be needed in support of the application. As part of this it would be useful to understand construction impacts on Aspen Way / Upper Bank Street and early engagement on this element of the scheme would be useful.

Strategic analysis

At the meeting we discussed whether TfL would require any strategic transport modelling to be undertaken in support of the application. Noting that although developments are assessed on a case by case basis, TfL uses the following development thresholds as a guide for determining when strategic modelling may be required: 1000 residential units or 10,000sqm of any other land use.

We established that the latest version of LTS (v7.2) does include the 2007 North Quay consent and that the development schedule inputted into LTS v7.2 matches the planning permission development description.

It has also been confirmed that LTS v7.2 assumes completed build out of the 2007 North Quay consent by 2026; therefore all trips are represented in the 2031 and 2041 strategic models.

The TA scoping note proposes that given the current development proposals would generate a reduction in both public transport and vehicle trips compared with the 2007 North Quay consent, that no additional strategic modelling or capacity analysis is necessary. This approach is not usually acceptable but, taking into account various factors, including the implemented 2007 North Quay consent and its inclusion in the latest LTS, full strategic modelling is not required and the below approach would be acceptable on the following basis.

We recognise that the 2007 consent has been lawfully implemented; however the scheme has not been built out and therefore does not reflect the conditions

on-site today. It is understood that the 2007 consent and notional transport impacts will be a factor in determining the application, however, we need to understand what the actual impact of the scheme will be starting from a baseline of zero, rather than a comparison with the 2007 consent. i.e. the impact of the 2019 development compared with no North Quay development at all.

Therefore, the 2019 scheme development trips should be assessed against an empty site as a baseline and against the 2007 North Quay consent as a benchmark or 'fall back' position.

To do this, we ask that you present three scenarios in the TA:

> Scenario 1: 2031 Reference Case (RC) including 2007 North Quay
>
> Scenario 1A: 2031 RC excluding 2007 North Quay
>
> Scenario 2: 2031 RC excluding 2007 North Quay and including 2019 North Quay, i.e. scenario 1A plus 2019 North Quay

Then for each of these, the maximum traffic and maximum public transport scenarios (based on different land use mixes) will need to be assessed.

To do the above analysis, we have discussed the below approach:

1. Complete a first principles approach to trip generation for both the 2007 North Quay consent and the proposed scheme to determine the net difference.
2. Use the LTS trip end model to understand what mode share / trips / distribution has been assumed for the 2007 North Quay consent – mainly to demonstrate that the first principles approach is robust.
3. Purchase the Railplan and HAM data (which will include 2007 North Quay consent) for the stations and junctions close to the site and complete two sensitivity tests by removing the 2007 NQ trips from the future baseline (either using LTS or first principles trip generation) for one test and then adding in proposed scheme trips for the other – we can then assess the impact of the proposed scheme in isolation.

The above approach would be acceptable to TfL. Noting that we will require the results of part three (impact of the scheme in isolation) to form part of the TA, not just for EIA purposes. It is noted that you are continuing dialogue with TfL's Strategic Analysis team regarding the above and this is supported.

Trip generation

Residential units
Trip rates for the residential units have been derived using TRICS survey data; this is acceptable. 2011 Census data has been used for mode share and manually adjusted to reflect very low level of parking (blue badge only) and the proximity of existing DLR and planned Elizabeth line services which are not reflected in census data. The scoping note states that the Middle Super Output Area Tower Hamlets 033 was used for this purpose. TfL requests that a map of this area and some accompanying justification for this being an appropriate sample is provided.

Office floorspace
The trip rates and mode share for the proposed office element have been derived from 2017 surveys on the Canary Wharf Estate, this is an acceptable approach.

Retail floorspace (23,529 sqm GEA)
The same trip rates as agreed for the Canary Wharf Elizabeth line over station development will be used; this is acceptable. However, TfL requests that the level of linked trips is reduced significantly from 72% to reflect the proximity to South Poplar and recent Metropolitan Centre designation. The 72% is derived from data collected in 2008, where available more recent data could be used to justify a proportion of linked trips to the retail floorspace.

The mode share for the retail floorspace is based on data collected in 2005 and although it appears reasonable TfL also requests that other more recent data sources are interrogated to confirm the split is still appropriate.

TfL should be consulted on the approach to the flexible floorspace as it is developed. Student accommodation will need to be discussed in relation to expected study destinations and / or a nomination agreement.

Public transport impact assessment

Based on the indicative trip generation for the standalone 2019 proposals when compared against a baseline of zero, there is scope for the development to have significant impacts on the transport network.

Once the outputs of the strategic analysis have been provided (as outlined on the previous page), TfL's public transport service planning team will review these and identify if there is a need for any further detailed assessment of specific stations. A station capacity assessment of West India Quay Station may be required alongside analysis of the impact of the development trips on the gate line and escalators at Canary Wharf Jubilee line station and the relative increase in trips on Jubilee services. .

The additional bus trips predicted to be generated by the proposals will also be assessed to determine if mitigation is required.

DLR Infrastructure Protection

West India Quay DLR station is located within the red line boundary, as is the DLR viaduct to the north of the station known as the Delta junction. The material provided for the application identifies the DLR tracks, viaducts and airspace protection zone and it is welcomed that these outline the key elements of DLR infrastructure protection requirements.

The high-level commitment set out to improve and activate the space under and around the DLR viaducts is welcomed and would support the creation of enhanced public realm and connections. Very little detail has been provided on this area and TfL would welcome further discussion on this element of proposals as they are developed. The detailed requirements in terms of infrastructure protection and associated planning conditions as set out in TfL's response to the 2017 application still apply.

Connectivity

The site is in a strategic location between South Poplar, Canary Wharf and the Billingsgate market site. The proposed redevelopment of the site offers a significant opportunity to contribute to improved connectivity and place making in the area, supporting key objectives in the Isle of Dogs and South Poplar Local Connections Strategy: delivering a seamless connection between Poplar High Street and North Quay and better integrating Poplar DLR with the area to the south of Aspen Way and improving connections to the Elizabeth line at Canary Wharf.

Therefore, it is critical that redevelopment of the North Quay site provides high quality pedestrian connections and opens up the area in line with the Healthy Streets approach set out in the MTS and DLP. It is welcomed that the emerging proposals presented at the meeting show a site layout that allows for through movements and that the podium arrangement proposed in the 2017 application has been removed. The TA should include an assessment of the level of service for future pedestrian and cyclist demand, to demonstrate how the site will fulfil its function and the site provides high quality links to surrounding destinations which support pedestrian and cyclist demand.

TfL would welcome the opportunity to review and discuss more detailed proposals for pedestrian and cycle movements as they are developed, particularly looking at how the local connections aims will be supported and how the site supports strategic cycle routes with links to CS3, CR5 and in the future to the Billingsgate Market site and beyond.

Active Travel Zone Assessment and Healthy Streets

Table 2 of the TA scoping note suggests several key destinations to be covered the Active Travel Zone (ATZ) Assessment. Having considered the development proposals further since the meeting, TfL agrees that the scope is acceptable, noting that LBTH should also agree the scope. This should be undertaken in accordance with TfL guidance and the TA should include recommendations on how key walking and cycling routes could be improved using the Healthy Streets approach.

It should also include instances of KSI's (killed or seriously injured) that have taken place on routes to key destinations. For any clusters (one or more killed, two or more seriously injured), changes must be suggested that would make these routes safer using the Healthy Streets approach. The TA should not try to explain the circumstances and causes of individual KSIs. Instead, measures to improve pedestrian safety and reduce vehicle dominance should be presented in line with draft London Plan policy T2.

Tower Hamlets Council should consider how any necessary improvements can be delivered; either through works in kind, section 106 contributions or borough CIL.

Cycle Hire

We discussed options for increasing cycle hire capacity to support the additional demand that would be created by these proposals. The 2017 application included land for a new docking station in the public realm proposals at the Delta junction. This was acceptable in principle subject to details being agreed and this continues to be the case. TfL will review existing peaks in demand in Canary Wharf which we already know is very peaked. This will inform what is required as part of this application; potentially a 32-point docking station with options to expand would be sufficient. Detailed arrangements for servicing the docking station and interaction with DLR access and maintenance requirements need to be agreed. The planned location should also link conveniently to the existing and planned cycle routes.

Agent of change

We discussed and noted the location of the site directly adjacent to Aspen Way and the DLR and the need to mitigate the noise generated by this transport infrastructure, particularly on the residential units in accordance with draft London Plan policy D12.

Mayoral CIL

In accordance with draft London Plan policy T9, MCIL2 was introduced in April 2019. Specific rates apply to office, retail and hotel uses on the Isle of Dogs, while a rate of £60 per sqm is charged for other qualifying development. The applicant should ensure they are aware of the regulations.

To summarise, there are several matters that need to be progressed in support of the application. These include but are not limited to:

- Strategic analysis in accordance with the approach set out.
- Subsequent public transport impact assessment
- ATZ assessment
- Development of plans for improved public realm and connectivity, and the interface with and protection of TfL assets
- Further details of the highway proposals.

TfL would welcome further discussion in the lead up to submission of an application to inform the development of the TA and other supporting documents.

Yours sincerely

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Copy to: All attendees, Piotr Lanoszka LBTH and Hermine Sanson GLA Planning

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24 March 2020

Dear Victoria,

RE: North Quay, LB Tower Hamlets

Thank you for taking part in formal pre-application discussions with TfL, the aim of which is to ensure that this development is successful in transport terms and in line with relevant London Plan policies.

This letter concerns the follow-up pre-application meeting that took place on 4 March 2020 in relation to development proposals at the above site. The following advice is based on the views of Transport for London (TfL) officers on a 'without prejudice' basis only. You should not interpret them as indicating any subsequent Mayoral decision on any planning application based on the proposed scheme.

The meeting took place at 5 Endeavour Square, Stratford, and was attended by the following:

TfL
Clare Seiler - Spatial Planning (case officer)
Marcus Adams – Growth Area Lead
Mark Pully – Investment Delivery Planning
Richard Dowdell – Investment Delivery Planning
David Molyneux – DLR
Stephen Jones – DLR
Sheeba Shetty – Urban Design

Applicant
Victoria Rees – Steer
Emma Dandy – Canary Wharf
Matthew Sherwood – Quod
Jason Syrett – Allies and Morrison

Apologies: Jack Ettinger – LBTH Team Leader Highways Development

In advance of the meeting you supplied the following agenda and a slide pack around which the meeting was based and each item is covered in turn in this advice letter.

1. Introductions
2. Overview of the latest scheme proposals, including wider walk and cycle connections
3. Delta Junction proposals
4. Development interface with Aspen Way, the proposed cycle link and changes to Upper Bank Street junction
5. Aspen Way footbridge proposals
6. DLR infrastructure protection and crane access
7. Retail 'linked' trip discussion
8. Short-stay cycle parking requirements and public realm impact
9. Proposed servicing strategy and management

Overview of latest scheme proposals

Submission of an outline planning application is planned for summer 2020. This will include development specifications, parameter plans and design guidelines. Vehicle access will be from Hertsmere Road to the site wide basement. At-grade drop-off and pedestrian and cycle routes will be provided through the central square. North – south connectivity through the site linking South Poplar via the Aspen Way DLR footbridge and Canary Wharf Elizabeth line station is also proposed, including changes to the footbridge. Noting that the footbridge sits outside the application boundary. Future connections to the Billingsgate Market site to the east are also proposed.

Landscaping, playspace and planting are proposed for the area under the Delta Junction, linking to Hertsmere Road. On the Aspen Way frontage, as green edge is proposed and widening of the footpath, aiming to deliver a more positive pedestrian environment.

Highway proposals for Upper Bank Street include reducing the northbound carriageway from three lanes to two and the introduction of a new pedestrian and cycle crossing, similar that included in the 2017 proposals. On Aspen Way, a widened footpath to cater for both pedestrian and cycle movements along with greening is proposed.

The site is within the Isle of Dogs and South Poplar Opportunity Area (OA) and the associated Planning Framework was adopted in October 2019. This provides strategic planning guidance with a vision for comprehensive social, environmental and economic change in the area. The Opportunity Area Planning Framework (OAPF) seeks to address the issues around local connectivity and severance in the OA, including improving north – south movement for which this site plays a crucial role.

Indicative scheme quantum is provided below:

704 residential units
135,000 sqm office
24,562 sqm retail/leisure
40,040 sqm flexible use (student housing/hotel/serviced apartments)

Delta Junction and DLR Infrastructure Protection
Given the presence of DLR infrastructure within and adjacent to the development site there are a number of matters to be considered. DLR colleagues are seeking additional input on several matters discussed and advice will follow on these.

1. Space for mobile crane to manoeuvre (adjacent to existing Marriot hotel). Third party opinion is being sought on this matter and the outcome will be shared with the applicant.
2. Routing of the servicing road and location of security hut.
3. Principles of the proposals for landscaping and public realm – key considerations to be taken into account when creating social environments near or adjacent to DLR infrastructure are appended to the back of this advice letter. It is considered that much of this can be dealt with via detailed designs / planning conditions.
4. Poplar bridge proposals – specifically removal of existing lift towers and stairs at southern end so all access is directly into the public realm of North Quay site – addressed below.
5. TfL to provide details of an earlier West India Quay station scheme for review by the applicant.

The detailed requirements in terms of infrastructure protection and associated planning conditions as set out in TfL's response to the 2017 application still apply.

Aspen Way DLR footbridge proposals
The proposals involve the southern end of the existing footbridge landing at a raised level within the North Quay site leading into public realm ('Poplar Plaza'), a stepped area (plus lift access) with retail, food & beverage units and lift access to ground level. This would include the permanent removal of the existing lift towers and stairs at the southern end of the bridge which would ultimately need to be agreed by DLR. We did discuss at the meeting that the outcome of doing this would be beneficial, including in opening up space on Aspen Way, but this would be subject to details being agreed and it being demonstrated that full accessibility for mobility impairs users is retained.

The Aspen Way DLR footbridge is a key asset in connecting South Poplar to the Isle of Dogs for pedestrians and in the future, increasing numbers of cyclists. The OAPF sets out the need to the quality of this connection to be

improved significantly. Although the proposals to improve the footbridge cosmetically through measures such as graphics and lighting are welcomed, the suitability of the infrastructure will need to be considered, including the current 'non-compliant' glazing' and the load capacity of the bridge. It is understood that Steer are looking at the capacity and width of the footbridge in support of the application. Legion modelling from previous TA will be used and an updated static assessment undertaken. It was noted that the previous proposals achieved a good pedestrian comfort level (PCL).

In order to meet the aspirations of the OAPF and provide a higher quality link between South Poplar and the Isle of Dogs, the bridge link in its entirety and approaches at either end will need to be addressed. At the northern end, it is expected that the redevelopment of the New City College site will deliver enhanced access and connections.

In addition, the any changes will also need to be agreed from a highway perspective by RMS who manage and operate Aspen Way, or from 2030, TfL.

Development interface with Aspen Way, the proposed cycle link and changes to Upper Bank Street junction

We discussed the proposals for the site interface with Aspen Way and changes to Upper Bank Street as outlined at the start of this letter. At present, many of these proposals are problematic because of the way the DBFO contract with RMS is structured which means that any changes to the highway that result in additional safety issues or delay on the network are penalised financially. The capacity reduction and moving of the toucan crossing north into DBFO responsibility on Upper Bank Street is therefore unlikely to be approved. However, the DBFO contract with RMS will end in 2030 after which Aspen Way will be returned to TfL. Therefore, we concluded that these elements of the scheme should be delayed until the latter phases of development as they align with many of the Healthy Streets objectives and the proposals are well placed to enable future connections to the Billingsgate Market site.

Retail 'linked trips'

Following the request at the first pre-application meeting you provided additional evidence from 2019 survey data showing that 75% of retail trips on the Canary Wharf estate are 'linked' trips. On this basis the proposed use of 72% 'linked' trips in the trip generation is acceptable based on current activity.

However, the London Plan and LBTH Local Plan seek to re-designate Canary Wharf as a metropolitan centre - with potential to serve a wide catchment area over several boroughs. The Local Plan identifies Canary Wharf as location to provide a high proportion of comparison retail compared to convenience, beyond just serving the daytime working population. On this basis the level of 'new' rather than 'linked' trips may increase over time. Therefore, the TA should

include a sensitivity test showing the impact of a retail floorspace with ‘new’ trips rates and mode share reflecting other metropolitan centre locations.

Short stay cycle parking and public realm impact
You reiterated your previous request for a reduced level of short stay cycle parking (below London Plan intend to publish policy T5 standards) for the retail floorspace on the basis that you consider a high percentage of trips are likely to be linked to other uses/trips on the Canary Wharf Estate. As above, the level of linked trips at least initially is agreed, so there is some basis for this approach. You also reiterated the point that providing the full complement of short stay cycle parking could have detrimental impacts on the public realm. You provided an indicative site layout showing the location of 528 cycle parking spaces in the public realm and instead propose provision of 264 spaces which meets the requirements of 2016 London Plan, approximately half of what is required by the London Plan – intend to publish version.

TfL has considered this and acknowledges that in the short term there may be case for a lower level of provision, taking into account the above factors and the unique geography of Canary Wharf making it unusually reliant on access by rail. However, in line with the aspirations of the OAPF and LBTH Local Plan, TfL and LBTH are continuing efforts to improve cycle access to area with new cycle routes and the proposed ferry crossing which will significantly increase cycle access to the Isle of Dogs. There may also be some latent demand from existing employees (in older buildings for example) who do not currently have access to cycle parking. Both the Local Plan and OAPF look seek to improve connections between South Poplar and the IoD and break down the existing barriers between the two areas. As such we would expect the number of new cycling trips between the two areas to increase in the medium to long term.

TfL cannot endorse cycle parking provision below policy standards but taking into account the impact on public realm provision, a lower level may be acceptable initially, subject to agreement to monitor usage and increase provision if needed. Indicative plans showing where additional cycle parking would be located when the need arises would need to be submitted to support this approach.

Finally, TfL is aware that some cycle parking on the Canary Wharf estate is paid for, this is not an approach TfL supports, particularly in a metropolitan centre location, and it is unlikely to be attractive to the majority of cyclists. Therefore, no cycle parking within the North Quay development should have any charges.

Full details of all cycle parking including reference to the London Cycle Design Standards (LCDS) should be secured by condition attached to any permission.

Proposed servicing strategy and management
All servicing will take place via Hertsmere Road to the west of the site. 15 loading bays in the site basement are proposed. We discussed the interaction of servicing vehicles with vulnerable road users. The proposals as they stand address this fairly well with vehicles being drawn into the site basement via a separate access and provision of cyclist access the central street in the site further to the south. A delivery and servicing plan should be secured as part of any permission to confirm the proposed and management and mitigation of servicing related trips. A stage 1 Road Safety Audit should be provided as part of the submission to support these designs.

To summarise, the development of plans relating to connectivity and the public realm whilst having regard to TfL assets is welcomed and the proposals are broadly supported subject to detailed design and timing. We will provide the additional information or advice regarding the DLR matters in due course. The level of linked retail trips is agreed subject to the submission of a sensitivity test to assess the impact of retail floorspace in the longer term as part of a metropolitan centre, and a way forward in relation to provision of short stay cycle parking has been proposed.

TfL would welcome further discussions in the lead up to submission of an application to inform the development of the TA and other supporting documents. It is noted that there are other on-going workstreams underway as part of preparing the TA, including strategic and highway modelling, and dialogue on these matters and the issues raised in the first pre-application advice letter dated 11 December 2019 is encouraged.

Yours sincerely

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Copy to: All attendees, Jack Williams – Steer, and Hermine Sanson GLA DM.

DLR standard response when considering creating social environments near or adjacent to the infrastructure.
The Developer will not create a meeting space that might attract anti-social behaviour. This attracts vagrants and fires. Any social space needs to prevent it becoming a nuisance and a potential threat to DLR structures.

DLR will need to approve the design that is to be painted onto DLR infrastructure? These columns were 'strengthened' some years ago to resist light vehicle low speed impact. They have been subsequently coated with an anti-graffiti coating.

- There is probably no structural reason why the columns could not be painted however considerations will need to include how the anti-graffiti coating is removed - and if this causes damage to the surface of the concrete causing consequent loss of cover to the rebar.
- The nature of the paints in terms of chemicals need to be assessed against the possibility of leach into the concrete that might cause adverse reactions
- The risk of this encouraging others to graffiti columns elsewhere.
- In relation to the fixing anything to the column structures. The manner of fixing would need to be considered.
- GI and PI structural inspections where cladding will need to be removed to enable inspections.

DLR will need approve installations that may create an electromagnetic disturbance from equipment close to the boundary

DLRL will need to approve lighting? Fixing of lights /conduits and/or cabling to the DLR structures will need to be vetted.

DLR need to approve access arrangements.

- Access for GI and PI inspection of the DLR structure.
- Access for painting of the steelwork, access for drainage inspections and maintenance. These activities will require at least cherry picker access and possibly scaffold access. The duration and extent for such access will depend on the nature of the work.
- Urgent access may be required in the event of, for example, a drain blockage or leak.
- The landscaping in terms of placement of trees, shrubs etc this needs to be taken into account.
- Future access could be required for structural viaduct maintenance

DLRL will need to be advised of the following to ensure the development does not suffer from Non Communicating Trains (NCT)

- Wind Speeds
- Introduction of trees
- Missile throws from opening windows
- Attraction of birds and bats to the environment
- Dust during construction

DLRL will need to be advised of the following environmental condition

- Noise emissions – DLRL does not want to be placed in a position of receiving noise complaints due to the track curve adjacent to the residential block.

Appendix 5 - Residential Travel Plan

CANARY WHARF
GROUP PLC

NQ.PA.12

North Quay
Residential Travel Plan

Steer
July 2020

Contents

1. Introduction

Background

1.1 This Residential Travel Plan ("RTP") has been prepared by Steer on behalf of Canary Wharf (North Quay) Ltd ("the Applicant") in support of the:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
  - *Business floorspace (B1)*
  - *Hotel/Serviced Apartments (C1)*
  - *Residential (C3)*
  - *Co-Living (C4/Sui Generis)*
  - *Student Housing (Sui Generis)*
  - *Retail (A1-A5)*
  - *Community and Leisure (D1 and D2)*
  - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.2 The full Site address is North Quay, Aspen Way, London, E14. The Site is situated in the London Borough of Tower Hamlets ("LBTH").

1.3 The Proposed Development offers an opportunity to make better use of underdeveloped land in an area with excellent public transport accessibility.

1.4 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use. For this reason, the description of development provides the Applicant with flexibility as to the uses that could be undertaken on the Site.

1.5 However, in order to ensure that the level of flexibility is appropriately restricted, the OPA seeks approval for three Control Documents which describe the principal components of the Proposed Development, define the parameters for the Proposed Development (the "Specified Parameters") and control how the Proposed Development will come forward in future. They provide the parameters, design principles and controls that will guide future reserved matters applications ("RMAs"). These Control Documents are – (1) the Development Specification; (2) the Parameter Plans; and (3) the Design Guidelines:

- The Development Specification sets out the type and quantity of development that could be provided across the Site (including setting a maximum floorspace across the Site);
- The Parameter Plans set the parameters associated with the scale, layout, access and circulation and distribution of uses classes and public space for the Proposed Development. They also establish the Development Zones and Development Plots across the Site; and
- The Design Guidelines set the design principles and controls for future development.

1.6 Together, these documents set out the information required to allow the impacts of the Proposed Development to be identified with sufficient certainty as future RMAs will be required to demonstrate compliance with the Specified Parameters and controls in these Control Documents.

1.7 In order to test and validate the OPA, an Indicative Scheme showing the potential location of buildings, uses and open spaces has been produced. This scheme provides a vehicle for examining the possible architectural, environmental, operational and social impacts of the project. It remains schematic but it conforms to the development parameters as defined in the Development Specification, Parameter Plans and Design Guidelines. It has been essential in testing these development parameters. The Indicative Scheme is not a design template or submitted for approval; it represents one possible way the principles as defined in the above listed documents could be interpreted/achieved and developed into a design. The Development Specification, land use floorspace ranges and Indicative Scheme schedule are summarised at Table 1.1 and the Indicative Scheme residential unit mix is provided in Table 1.2. This Indicative Scheme and its Development Plots have been used to generate the images and diagrams for the Design Guidelines. In some instances, these Development Plots are used as reference in the Guidelines to help illustrate the point.

1.8 The Indicative Scheme demonstrates one interpretation of the Specified Parameters but is used throughout this RTP to illustrate the type of mixed-use development that could come forward and the associated car and cycle parking, servicing and delivery and waste storage requirements. The Indicative Scheme basement 1/2 and ground level plans can be found at **Appendix 1**.

1.9 The maximum Site wide total floorspace permitted within the Development Specification is 355,000m^2 (GIA) and the Indicative Scheme floor area totals 354,927m^2 (GIA).

Table 1.1: Development Specification and Indicative Scheme Area Schedule

Land Use	Minimum Floorspace (GIA)		Maximum Floorspace (GIA)	Indicative Scheme
A1-A5 Retail	Total 10,000	A1-A5 5,000	20,000	13,681
D1 Community			20,000	-
D2 Leisure			20,000	-
B1 Business	150,000		240,000	174,653
C1 Hotel	-		150,000	44,081
C3 Residential	-		150,000	84,736
C4 Co-Living	-		150,000	-
Sui Generis: Student Housing	-		150,000	-
Sui Generis: Private Members Clubs, Conference Centres, Theatres, Casinos and Launderettes	-		25,000	-
Below Ground				
A1-A5 Retail	-		5,000	-
B1 Business	-		20,000	-
D1 Community	-		5,000	-
D2 Leisure	-		10,000	-
Ancillary floorspace comprising Business, Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, Energy Centres, Electricity Sub Stations etc.	-		No maximum	Above ground: 9,730 Below ground: 28,047

Table 1.2: Indicative Residential Unit Mix

Type	Number of Units
Studio	30
1 bed	159
2 bed	316
3 bed	141
4 bed	56
Total	702

Travel Plan Context and Scope

1.10 This RTP has been prepared in accordance with the relevant policy and Transport for London's ("TfL's") latest best practice guidance; published in November 2013. Further guidance is expected to be released by TfL in Autumn 2020 and further updates to this RTP would be prepared in accordance with guidance available at the time.

1.11 The RTP has been produced in conjunction with the following documents:

- Transport Assessment ("TA") – submitted as a standalone report.
- Framework Travel Plan ("FTP") – appended to the TA.

- Delivery and Servicing Plan ("DSP") – appended to the TA.
- Site Waste Management Plan – appended to the TA.
- Parking Design and Management Plan – appended to the TA.
- Environmental Impact Assessment ("EIA"), of which Transport Chapter forms a part – submitted as a standalone report.

1.12 This RTP considers all aspects of residential travel behaviour to, from and within the Site, for:

- Travel to/from Site by residents;
- Travel to/from Site by residential visitors; and
- Residential servicing and deliveries (in conjunction with the DSP).

1.13 The Applicant will appoint a Travel Plan Coordinator ("TPC") prior to occupation who will work with and liaise directly with residents to promote and encourage sustainable travel. The appointed TPC will work with LBTH and any subsequent Residential Management Company ("RMC") appointed by the Applicant to update the interim RTP targets within 6 months of the completion of baseline surveys. Baseline surveys will occur within 6 months of first occupation of the first residential building or 75% residential occupation. Once the TPC has been appointed, their contact details will be made available to occupiers of the Proposed Development and to LBTH, prior to occupation.

1.14 This RTP includes proposed interim measures which will be developed further and updated once a TPC has been appointed, the Proposed Development has been occupied and baseline surveys have been undertaken.

Travel Plan Benefits

1.15 This RTP is a 'living document' which, as such, will be actively promoted with occupiers, reviewed and updated over time. This RTP is an interim plan setting a framework for the Proposed Development and it is envisaged that the full RTP will be secured via an appropriately worded planning condition or s106 obligation and will provide the basis for sustainable travel prior to and following occupation of the Site.

1.16 The overarching aim of this RTP is to influence residents to travel by active modes (walking and cycling) and public transport, wherever possible, in order to maximise benefits to public health and minimise the impacts of the Proposed Development on the environment. This is in accordance with the Mayor's Transport Strategy, adopted London Plan and the latest Intend to Publish London Plan.

1.17 It is expected that the successful delivery of the RTP will:

- improve accessibility of the Proposed Development for all users;

- increase travel options to and from the Proposed Development and encourage the use of non-car modes such as walking, cycling and public transport;
- improve the health and wellbeing of users through encouraging active travel and reducing air and noise pollution;
- reduce the demand for parking; and
- help in meeting local and regional policy targets and objectives.

1.18 The Applicant recognises the value of sustainable travel, including for deliveries and servicing, and the importance of producing travel plans.

Travel Plan Structure

1.19 This RTP is divided into seven chapters as follows:

- **Chapter 1**: Introduction
- **Chapter 2**: Policy and Guidance Context
- **Chapter 3**: Existing and Proposed Site Context
- **Chapter 4**: Baseline Travel Surveys
- **Chapter 5**: Objectives and Targets
- **Chapter 6**: Travel Plan Management
- **Chapter 7**: Measures and Action Plan
- **Chapter 8**: Monitoring and Review

2. Policy and Guidance Context

2.1 The following list outlines the transport policies and guidance documents that are relevant to this RTP and the Proposed Development.

National Policy and Guidance

- National Planning Policy Framework (2019)
- National Planning Practice Guidance (2014)
- Good Practice Guidelines: Delivering Travel Plans through the Planning Process (2009)
- Smarter Choices - Changing the Way We Travel (2004)

Regional Policy and Guidance

- The London Plan – Consolidated with Alterations since 2011 (2016) (the London Plan)
- The London Plan – Intend to Publish (2019) (the Draft London Plan)
- Mayor's Transport Strategy (2018)
- Travel Planning for New Development in London (2013)

Local Policy

- London Borough of Tower Hamlets Local Plan 2031: Managing growth and sharing the benefits (2020);
- London Borough of Tower Hamlets Planning Obligations Supplementary Planning Document (2016); and
- London Borough of Tower Hamlets Transport Strategy 2019-2041 (2019).

3. Existing and Proposed Site Context

Site Location

3.1 As presented in **Figure 3.1**, the North Quay Site is bounded by Canary Wharf Elizabeth Line (also referred to as Crossrail in other supporting documentation) station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

Figure 3.1: Site Location

Pedestrian Accessibility

3.2 Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under two kilometres. Walking also forms an often-overlooked part of all longer journeys by public transport.

3.3 The Site has good pedestrian accessibility to surrounding retail, employment, leisure and public transport nodes. All public transport nodes in the vicinity feature step-free access, for ease of movement in the area.

3.4 The walking times from the Site to local amenities are as follows:

- 1 minute to Canary Wharf Elizabeth Line station (adjacent to the Site)
- 1 minute to Poplar and West India Quay DLR stations (adjacent to the Site)
- 2 minutes to shopping and entertainment facilities
- 5 minutes to Canary Wharf Jubilee Line station

3.5 The Aspen Way Footbridge (which the southern approach forms part of the Site boundary) provides an important link to the Site, connecting North Quay to the Poplar DLR station and the wider South Poplar area. Opportunities to improve the footbridge and link to Poplar High Street have been explored to enhance the pedestrian environment and overall movement experience. and further details are provided in the Design and Access Statement. Any improvements to Aspen Way Footbridge and, hence, the connection to Poplar High Street are key enhancements for the local community, vital to meeting the objectives of the Local Plan.

3.6 To the east is Billingsgate Market, which can be accessed by crossing Upper Bank Street via a staggered pedestrian priority crossing. Immediately to the west of the Site is West India Quay DLR station, which can be accessed from the North Dock waterfront by a staircase and a lift.

3.7 There is a waterfront promenade – Dockside walkway, which starts at the western Crossrail Place access and continues westwards along the North Dock towards Hertsmere House/Museum of London Docklands.

3.8 Significant improvement will be made to the pedestrian network within the Site to encourage active travel to and from the Proposed Development.

3.9 All pedestrian crossings in the area are suited for people with mobility impairments; they have lowered kerbs, tactile paving, and where signalling is present, there are rotating cones.

Cycle Accessibility

3.10 The Site benefits from being in a close proximity to strategic and advisory cycle routes.

3.11 Cycleway 3: Barking to Tower Gateway (previously Cycle Superhighway 3) operates in an east-west direction north of the Isle of Dogs, running along Poplar High Street at the northern boundary

of the Site. Cycleways are cycle routes running from outer London into and across London, providing safer, faster and more direct journeys into the city.

3.12 Additional cycle routes, including the National Cycle Network Route 1 and the London Docklands and Lee Valley regional route, can be accessed from Westferry Circus, approximately 500m west of the Site.

3.13 In 2019 consultations began to assess cycling and walking improvements between Hackney and Isle of Dogs, a scheme led by TfL in partnership with LBTH and London Borough of Hackney. The proposed Cycleway 37 would connect with Cycleway 3 at West India Dock Road, approx. 400m west of the Site, Cycleway 2 at Mile End Road and former Quietway 2 north of Victoria Park. The route would offer future North Quay users a safe and direct connection across East London.

3.14 The Proposed Development will comprise a network of orthogonal cycle routes throughout the Site, allowing for an easy access on the east to west and north to south corridors. The east-west footpath along Aspen Way is proposed to be strengthened with a new cycle route, with a secondary cycling route traversing the Site along North Quay Way.

3.15 On the western approach to the Site, a landscaped area – The Delta – an area of open space located under the existing elevated DLR tracks at the western end of the site, between the edge of the Hertsmere Road and Aspen Way, will be enhanced to increase the east-west connectivity of the Site.

3.16 These improvements will support active travel amongst employees and visitors, contributing to the mode shift towards more sustainable transport modes advocated by the Mayor of London.

Cycle Parking

3.17 Residents of the Proposed Development will benefit from short- and long-stay cycle parking in accordance with the Draft London Plan comprising 1,312 spaces for the Indicative Scheme (of which 18 are short-stay). Further detail is provided in the TA.

3.18 As a whole, the Canary Wharf estate provides a large number of private cycle parking spaces. As of 2018, there were 1,134 free cycle parking spaces located at street level across the estate, 208 free cycle parking spaces at basement level, 405 secure cycle parking spaces where a charge is applied, and 3,715 private cycle parking spaces located within tenant buildings.

3.19 Moreover, there are 10 Santander Cycle Hire stations present within a 10 minutes' walk of the Site, with a total capacity of 346 cycles. A new docking station with capacity for 32 cycles is proposed as part of the Development as agreed with TfL through pre-application discussions. It will be located at Delta Junction.

Public Transport Accessibility

3.20 A 'Public Transport Accessibility Level' ("PTAL") assessment has been undertaken for the Site. PTAL is a measure of the accessibility of a location to the public transport network, taking into account walk access time and service availability. PTAL is categorised in 6 levels, 1-6 where 6b represents the highest level of accessibility and 1a the lowest level of accessibility.

3.21 The Site's PTAL varies from a 5 ('very good') to a 6a ('excellent'); with improved PTAL closer to Upper Bank Street. The score is expected to improve to 6a across the entire Site by 2021 according to TfL's forecast owing to the planned opening of the Elizabeth Line, immediately south of the Site. The detailed PTAL calculation report is provided at **Appendix 2** and local public transport services are described below.

London Underground and London Overground

3.22 Canary Wharf underground station is the closest London Underground station and is served by the Jubilee line. The Jubilee Line connects to key destinations across London including London Bridge, Waterloo and Bond Street to the west, and North Greenwich, West Ham and Stratford to the east. The Jubilee line is very accessible for all users; step-free access is provided at Canary Wharf underground station and all stations between Green Park and Stratford. Jubilee line frequencies in trains per hour ("tph") during the busiest periods are shown in **Table 3.1**.

Table 3.1: Existing Peak Jubilee Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
30	30

3.23 The Jubilee Line is a part of the Night Tube network, with 24-hour services running on Friday and Saturday nights. The introduction of 24 hour services on the Jubilee Line increased the public transport accessibility of the Site outside peak hours, and provides night-time connectivity with destinations across London.

DLR

3.24 West India Quay and Poplar Stations are located within the immediate vicinity of the Site. Line frequencies during the busiest periods are shown in **Table 3.2**. All DLR stations provide step-free access, facilitating public transport accessibility for all users. The DLR provides connections to key London destinations including Bank, Stratford, Canning Town and Lewisham.

Table 3.2: Existing Peak DLR Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
West India Quay	Stratford	15	15
	Bank	15	15
	Lewisham	7	-
	Canary Wharf	15	15
Poplar	Stratford	15	15
	Woolwich Arsenal	7	8
	Bank	7	8
	Tower Gateway	8	7
	Beckton	8	7
	Lewisham	8	-
	Canary Wharf	15	15
Stratford	West India Quay	15	15
Bank		-	-
Lewisham		8	-
Canary Wharf		15	15
Stratford	Poplar	15	15
Woolwich Arsenal		8	7
Bank		8	7
Tower Gateway		7	7
Beckton		7	8
Lewisham		8	-
Canary Wharf		15	15

Elizabeth Line

3.25 Elizabeth Line is expected to open in 2021, before the planned completion of Phase 1 of the Proposed Development. Canary Wharf Elizabeth Line station, located in Crossrail Place is located immediately to the south, within a one-minute walk. Expected line frequencies during the busiest periods are shown in **Table 3.3**. The new service will facilitate connections to key destinations including Paddington and Tottenham Court Road within central London and Reading and Shenfield outside Greater London. All Elizabeth Line station will be accessible for all users, with step-free access.

3.26 The Elizabeth Line will cut journey times to key destinations. The journey time between Paddington and Canary Wharf is expected to reduce from 49 minutes to 29 minutes, whilst the journey time to Heathrow Airport (Terminal 4) is expected to reduce from 70 minutes to 45 minutes.

Table 3.3: Expected Peak Elizabeth Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
12	12

National Rail

3.27 The nearest National Rail station to the Site is Limehouse, which is a 2.2 km walk to the west or an 8-minute DLR journey from the neighbouring DLR stations.

3.28 Limehouse station provides access to c2c services to/from London Fenchurch Street and Grays, Pitsea, Southend and Shoeburyness. Step-free access is available via lift to Platform 2 (trains towards Shoeburyness) and via DLR station to Platform 1 (towards London Fenchurch Street). Line frequencies during the busiest periods are shown in **Table 3.4**.

Table 3.4: Existing Peak National Rail Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
London Fenchurch Street	Grays	4	8
	Pitsea	6	8
	Southend Central	8	9
	Shoeburyness	6	9
Grays	London Fenchurch Street	8	6
Pitsea		8	8
Southend Central		6	7
Shoeburyness		4	5

Bus Services

3.29 The Site is located within the vicinity of 8 daytime and 4 dedicated overnight bus routes, connecting North Quay to the wider Canary Wharf area, as well as key locations around London – City of London, the West End and Stratford.

3.30 The bus routes and a summary of these services is provided in **Table 3.5.**

Table 3.5: Local Bus Services

Bus Route	Route	Nearest Bus Stop	Peak Hour Headway (mins)
135	Old Street – Crossharbour	Canary Wharf Station (Stop F)	9-12
277	Dalston Junction – Mudchute		5-9
D3	Bethnal Green – Leamouth		9-11
D7	Poplar – Mile End		5-7
D8	Stratford – Crossharbour		11-14
N277	Angel – Mudchute		Two to four services per hour between 00:52 and 06:08 (towards Mudchute) and 00:23 and 04:45 (towards Angel)
N550	Trafalgar Square – Canning Town Station		Two to four services per hour between 00:54 and 05:52 (towards Canning Town) and 23:59 and 06:00 (towards Trafalgar Square)
15	Trafalgar Square – Blackwall Station	Upper North Street (Stop F Westbound; Stop C Eastbound)	6-10
115	Aldgate – East Ham		7-11
D6	London Fields – Mudchute		6-8
N15	Oxford Circus – Romford		Four to eight services per hour between 01:04 and 05:48 (towards Romford) and 01:06 and 05:19 (towards Oxford Circus)
N551	Trafalgar Square – Beckton		Two services per hour between 00:38 and 06:04 (towards Beckton) and 23:48 and 06:21 (towards Trafalgar Square)

Local Highway Network and Car Parking

3.31 The Site is well connected to the local and regional road network and is currently accessed via Hertsmere Road and Upper Bank Street. It is partly bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively.

3.32 The A1261, Aspen Way, is an east-west road link forming part of the Transport for London Road Network ("TLRN"). Aspen Way diverges into West India Dock Road and the Limehouse Link Tunnel in the west. West India Dock Road provides connections with Westferry Road at the junction next to Westferry DLR station, and the east-west A13 East India Dock Road. The A13 is a major London through route connecting central and east London and south Essex. The road is subject to 40mph speed limits.

3.33 In the Proposed Development, North Quay Way will form the key spine route running through the Site in an east-west orientation, providing vehicular and pedestrian access and connectivity

between Upper Bank Street and Hertsmere Road. Its eastern end will be a secondary entry point into North Quay and will also help connect the Masterplan to Billingsgate in the future. The street will act as a spine of the Proposed Development connecting all of the building plots and open spaces together.

3.34 North Quay Way will provide access for taxis, servicing and emergency vehicles, with three bays provided on-street. However, the vehicular traffic volume on the road is expected to be low, maintaining the road as a key pedestrian route.

3.35 The Site is situated within a Controlled Parking Zone ("CPZ") "D". The CPZ restrictions apply Monday to Friday, between 8.30AM and 5.30PM.

3.36 The Site is not located within the Congestion Charge Zone. The Site will be included within the expanded Ultra-Low Emission Zone, which the Mayor proposes to expand to cover all areas contained within the North Circular and South Circular by October 2021.

3.37 The minimum requirement for 3% accessible car parking for residential dwellings will be provided from the outset as per Policy T6.1 of the Draft London Plan (2019) and 23 Blue Badge spaces will be provided on this basis. This has been based on 702 residential units assumed in the Indicative Scheme.

4. Baseline Travel Surveys

4.1 As the occupiers of the Proposed Development are unknown at this stage, no baseline surveys have been undertaken to determine travel patterns at the Site. A robust trip generation assessment has been carried out as part of the Transport Assessment work. This information forms the interim baseline mode share figures.

4.2 Future year person trips by mode have been assessed for the residential element of the Proposed Development Indicative Scheme.

4.3 Further details of how the trips have been calculated are provided in the Transport Assessment.

4.4 A full travel survey is proposed to be undertaken within 6 months of first occupation of the first residential building or at 75% residential occupancy. The baseline surveys will include multi-modal counts including delivery and servicing data together with resident and visitor questionnaires.

4.5 This baseline survey will inform the development of this RTP and assist in determining any site-specific measures to reduce car use to/from the Site and encourage sustainable travel modes.

4.6 To gain an insight into the travel characteristics and attitudes, the survey will identify the following key topics:

- Mode of travel by trip purpose (work, school, leisure, etc.) and emissions data analysis;
- Where residents work;
- Business travel requirements;
- Flexible working arrangements;
- What improvements can be made to the main mode of travel;
- What prevents residents walking/cycling;
- What would encourage residents to walk/cycle;
- Car ownership and parking arrangement;
- What facilities/initiatives are residents aware of; and
- What facilities/initiatives residents would use.

4.7 Results of the travel surveys will be collated and analysed to identify relevant measures for the development. Mode share information derived from the surveys will be used to review and set targets for the future.

Forecast Residential Mode Share and Trip Generation

4.8 The forecast residential mode share is set out in **Table 4.1**. Further detail on how this has been derived is provided in the Transport Assessment.

Table 4.1: Forecast Residential Mode Share

Mode	Mode Share
London Underground	19%
DLR	19%
Elizabeth Line	19%
Bus	4%
Taxi	1%
Motorcycle	0%
Car Driver + Passenger	3%
Cycle	2%
Walk	31%
Other (inc. Riverbus)	2%
Total	100%

4.9 The forecast trip generation for the residential element of the Proposed Development's Indicative Scheme is provided within **Table 4.2**.

Table 4.2: Forecast Residential Trip Generation (Indicative Scheme, 702 dwellings)

Mode	AM Peak			PM Peak			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	15	73	88	39	24	63	338	352	690
DLR	15	73	88	39	24	63	338	352	690
Elizabeth Line	15	73	88	39	24	63	338	352	690
Train	0	0	0	0	0	0	0	0	0
Bus	3	15	18	8	5	13	71	74	145
Taxi	1	4	5	2	1	3	18	19	36
Motorcycle	0	0	0	0	0	0	0	0	0
Car	2	11	14	6	4	10	53	56	109
Cycle	2	8	9	4	3	7	36	37	73
Walk	24	119	143	64	39	103	551	574	1125
Other (inc. Riverbus)	2	8	9	4	3	7	36	37	73
Total	78	383	461	207	126	333	1,779	1,851	3,630

Note: May not sum due to rounding.

4.10 Regarding delivery and servicing trips, further detail is provided in the TA and DSP, however it is expected that the residential component of the Proposed Development will generate 234 trips per day on average.

5. Objectives and Targets

Overview

5.1 This chapter outlines the overarching objectives and targets of the RTP for the Proposed Development.

5.2 Objectives are the high-level aims of the RTP. They help to give the RTP direction and provide a clear focus.

5.3 The objectives are supported by a set of SMART (Specific, Measurable, Achievable, Realistic and Timed) targets to enable progress towards achieving them to be measured.

5.4 Targets are the measurable goals by which progress will be assessed. The RTP sets out targets to be achieved within the timeframe of the RTP.

Objectives

5.5 The main objective of this RTP is:

"To minimise vehicle use and maximise active travel for residential trips."

5.6 To support the realisation of this overarching objective, several sub-objectives have been set:

- To ensure the Proposed Development is accessible to all users and that the needs of vulnerable groups, for example those with mobility problems, are met and respected.
- To promote and encourage users to travel by sustainable modes including walking and cycling as an alternative to private car, taxi or public transport use.
- To increase awareness of the RTP and its constituent measures.
- To encourage the most efficient use of cars and a reduction in single occupancy car use.
- To promote smarter working and living practices that reduce the need to travel overall or in the peak periods.
- To improve the safety of persons travelling to and from the Proposed Development on foot or by cycle and provide relevant on-site facilities.
- To improve the health of residents and minimise impacts on the environment.
- To encourage the best use of taxis and private hire vehicles.
- To increase awareness of sustainable transport initiatives and events such as RideLondon, Car Free Day, etc.

Targets

5.7 The results of the baseline travel survey, discussed in **Chapter 3**, will be used to form targets which can be measured against the achievement of the set objectives.

5.8 Once the baseline data is collected there will be a better understanding of what is achievable and suitable measures can be determined. Targets will then be developed and quantified in line with the following principles:

- Identify a percentage increase in walking and cycling
- Ensure that all residents are aware of the RTP and its objectives

5.9 Interim mode share targets (based on the mode share data in **Table 4.1**) have been identified for the 3rd and 5th year as shown in **Table 5.1**. It is envisaged that the car-free nature of the scheme will encourage sustainable travel from the outset, nonetheless some minor modal shift is targeted from public transport to more active modes.

Table 5.1: Proposed Residential Mode Share Targets

Mode	Proposed Mode Share	3rd Year Target	5th Year Target
London Underground	19%	18%	18%
DLR	19%	18.5%	18%
Elizabeth Line	19%	19%	18%
Bus	4%	4%	4%
Taxi	1%	1%	1%
Motorcycle	0%	0%	0%
Car Driver + Passenger	3%	2.5%	2%
Cycle	2%	3%	4%
Walk	31%	32%	33%
Other (inc. Riverbus)	2%	2%	2%
Total	100%	100%	100%

5.10 It is anticipated that the targets above will be revised following the completion of the baseline travel surveys. The scale of change between the baseline year and the 5th year target will remain broadly the same and be re-profiled following the findings of the initial travel surveys.

6. Travel Plan Management

Travel Plan Delivery

6.1 Effective management of the RTP, combined with clearly defined roles and responsibilities, is recognised as being fundamental to achieving the overarching and tenant specific objectives.

6.2 The TPC will implement and administer the RTP on a part-time basis, upon appointment one month prior to the Proposed Development's first residential occupation. The TPC will likely be an independently appointed consultant who will manage and operate the Site on a day-to-day basis.

6.3 The TPC's responsibilities will include:

- Obtaining and maintaining commitment and support from residents.
- Implementing an effective marketing campaign of the RTP and its specific measures.
- Giving advice and information on transport-related subjects to residents and their visitors.
- Coordinating the necessary data collection exercises and monitoring the programme of the RTP.
- Attending relevant residential meetings to discuss transport matters when invited.

Securing and Funding the Travel Plan

6.4 It is envisaged that this RTP will be secured via an appropriately worded planning condition or s106 obligation. .A series of sustainable transport measures will be implemented as part of the Proposed Development; demonstrating the commitment to this RTP by the Applicant. These measures will include:

- Cycle parking provision in accordance with the Draft London Plan.
- Electric vehicle charging infrastructure in line with the Draft London Plan.
- No residential car parking provision beyond the required accessible parking spaces.

6.5 The Applicant will ensure that suitable funding and a sufficient budget for the RTP is provided. This will ensure future commitment and on-going monitoring and review.

Travel Plan Awareness and Marketing

6.6 The success of the RTP is dependent on the implementation of an effective marketing strategy to be developed by the Applicant. The TPC, once identified, will continue to support this and will offer transport-related information for inclusion in marketing material.

6.7 To increase awareness of the RTP, residents and visitors will be given information regarding travel to and from the Site.

6.8 It is essential that residents are involved in the implementation and evolution of the RTP. The travel surveys and pre-survey marketing will contribute to raising awareness at the outset.

6.9 The TPC will work to develop an RTP strategy with LBTH, including:

- The provision of local transport information on a website or smartphone application.
- The provision of RTP information on the Applicant's resident website or smartphone application with links to relevant external websites, e.g. real-time travel information.
- An annual review of all marketing information and material updated as appropriate.

Encouraging Walking and Cycling

Cycle Parking

6.10 There will be secure and accessible cycle parking for residential users, in accordance with Draft London Plan. Take up of spaces will be monitored and opportunities for additional provision considered if necessary.

Cycle Training

6.11 The TPC will promote local cycle training opportunities and cycle maintenance workshops with residents, to promote active travel modes. Cycle training is provided free of charge by LBTH to anyone who lives, works or studies within the borough. LBTH offers courses for all types of cyclists – *Family cycle training course*, *Cycle skills for adults* and *Cycle commuter training*.

Walking

6.12 Appropriate footways will be provided as part of the Proposed Development. Information packs or websites for residents will identify leisure walking routes in addition to walking routes to nearby schools and public transport facilities. The benefits of walking will also be set out.

Encouraging the Best Use Motorised Vehicles

6.13 This RTP recognises that the use of private cars varies based on many factors and whilst this can be reduced (through encouraging other modes) it cannot be totally eradicated, for various (sometimes personal) reasons such as shift patterns, mobility issues, children, etc.

6.14 The RTP will encourage residents and visitors to make informed decisions about how they travel, encouraging the use of sustainable and active travel options and the rational use of private cars.

6.15 In addition, this RTP advocates good access for servicing, deliveries and emergency services, to avoid congestion and minimise safety risk in and around the Proposed Development.

Car Club Use

6.16 Car clubs offer flexibility and affordability for residents. They also reduce car ownership which means a reduction in emissions caused by every day running of private vehicles. Car clubs allow members to only use a car when they need to in order to reduce the overall demand for car parking.

6.17 Two car club locations offering a total of three vehicles are present within a 10-minute walk of the Site, with further eight proposed as a part of the Wood Wharf development.

Visitor Travel

6.18 The RTP aims to reduce the number of visitor journeys and to encourage journeys to be made by non-car modes. Visitors will be able to access guidance, possibly online, on how to reach the Site by sustainable modes of transport so that they can make an informed decision.

Reducing the Need to Travel

6.19 The proximity of the Site to local facilities and its excellent links to public transport provide opportunities for people to live, work and play in the surrounding area, thereby supporting travel on foot and by cycle.

6.20 To encourage localised patterns of sustainable travel, residents will be made aware of the full range of goods and services available and how to access them within the Proposed Development and the local area. The TPC will also promote local employment opportunities to encourage living and working in the local area. These combined initiatives will help to encourage travel by active modes and public transport.

Action Plan

6.21 The Action Plan in **Chapter 7** details measures that could be pursued in relation to encouraging more sustainable and active travel patterns such as greater use of cycling, walking, and the use of other non-single occupant car modes of travel.

7. Measures and Action Plan

7.1 This chapter details possible measures for the RTP that could be introduced to achieve the targets set. At this stage, some measures are proposed as interim as the TPC will need to develop and prioritise measures which relate directly to the needs of the residents after the baseline travel survey has been conducted.

7.2 The main aim of the Action Plan is to identify likely initiatives that can assist in meeting the targets. **Table 7.1** sets out the benefits of various measures and the timescale and responsibility for implementation. The initial Action Plan also includes some measures associated with delivery and servicing activity, which may be encompassed by the Delivery and Servicing Plan which is appended to the Transport Assessment.

Table 7.1: Action Plan

Measure	Initiative	Timescale for Implementation	Responsibility
Managing the on-going development and delivery of the RTP with residents			
Appoint Travel Plan Coordinator	The Applicant to identify a TPC.	Prior to occupation	The Applicant
Increasing Awareness of the RTP			
Feedback to residents	Regular feedback to residents when requested through meetings/ newsletters on progress of travel plan measures and site-wide transport issues.	Within first year of occupation then annually or as requested	TPC
Site information/Resident Information and Welcome Packs	The Applicant to provide information to residents such as access arrangements, walking, cycling, public transport including maps and real-time journey information through a website or smartphone application.	Upon occupation and ongoing	The Applicant
RTP information for prospective buyers	TPC to provide information on the details of the RTP and a summary of the benefits, targets and measures to prospective buyers through a sales website or other material.	Prior to occupation and ongoing	TPC
TPC to attend Canary Wharf Transport Forum Meetings	Existing Forum for Canary Wharf, Tower Hamlets, Transport for London, Transport Operators and Tenants.	Quarterly from occupation	TPC
Encouraging Walking and Cycling			
Cycle parking and facilities	To provide cycle parking provision in accordance with the Draft London Plan.	Prior to occupation of each building	The Applicant
Pedestrian facilities	To develop a high-quality pedestrian environment for users of the Site and local residents/passers-by.	Prior to practical completion	The Applicant
Encouraging the best use of motorised vehicles and servicing activity			
Accessible Parking	Provide accessible car parking at 3% of total residential units.	Prior to occupation	The Applicant
Car Parking	Do not provide residential car parking, coupled with ineligibility to apply for permits for any CPZ outside the Site.	Upon occupation and ongoing	The Applicant
Launch Event	TPC to hold a launch event to advertise the RTP, to promote sustainable travel and encourage efficient delivery and servicing activity.	Three months after full occupation of the first residential building	TPC

Measure	Initiative	Timescale for Implementation	Responsibility
Promoting smarter working and living practices			
Development Location	Highlight that the proximity of the Site to a range of public transport links can reduce the number of trips and the distance of those that are made.	Upon occupation and ongoing	The Applicant
Internet Connectivity	To allow for internet connections to be made available in each residential unit and promote the merits of remote working.	Upon occupation and ongoing	The Applicant
Encouraging Sustainable Delivery and Servicing			
Resident Awareness	Ensure all residents are made aware of the DSP and its primary objectives and measures in terms of personal deliveries.	Prior to first occupation	Facilities Management
Site Information	Publish details of servicing/delivery facilities and procedures to tenants and residents indicating preferred delivery times; delivery locations; preferred local suppliers.	Prior to first occupation of each building	Travel Plan Coordinator
Fleet Operator Recognition Scheme ("FORS")	Encourage the use of suppliers who are FORS members and encourage non-FORS members to sign up to the scheme.	Within 6 months of occupancy	Travel Plan Coordinator

8. Monitoring and Review

8.1 The Applicant and TPC will oversee the monitoring and review of the RTP to ensure that the targets remain relevant. This chapter sets out the proposals for monitoring and review of the RTP.

8.2 It is envisaged that LBTH will oversee the monitoring and review of this RTP to ensure that actions taken reflect the wider initiatives set out here and to ensure that the targets remain challenging.

Monitoring Programme

8.3 The Applicant will ensure reasonable funding for the RTP is provided for monitoring and review. These funds will be secured in the S106 agreement associated with this OPA, to be agreed with LBTH.

8.4 This sum of money will cover the costs for the monitoring and review of the RTP in conjunction with LBTH. The Applicant will seek agreement with LBTH regarding how this sum of money can be best utilised to ensure the RTP is most effective.

8.5 **Table 8.1** provides an indicative programme for the monitoring and review of the RTP. On the basis that this is an OPA and further Reserved Matters Applications (RMAs) will be required, the precise timescales for monitoring and review may change due to the phased nature of the scheme. This will be discussed and agreed with LBTH during the RMAs for the respective development plots.

Table 8.1: Plans and Timescales for Travel Plan Monitoring

Action	Timescale
Baseline travel surveys	Within 6 months of first occupation of the first residential building or 75% occupation
Undertake audits of cycle parking, car parking (including accessible) and electric vehicle charging provision	6 months then annually
Future travel surveys	On 3rd and 5th year anniversaries from the date of first occupation of the first residential building
Feedback to residents	Annually
Undertake strategic review of all aspects of the RTP (including the objectives, targets, the action plan and the monitoring programme)	Following 6 month, 3rd and 5th year travel surveys

Surveys

8.6 The surveys will be undertaken within 6 months of first occupation of the first residential building or at 75% residential occupation.

8.7 The surveys will be undertaken during the main operational hours of the Site on a single typical day during school term-time.

8.8 Additional residential blocks and plots would be incorporated into the monitoring as necessary upon occupation.

Review Process

8.9 The RTP will be reviewed regularly. The data gathered by the surveys will be analysed by the TPC and LBTH. Following the baseline survey, the targets outlined in **Table 5.1** will be reviewed and updated to reflect the actual mode share observed. In the 3rd and 5th year, these targets will then be reviewed against new surveys.

8.10 If the results of these surveys were to identify that any targets were not being met, a review of the outcomes will be discussed with the TPC, LBTH and residents. Following this process mitigation measures may be identified that will be implemented by the TPC.

Appendix 1 – Proposed Plans

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

HERTSMERE ROAD

NQA1

NQB1

NQD1

Security Hut

Vehicle Ramp to B2

Retail

Residential Amenities

Refuse Store

Cycle Lifts

Resi Lobby

Office Lobby

MUGA

POPLAR PLAZA

Office Lobby

NORTH QUAY WAY

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

WEST INDIA QUAY

GARDEN SQUARE

QUAY SQUARE

DOCK SQUARE

UPPER BANK STREET

BILLINGSGATE MARKET

NQA4

NQA5

NQD3

NQD4

reception/entrance

Cycle Store

Store

BOH

S. apt. Lobby

CROSSRAIL PLACE

0 25.0 m 50.0 m

1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP

85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

North Quay Masterplan

INDICATIVE SCHEME GROUND FLOOR LEVEL
GENERAL ARRANGEMENT
19141-00-07-100

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

(WEST INDIA DOCK ROAD ABOVE)

(LIMEHOUSE LINK TUNNEL ABOVE)

(WEST INDIA DOCK ROAD ABOVE)

(HERTSMERE ROAD ABOVE)

(MARRIOTT HOTEL ABOVE)

(WEST INDIA QUAY ABOVE)

(WEST INDIA QUAY DLR STATION ABOVE)

(CASTOR LANE ABOVE)

(POPLAR DLR STATION ABOVE)

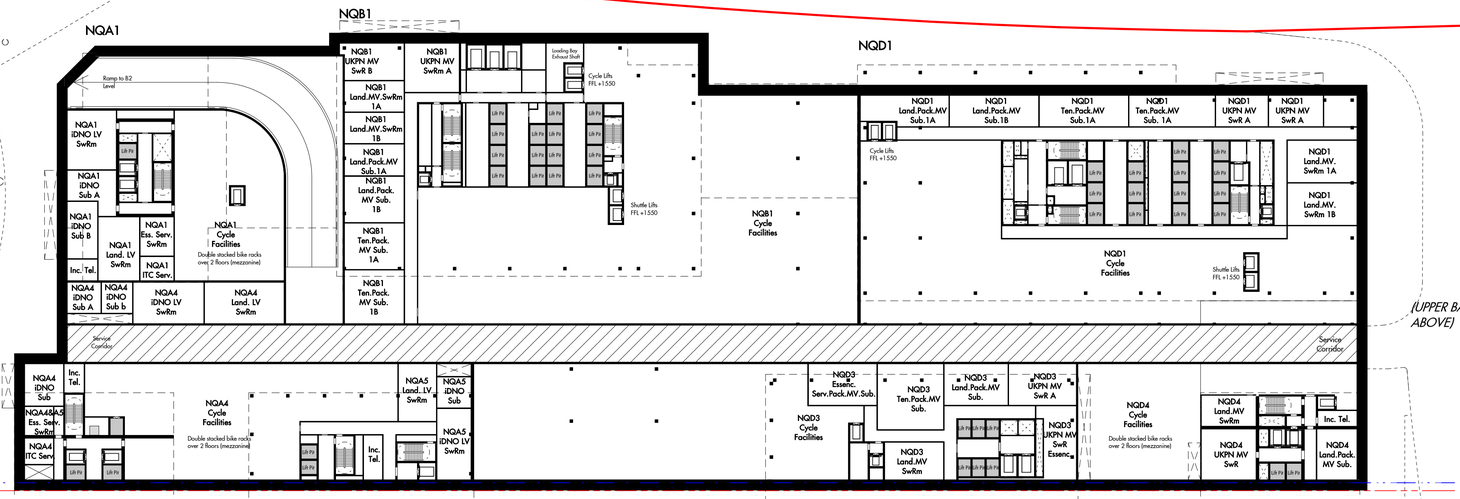
(ASPEN WAY PEDESTRIAN BRIDGE ABOVE)

(ASPEN WAY ABOVE)

(UPPER BANK STREET ABOVE)

(NORTH QUAY DOCK ABOVE)

(CROSSRAIL PLACE ABOVE)



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0 25.0 m 50.0 m

1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP
85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
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email studio@alliesandmorrison.com

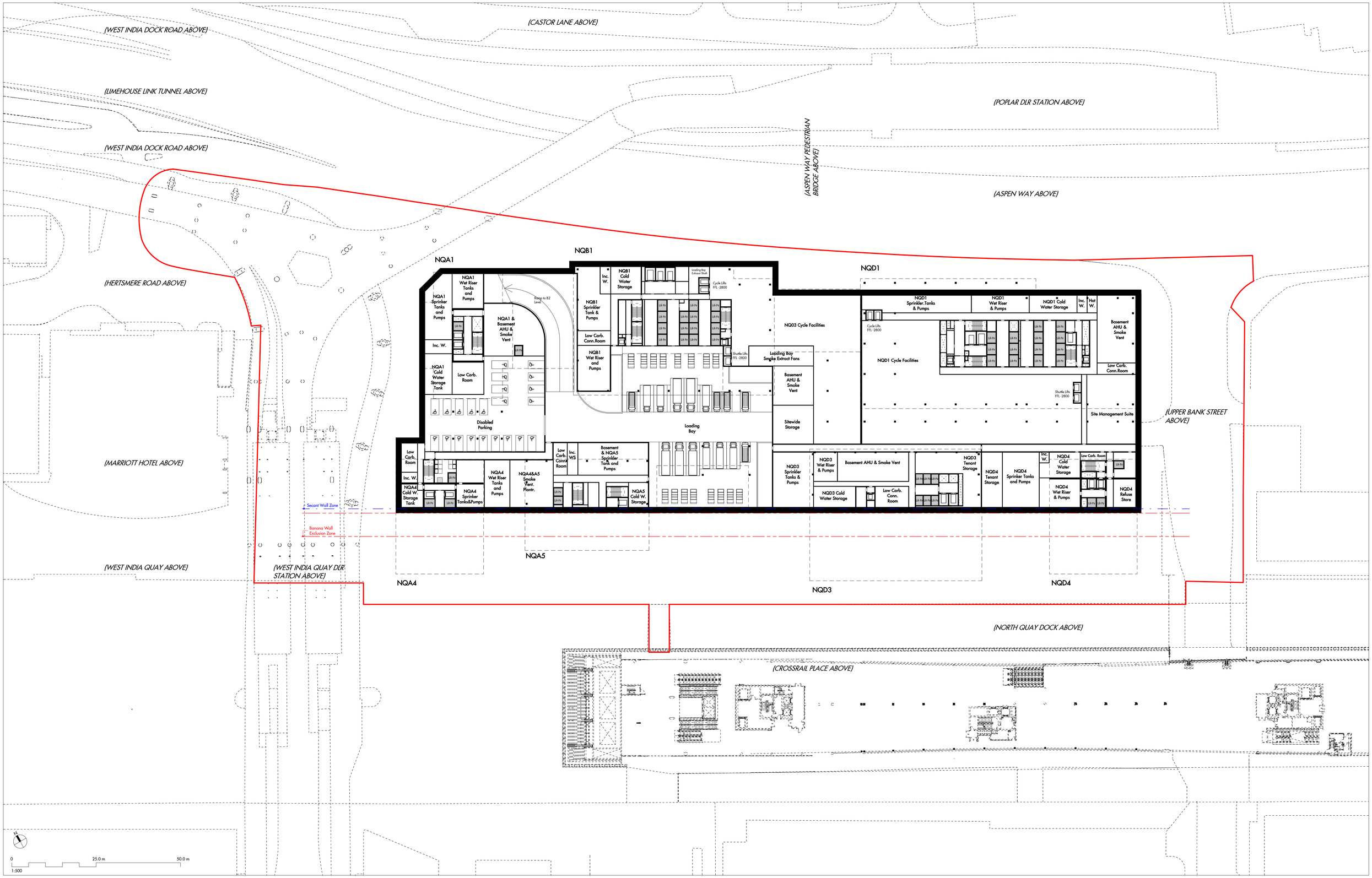
North Quay Masterplan

INDICATIVE SCHEME BASEMENT 1 LEVEL
GENERAL ARRANGEMENT
19141-00-07-099

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION



REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP
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North Quay Masterplan

INDICATIVE SCHEME BASEMENT 2 LEVEL GENERAL ARRANGEMENT

19141-00-07-098

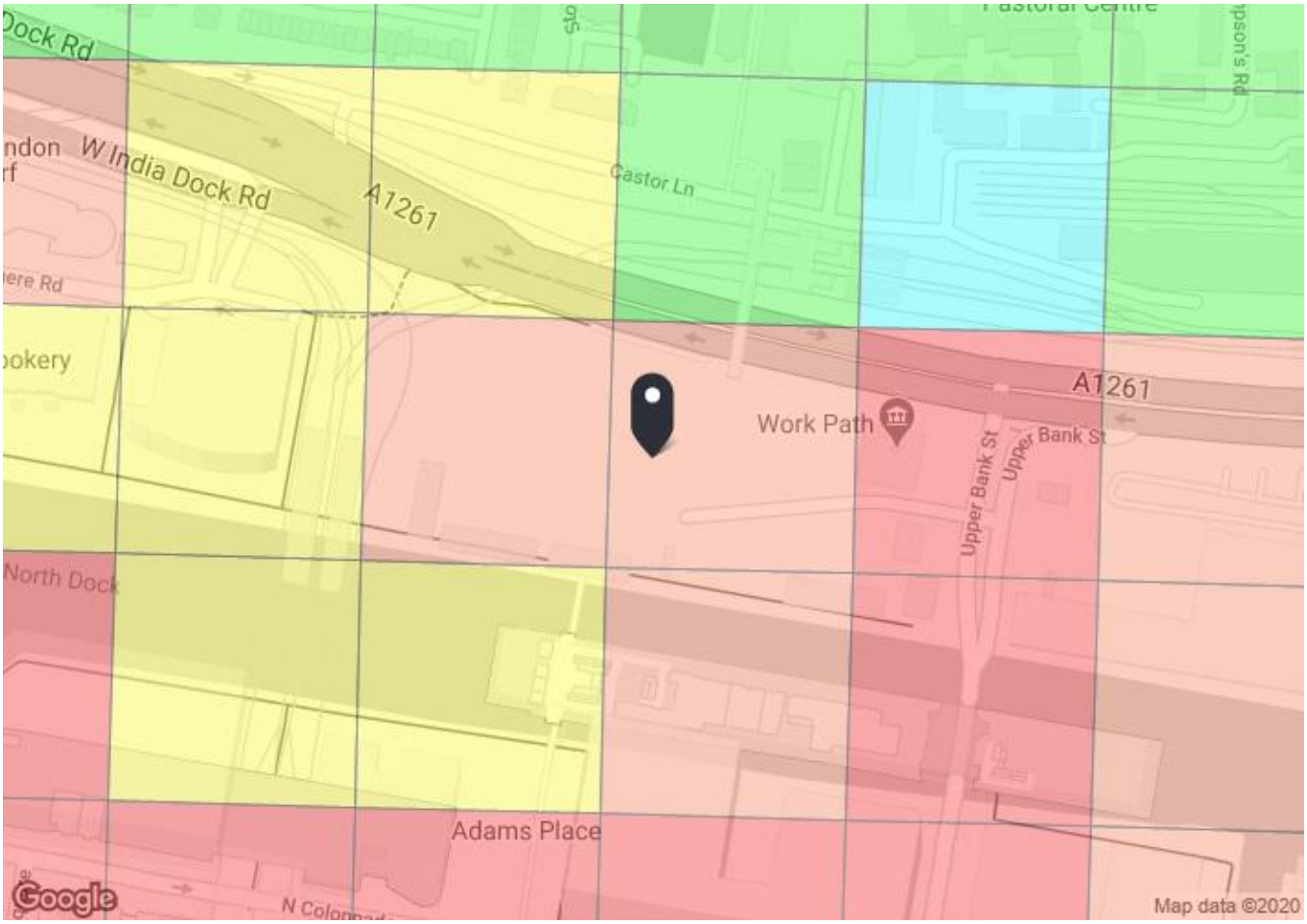
SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

Appendix 2 – PTAL Report

TRANSPORT FOR LONDON



PTAL output for Base Year
5

Poplar, Poplar, London E14 0AF, UK
Easting: 537615, Northing: 180539

Grid Cell: 80889

Report generated: 12/03/2020

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Canada Square Canary Whf	D7	410.03	9	5.13	5.33	10.46	2.87	0.5	1.43
Bus	Canada Square Canary Whf	135	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	D8	410.03	5	5.13	8	13.13	2.29	0.5	1.14
Bus	Canada Square Canary Whf	D3	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	277	410.03	9	5.13	5.33	10.46	2.87	1	2.87
LUL	Poplar	'WWARSL-BANK'	250.48	7.5	3.13	4.75	7.88	3.81	1	3.81
LUL	Poplar	'BECKTON-TWRGWAY'	250.48	7.5	3.13	4.75	7.88	3.81	0.5	1.9
LUL	Poplar	'STRATF-LEWISHAM'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Poplar	'CNRYWH-STRATF'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Canary Wharf	'LEWISHAM-BANK'	503.47	15	6.29	2.75	9.04	3.32	0.5	1.66
LUL	Canary Wharf	'WembleyPark-Stratfo'	503.47	3.67	6.29	8.92	15.22	1.97	0.5	0.99
LUL	Canary Wharf	'Stratford-Willesden'	503.47	4.33	6.29	7.68	13.97	2.15	0.5	1.07
LUL	Canary Wharf	'Stanmore-Stratford'	503.47	17.65	6.29	2.45	8.74	3.43	0.5	1.72
									Total Grid Cell AI:	**22.11**

Appendix 6 - Framework Travel Plan

CANARY WHARF
GROUP PLC

NQ.PA.11

North Quay
Framework Travel Plan

Steer
July 2020

Contents

1. Introduction

Background

1.1 This Framework Travel Plan ("FTP"), covering the non-residential uses of the North Quay development, has been prepared by Steer on behalf of Canary Wharf (North Quay) Ltd ("the Applicant") in support of:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
  - *Business floorspace (B1)*
  - *Hotel/Serviced Apartments (C1)*
  - *Residential (C3)*
  - *Co-Living (C4/Sui Generis)*
  - *Student Housing (Sui Generis)*
  - *Retail (A1-A5)*
  - *Community and Leisure (D1 and D2)*
  - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.2 The full site address is North Quay, Aspen Way, London, E14. The Site is situated in the London Borough of Tower Hamlets ("LBTH").

1.3 The Proposed Development offers an opportunity to make better use of underdeveloped land in an area with excellent public transport accessibility.

1.4 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use. For this reason, the description of development provides the Applicant with flexibility as to the uses that could be undertaken on the Site.

1.5 However, in order to ensure that the level of flexibility is appropriately restricted, the OPA seeks approval for three Control Documents which describe the principal components of the Proposed Development, define the parameters for the Proposed Development (the "Specified Parameters") and control how the Proposed Development will come forward in future. They provide the parameters, design principles and controls that will guide future reserved matters applications ("RMAs"). These Control Documents are – (1) the Development Specification; (2) the Parameter Plans; and (3) the Design Guidelines:

- The Development Specification sets out the type and quantity of development that could be provided across the Site (including setting a maximum floorspace across the Site);
- The Parameter Plans set the parameters associated with the scale, layout, access and circulation and distribution of uses classes and public space for the Proposed Development. They also establish the Development Zones and Development Plots across the Site; and
- The Design Guidelines set the design principles and controls for future development.

1.6 Together, these documents set out the information required to allow the impacts of the Proposed Development to be identified with sufficient certainty as future RMAs will be required to demonstrate compliance with the Specified Parameters and controls in these Control Documents.

1.7 In order to test and validate the OPA, an Indicative Scheme showing the potential location of buildings, uses and open spaces has been produced. This scheme provides a vehicle for examining the possible architectural, environmental, operational and social impacts of the project. It remains schematic but it conforms to the development parameters as defined in the Development Specification, Parameter Plans and Design Guidelines. It has been essential in testing these development parameters. The Indicative Scheme is not a design template or submitted for approval; it represents one possible way the principles as defined in the above listed documents could be interpreted/achieved and developed into a design. The Development Specification, land use floorspace ranges and Indicative Scheme schedule are summarised at Table 1.1 and the Indicative Scheme residential unit mix is provided in Table 1.2. This Indicative Scheme and its Development Plots have been used to generate the images and diagrams for the Design Guidelines. In some instances, these Development Plots are used as reference in the Guidelines to help illustrate the point.

1.8 The Indicative Scheme demonstrates one interpretation of the Specified Parameters but is used throughout this FTP to illustrate the type of mixed-use development that could come

forward and the associated car and cycle parking, servicing and delivery and waste storage requirements. The Indicative Scheme basement 1/2 and ground level plans can be found at **Appendix 1**.

1.9 The maximum site wide total floorspace permitted within the Development Specification is 355,000m^2 (GIA) and the Indicative Scheme floor area totals 354,927m^2 (GIA).

Table 1.1: Development Specification and Indicative Scheme Area Schedule

Land Use	Minimum Floorspace (GIA)		Maximum Floorspace (GIA)	Indicative Scheme
A1-A5 Retail	Total 10,000	A1-A5 5,000	20,000	13,681
D1 Community			20,000	-
D2 Leisure			20,000	-
B1 Business	150,000		240,000	174,653
C1 Hotel/Serviced Apartments	-		150,000	44,081
C3 Residential	-		150,000	84,736
C4 Co-Living	-		150,000	-
Sui Generis: Student Housing	-		150,000	-
Sui Generis: Private Members Clubs, Conference Centres, Theatres, Casinos and Launderettes	-		25,000	-
Below Ground				
A1-A5 Retail	-		5,000	-
B1 Business	-		20,000	-
D1 Community	-		5,000	-
D2 Leisure	-		10,000	-
Ancillary floorspace comprising Business, Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, Energy Centres, Electricity Sub Stations etc.	-		No maximum	Above ground: 9,730 Below ground: 28,047

Table 1.2: Indicative Scheme Residential Unit Mix

Type	Number of Units
Studio	30
1 bed	159
2 bed	316
3 bed	141
4 bed	56
Total	**702**

Travel Plan Context and Scope

1.10 This FTP has been prepared in accordance with the relevant policy and Transport for London's ("TfL's") latest best practice guidance; published in November 2013. Further guidance is expected to be released by TfL in Autumn 2020 and further updates to this FTP would be prepared in accordance with guidance available at the time.

1.11 The FTP has been produced in conjunction with the following documents:

- Transport Assessment ("TA") – submitted as a standalone report.
- Residential Travel Plan ("RTP") – appended to the TA.
- Delivery and Servicing Plan ("DSP") – appended to the TA.
- Site Waste Management Plan – appended to the TA.
- Parking Design and Management Plan – appended to the TA.
- Environmental Impact Assessment ("EIA"), of which a Transport Chapter forms a part – submitted as a standalone report.

1.12 This FTP considers all aspects of non-residential travel behaviour to, from and within the Site, for:

- Travel to/from places of employment;
- Business travel;
- Visitor travel; and
- Servicing and deliveries (in conjunction with the DSP).

1.13 The Applicant (or successor in title) will nominate a Travel Plan Coordinator ("TPC") prior to first occupation, who will work with the Site tenants on travel matters. The nominated TPC will work with the Applicant and LBTH to update the interim travel plan targets following the completion of baseline surveys (within six months of full occupation of the first non-residential building). Once the TPC has been appointed, their contact details will be made available to occupiers of the Proposed Development and to LBTH, prior to occupation.

1.14 This FTP includes proposed interim measures which, in accordance with TfL's current Travel Planning Guidance, will be developed further and updated once a TPC has been appointed, the development has been occupied, and baseline surveys have been undertaken.

Travel Plan Benefits

1.15 This FTP is a 'living' document and, as such, will be actively promoted, reviewed and updated over time. It is envisaged the FTP will be secured via an appropriately worded planning condition or s106 obligation and will provide the basis for sustainable travel prior to and following occupation of the Site.

1.16 The FTP will assist with the long-term management strategy for the sustainable movement of both people and goods to the proposed non-residential uses. A key focus of this will be

to encourage walking, cycling and public transport use as an alternative to car. A separate RTP has been produced for the proposed residential use.

1.17 The TPC will aim to promote the FTP which focuses on:

- Improving the accessibility of the Site for all potential users.
- Increasing travel options to and from the Site and encouraging the use of more sustainable modes of travel such as walking, cycling and public transport (as an alternative to car use).
- Improving the health and well-being of the Site's users through encouraging active travel (walking and cycling) and reducing air and noise pollution.
- Reducing the demand for parking.
- Helping to achieve local and regional policy sustainable transport targets and objectives.

1.18 The Applicant recognises the value of sustainable travel, including deliveries and servicing, and the importance of producing TPs. The Applicant will ensure that the individual tenants will be responsible for producing their own individual Workplace Travel Plans ("WTP") or Travel Plan Statements ("TPS") as necessary by using this FTP as an overarching management tool and a building block for developing tenant-specific measures and targets.

Travel Plan Structure

1.19 This FTP is divided into eight chapters as follows:

- **Chapter 1**: Introduction
- **Chapter 2**: Policy and Guidance Context
- **Chapter 3**: Existing and Proposed Site Context
- **Chapter 4**: Baseline Travel Surveys
- **Chapter 5**: Objectives and Targets
- **Chapter 6**: Travel Plan Management
- **Chapter 7**: Measures and Action Plan
- **Chapter 8**: Monitoring and Review

2. Policy and Guidance

2.1 The following list outlines the transport policies and guidance documents that are relevant to this FTP and the Proposed Development.

National Policy and Guidance

- National Planning Policy Framework (2019)
- National Planning Practice Guidance (2014)
- Good Practice Guidelines: Delivering Travel Plans through the Planning Process (2009)
- Smarter Choices - Changing the Way We Travel (2004)

Regional Policy and Guidance

- The London Plan – Consolidated with Alterations since 2011 (2016) (the London Plan)
- The London Plan – Intend to Publish (2019) (the Draft London Plan)
- Mayor's Transport Strategy (2018)
- Travel Planning for New Development in London (2013)

Local Policy

- London Borough of Tower Hamlets Local Plan 2031: Managing growth and sharing the benefits (2020);
- London Borough of Tower Hamlets Planning Obligations Supplementary Planning Document (2016); and
- London Borough of Tower Hamlets Transport Strategy 2019-2041 (2019).

3. Existing and Proposed Site Context

Site Location

3.1 As presented in **Figure 3.1**, the North Quay Site is bounded by Canary Wharf Elizabeth Line (also referred to as Crossrail in other supporting documentation) station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway ("DLR") station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

Figure 3.1: Site Location

Pedestrian Accessibility

3.2 Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under two kilometres. Walking also forms an often-overlooked part of all longer journeys by public transport.

3.3 The Site has good pedestrian accessibility to surrounding retail, employment, leisure and public transport nodes. All public transport nodes in the vicinity feature step-free access, for ease of movement in the area.

3.4 The walking times from the Site to local amenities are as follows:

- 1 minute to Canary Wharf Elizabeth Line station (adjacent to the Site)
- 1 minute to Poplar and West India Quay DLR stations (adjacent to the Site)
- 2 minutes to shopping and entertainment facilities
- 5 minutes to Canary Wharf Jubilee Line station

3.5 The Aspen Way Footbridge (which the southern approach forms part of the Site boundary) provides an important link to the Site, connecting North Quay to the Poplar DLR station and the wider South Poplar area. Opportunities to improve the footbridge and link to Poplar High Street have been explored to enhance the pedestrian environment and overall movement experience and further details are provided in the Design and Access Statement. Any improvements to Aspen Way Footbridge and, hence, the connection to Poplar High Street are key enhancements for the local community, vital to meeting the objectives of the Local Plan.

3.6 To the east is Billingsgate Market, which can be accessed by crossing Upper Bank Street via a staggered pedestrian priority crossing. Immediately to the west of the site is West India Quay DLR station, which can be accessed from the North Dock waterfront by a staircase and a lift.

3.7 There is a waterfront promenade – Dockside walkway, which starts at the western Crossrail Place access and continues westwards along the North Dock towards Hertsmere House/Museum of London Docklands.

3.8 Significant improvements will be made to the pedestrian network within the Site to encourage active travel to and from the Proposed Development.

3.9 All pedestrian crossings in the area are suited for people with mobility impairments; they have lowered kerbs, tactile paving, and where signalling is present, there are rotating cones.

Cycle Accessibility

3.10 The Site benefits from being in a close proximity to strategic and advisory cycle routes.

3.11 Cycleway 3: Barking to Tower Gateway (previously Cycle Superhighway 3) operates in an east-west direction north of the Isle of Dogs, running along Poplar High Street. Cycleways are cycle routes running from outer London into and across London, providing safer, faster and more direct journeys into the city.

3.12 Additional cycle routes, including the National Cycle Network Route 1 and the London Docklands and Lee Valley regional route, can be accessed from Westferry Circus, approximately 500m west of the Site.

3.13 In 2019 consultations began to assess cycling and walking improvements between Hackney and Isle of Dogs, a scheme led by TfL in partnership with LBTH and London Borough of Hackney. The proposed Cycleway 37 would connect with Cycleway 3 at West India Dock Road, approx. 400m west of the Site, Cycleway 2 at Mile End Road and former Quietway 2 north of Victoria Park. The route would offer future North Quay users a safe and direct connection across East London.

3.14 The Proposed Development will comprise a network of orthogonal cycle routes throughout the Site, allowing for an easy access on the east to west and north to south corridors. The east-west footpath along Aspen Way is proposed to be strengthened with a new cycle route, with a secondary cycling route traversing the Site along North Quay Way.

3.15 On the western approach to the Site, a landscaped area – The Delta – an area of open space located under the existing elevated DLR tracks at the western end of the site, between the edge of the Hertsmere Road and Aspen Way, will be enhanced to increase the east-west connectivity of the Site.

3.16 These improvements will support active travel amongst employees and visitors, contributing to the mode shift towards more sustainable transport modes advocated by the Mayor of London.

Cycle Parking

3.17 Employees and visitors travelling to and from the Proposed Development will benefit from long-stay cycle parking in accordance with the Draft London Plan, comprising a minimum of 2,589 spaces for the Indicative Scheme (excluding residential spaces). Short-stay cycle parking spaces will be provided as per Draft London Plan standards for all land uses, with the exception of retail which will be provided to Adopted London Plan standards initially, monitored in tandem with the travel surveys, and provision increased should the demand arise. This equates to 326 spaces for the Indicative Scheme (excluding residential spaces) and further detail, including the public realm short-stay cycle parking layout is provided in the TA.

3.18 As a whole, the Canary Wharf estate provides a large number of private cycle parking spaces. As of 2018, there were 1,134 free cycle parking spaces located at street level across the estate, 208 free cycle parking spaces at basement level, 405 secure cycle parking spaces where a charge is applied, and 3,715 private cycle parking spaces located within tenant buildings.

3.19 Moreover, there are 10 Santander Cycle Hire stations present within a 10 minutes' walk of the Site, with a total capacity of 346 cycles. A new docking station with capacity for 32 cycles is proposed as part of the Proposed Development as agreed with TfL through pre-application discussions. It will be located at Delta Junction.

Public Transport Accessibility

3.20 A 'Public Transport Accessibility Level' ("PTAL") assessment has been undertaken for the Site. PTAL is a measure of the accessibility of a location to the public transport network, taking into account walk access time and service availability. PTAL is categorised in 6 levels, 1-6 where 6b represents the highest level of accessibility and 1a the lowest level of accessibility.

3.21 The Site's PTAL varies from a 5 ('very good') to a 6a ('excellent'); with improved PTAL closer to Upper Bank Street. The score is expected to improve to 6a across the entire Site by 2021 according to TfL's forecast owing to the planned opening of the Elizabeth Line, immediately south of the Site. The detailed PTAL calculation report is provided at **Appendix 2** and local public transport services are described below.

London Underground and London Overground

3.22 Canary Wharf underground station is the closest London Underground station and is served by the Jubilee line. The Jubilee Line connects to key destinations across London including London Bridge, Waterloo and Bond Street to the west, and North Greenwich, West Ham and Stratford to the east. The Jubilee line is very accessible for all users; step-free access is provided at Canary Wharf underground station and all stations between Green Park and Stratford. Jubilee line frequencies in trains per hour ("tph") during the busiest periods are shown in **Table 3.1**.

Table 3.1: Existing Peak Jubilee Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
30	30

3.23 The Jubilee Line is a part of the Night Tube network, with 24-hour services running on Friday and Saturday nights. The introduction of 24 hour services on the Jubilee Line increased the public transport accessibility of the Site outside peak hours, and provides night-time connectivity with destinations across London.

DLR

3.24 West India Quay and Poplar Stations are located within the immediate vicinity of the Site. Line frequencies during the busiest periods are shown in **Table 3.2**. All DLR stations provide step-free access, facilitating public transport accessibility for all users. The DLR provides connections to key London destinations including Bank, Stratford, Canning Town and Lewisham.

Table 3.2: Existing Peak DLR Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
West India Quay	Stratford	15	15
	Bank	15	15
	Lewisham	7	-
	Canary Wharf	15	15
Poplar	Stratford	15	15
	Woolwich Arsenal	7	8
	Bank	7	8
	Tower Gateway	8	7
	Beckton	8	7
	Lewisham	8	-
	Canary Wharf	15	15
Stratford	West India Quay	15	15
Bank		-	-
Lewisham		8	-
Canary Wharf		15	15
Stratford	Poplar	15	15
Woolwich Arsenal		8	7
Bank		8	7
Tower Gateway		7	7
Beckton		7	8
Lewisham		8	-
Canary Wharf		15	15

Elizabeth Line

3.25 Elizabeth Line is expected to open in 2021, before the planned completion of Phase 1 of the Proposed Development. Canary Wharf Elizabeth Line station, located in Crossrail Place is located immediately to the south, within a one-minute walk. Expected line frequencies during the busiest periods are shown in **Table 3.3**. The new service will facilitate connections to key destinations including Paddington and Tottenham Court Road within central London and Reading and Shenfield outside Greater London. All Elizabeth Line station will be accessible for all users, with step-free access.

3.26 The Elizabeth Line will cut journey times to key destinations. The journey time between Paddington and Canary Wharf is expected to reduce from 49 minutes to 29 minutes, whilst the journey time to Heathrow Airport (Terminal 4) is expected to reduce from 70 minutes to 45 minutes.

Table 3.3: Expected Peak Elizabeth Line Frequencies (tph)

AM peak (08:00-09:00)	PM peak (17:00-18:00)
12	12

National Rail

3.27 The nearest National Rail station to the Site is Limehouse, which is a 2.2 km walk to the west or an 8-minute DLR journey from the neighbouring DLR stations.

3.28 Limehouse station provides access to c2c services to/from London Fenchurch Street and Grays, Pitsea, Southend and Shoeburyness. Step-free access is available via lift to Platform 2 (trains towards Shoeburyness) and via DLR station to Platform 1 (towards London Fenchurch Street). Line frequencies during the busiest periods are shown in **Table 3.4**.

Table 3.4: Existing Peak National Rail Frequencies (tph)

From	To	AM peak (08:00-09:00)	PM peak (17:00-18:00)
London Fenchurch Street	Grays	4	8
	Pitsea	6	8
	Southend Central	8	9
	Shoeburyness	6	9
Grays	London Fenchurch Street	8	6
Pitsea		8	8
Southend Central		6	7
Shoeburyness		4	5

Bus Services

3.29 The Site is located within the vicinity of 8 daytime and 4 dedicated overnight bus routes, connecting North Quay to the wider Canary Wharf area, as well as key locations around London – City of London, the West End and Stratford.

3.30 The bus routes and a summary of these services is provided in **Table 3.5**.

Table 3.5: Local Bus Services

Bus Route	Route	Nearest Bus Stop	Peak Hour Headway (mins)
135	Old Street – Crossharbour	Canary Wharf Station (Stop F)	9-12
277	Dalston Junction – Mudchute		5-9
D3	Bethnal Green – Leamouth		9-11
D7	Poplar – Mile End		5-7
D8	Stratford – Crossharbour		11-14
N277	Angel – Mudchute		Two to four services per hour between 00:52 and 06:08 (towards Mudchute) and 00:23 and 04:45 (towards Angel)
N550	Trafalgar Square – Canning Town Station		Two to four services per hour between 00:54 and 05:52 (towards Canning Town) and 23:59 and 06:00 (towards Trafalgar Square)
15	Trafalgar Square – Blackwall Station	Upper North Street (Stop F Westbound; Stop C Eastbound)	6-10
115	Aldgate – East Ham		7-11
D6	London Fields – Mudchute		6-8
N15	Oxford Circus – Romford		Four to eight services per hour between 01:04 and 05:48 (towards Romford) and 01:06 and 05:19 (towards Oxford Circus)
N551	Trafalgar Square – Beckton		Two services per hour between 00:38 and 06:04 (towards Beckton) and 23:48 and 06:21 (towards Trafalgar Square)

Local Highway Network and Car Parking

3.31 The Site is well connected to the local and regional road network and is currently accessed via Hertsmere Road and Upper Bank Street. It is partly bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively.

3.32 The A1261, Aspen Way, is an east-west road link forming part of the Transport for London Road Network ("TLRN"). Aspen Way diverges into West India Dock Road and the

Limehouse Link Tunnel in the west. West India Dock Road provides connections with Westferry Road at the junction next to Westferry DLR station, and the east-west A13 East India Dock Road. The A13 is a major London through route connecting central and east London and south Essex. The road is subject to 40mph speed limits.

3.33 In the Proposed Development, North Quay Way will form the key spine route running through the Site in an east-west orientation, providing vehicular and pedestrian access and connectivity between Upper Bank Street and Hertsmere Road. Its eastern end will be a secondary entry point into North Quay and will also help connect the Masterplan to Billingsgate in the future. The street will act as a spine of the Proposed Development connecting all of the building plots and open spaces together.

3.34 North Quay Way will provide access for taxis, servicing and emergency vehicles, with three bays provided on-street. However, the vehicular traffic volume on the road is expected to be low, maintaining the road as a key pedestrian route.

3.35 The Site is situated within a Controlled Parking Zone (“CPZ”) “D”. The CPZ restrictions apply Monday to Friday, between 8.30AM and 5.30PM.

3.36 The Site is not located within the Congestion Charge Zone. The Site will be included within the expanded Ultra-Low Emission Zone, which the Mayor proposes to expand to cover all areas contained within the North Circular and South Circular by October 2021.

3.37 The Proposed Development will be car-free, apart from accessible car parking spaces provided for commercial and residential uses.

4. Baseline Travel Data

Baseline Travel Surveys

4.1 As the occupiers of the Proposed Development are unknown at this stage, no baseline surveys have been undertaken to determine travel patterns at the Site. A robust trip generation assessment has been carried out as part of the Transport Assessment work. This information forms the interim baseline mode share figures.

4.2 Future year person trips by mode have been assessed for the non-residential element of the Proposed Development Indicative Scheme.

4.3 Further details of how the trips have been calculated are provided in the Transport Assessment.

4.4 A full travel survey is proposed to be undertaken within six months of full occupation of the first non-residential building. The baseline surveys will include multi-modal counts including delivery and servicing data together with resident and visitor questionnaires.

4.5 This comprehensive baseline survey will inform the development of this FTP and assist in the determining site-specific measures to encourage sustainable travel. It will comprise a count survey and questionnaire. These will be undertaken during the Site's main operational hours on a single day during school term-time.

4.6 The travel surveys will be undertaken in accordance with best practice at the time.

4.7 The results of the survey will help to determine why people travel a certain way and will identify potential additional measures that will encourage increases in walking and cycling.

4.8 To gain an insight into travel characteristics and attitudes, the survey will identify the following key topics:

- Mode of travel, reasons why and emissions data analysis
- Where staff travel from
- Flexible working arrangements
- What improvements can be made to the current main mode of travel
- What would encourage people to walk/cycle to work
- What prevents people walking/cycling to work
- What facilities/initiatives are people aware of.

4.9 Results of the travel surveys will be collated and analysed to identify relevant measures for the development. Mode share information derived from the surveys will be used to review and set targets for the future.

Forecast Non-Residential Mode Share and Trip Generation

4.10 The forecast non-residential mode share is set out in **Table 4.1**. Further detail on how this has been derived is provided in the Transport Assessment.

Table 4.1: Forecast Non-Residential Mode Share

Mode	Commercial*	Retail	Serviced Apartments
London Underground	46%	29%	19%
DLR	20%	13%	19%
Elizabeth Line	19%	22%	19%
Bus	3%	8%	4%
Taxi	1%	3%	1%
Motorcycle	1%	0%	0%
Car Driver + Passenger	0.5%	1%	3%
Cycle	5%	3%	2%
Walk	4%	21%	31%
Other (inc. Riverbus)	0.3%	0%	2%
Total	**100%**	**100%**	**100%**

**May not sum due to rounding.*

4.11 The forecast trip generation for the non-residential element of the Proposed Development's Indicative Scheme is provided within **Table 4.2**. **Tables 4.3** to **4.5** detail the retail, office and serviced apartments' trip generation.

Table 4.2: Forecast Non-Residential Trip Generation (Indicative Scheme)

Mode	AM Peak			PM Peak			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	2,572	497	3,069	441	1,995	2,437	10,858	10,734	21,592
DLR	1,182	269	1,450	224	924	1,149	5,140	5,093	10,233
Elizabeth Line	1,168	281	1,449	237	909	1,147	5,435	5,345	10,779
Train	0	0	0	0	0	0	0	0	0
Bus	196	57	255	50	151	201	1,093	1,057	2,150
Taxi	40	15	55	13	31	44	279	266	545
Motorcycle	26	4	30	4	21	24	97	97	194
Car	6	14	22	9	7	16	111	109	220
Cycle	226	46	272	40	176	216	977	965	1,942
Walk	329	204	533	147	266	412	2,506	2,429	4,935
Other (inc. Riverbus)	55	16	71	11	44	55	232	234	466
Total	**5,800**	**1,403**	**7,206**	**1,176**	**4,524**	**5,701**	**26,728**	**26,329**	**53,056**

May not sum due to rounding.

Table 4.3: Forecast Retail Trip Generation (Indicative Scheme, 13,681 sqm GIA)

Mode	AM Peak			PM Peak			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	127	63	190	67	83	151	1,575	1,436	3,011
DLR	57	28	85	30	37	68	706	644	1,350
Elizabeth Line	96	48	144	51	63	114	1,195	1,090	2,284
Train	0	0	0	0	0	0	0	0	0
Bus	35	18	53	19	23	42	435	396	831
Taxi	13	7	20	7	9	16	163	149	312
Motorcycle	0	0	0	0	0	0	0	0	0
Car	4	2	7	2	3	5	54	50	104
Cycle	13	7	20	7	9	16	163	149	312
Walk	92	46	138	49	60	109	1,141	1,040	2,181
Other (inc. Riverbus)	0	0	0	0	0	0	0	0	0
Total	**438**	**219**	**657**	**233**	**287**	**520**	**5,431**	**4,953**	**10,384**

May not sum due to rounding.

Table 4.4: Forecast Office Trip Generation (Indicative Scheme, 176,004 sqm GIA)

Mode	AM Peak			PM Peak			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	2,429	356	2,785	332	1,886	2,218	8,922	8,922	17,844
DLR	1,109	163	1,271	152	861	1,013	4,073	4,073	8,146
Elizabeth Line	1,056	155	1,211	144	820	965	3,879	3,879	7,758
Train	0	0	0	0	0	0	0	0	0
Bus	158	23	182	22	123	145	582	582	1,164
Taxi	26	4	30	4	21	24	97	97	194
Motorcycle	26	4	30	4	21	24	97	97	194
Car	0	0	0	0	0	0	0	0	0
Cycle	211	31	242	29	164	193	776	776	1,552
Walk	211	31	242	29	164	193	776	776	1,552
Other (inc. Riverbus)	53	8	61	7	41	48	194	194	388
Total	**5,280**	**774**	**6,055**	**722**	**4,101**	**4,823**	**19,396**	**19,396**	**38,791**

May not sum due to rounding.

Table 4.5: Forecast Serviced Apartments Trip Generation (Indicative Scheme, 750 units)

Mode	AM Peak			PM Peak			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
London Underground	16	78	94	42	26	68	361	376	737
DLR	16	78	94	42	26	68	361	376	737
Elizabeth Line	16	78	94	42	26	68	361	376	737
Train	0	0	0	0	0	0	0	0	0
Bus	3	16	20	9	5	14	76	79	155
Taxi	1	4	5	2	1	4	19	20	39
Motorcycle	0	0	0	0	0	0	0	0	0
Car	2	12	15	7	4	11	57	59	116
Cycle	2	8	10	4	3	7	38	40	78
Walk	26	127	153	69	42	110	589	613	1,202
Other (inc. Riverbus)	2	8	10	4	3	7	38	40	78
Total	**83**	**410**	**493**	**221**	**134**	**356**	**1,901**	**1,978**	**3,878**

**May not sum due to rounding.*

4.12 Regarding delivery and servicing trips, further detail is provided in the TA and DSP, however it is expected that the non-residential component of the Proposed Development will generate 1,124 two-way trips per day on average.

5. Objectives and Targets

5.1 This chapter outlines the overarching 'Objectives' and 'Targets' of the FTP. The objectives are supported by a set of quantified SMART (Specific, Measurable, Achievable, Realistic, and Time-bound) targets so that progress towards achieving them can be measured.

Objectives

5.2 The objective of this FTP is:

> *"To facilitate the sustainable movement of staff, visitors and goods to and from the office use of the Proposed Development."*

5.3 To support the realisation of this overarching objective, several sub-objectives have been set:

- Ensure the Site is accessible to all and that the needs of vulnerable groups, e.g. those with mobility impairments.
- Promote walking and cycling as an alternative to public transport use.
- Increase awareness of FTP, its constituent measures and tenant obligations.
- Encourage the most efficient use of servicing vehicles.
- Promote smarter working and living practices that reduce the need to travel overall or in the peak periods.
- Encourage visitors to use sustainable transport modes to access the Site, particularly walking and cycling.
- Encourage the use of cycle parking and associated facilities on Site.
- Improve the safety of persons travelling to and from the Proposed Development on foot or by cycle.
- Improve the health of employees and minimise the impacts on the environment.

5.4 These objectives support the principles of the adopted London Plan (2016), the Draft London Plan (2019) and the Mayor's Transport Strategy (2018) to reduce vehicle emissions and increase walking and cycling trips.

Targets

5.5 A comprehensive travel survey will be conducted within six months of full occupation of the first non-residential building at the Proposed Development. The survey will allow a better

understanding to be developed of the specific travel characteristics for employees and visitors, together with servicing movements.

5.6 The results of the baseline surveys will be used to set specific targets as a means of measuring the achievement of the objectives. It is envisaged the full TP will be completed following the completion of the baseline surveys.

5.7 Interim mode share targets for the office use have been identified for the 3rd and 5th years in **Tables 5.1 – 5.3** based on the expected mode share data as set out within the previous chapter. The initial targets have been developed to encourage sustainable modes of transport. Following the baseline surveys, the targets will be re-assessed in discussion with LBTH.

Table 5.1: Interim Commercial Mode Share Targets

Mode	Proposed Mode Share	3rd Year Target	5th Year Target
London Underground	46%	45%	44%
DLR	20%	19.5%	19%
Elizabeth Line	19%	19%	19%
Bus	3%	3%	3%
Taxi	1%	0.5%	0.5%
Motorcycle	1%	1%	1%
Car Driver + Passenger	0.5%	0.5%	0.5%
Cycle	5%	6%	7%
Walk	4%	5%	6%
Other (inc. Riverbus)	0.3%	0.3%	0.3%
Total	**100%**	**100%**	**100%**

Table 5.2: Interim Retail Mode Share Targets

Mode	Proposed Mode Share	3rd Year Target	5th Year Target
London Underground	29%	28%	27%
DLR	13%	13%	13%
Elizabeth Line	22%	21%	20%
Bus	8%	8%	8%
Taxi	3%	3%	3%
Motorcycle	0%	0%	0%
Car Driver + Passenger	1%	1%	1%
Cycle	3%	4%	5%
Walk	21%	22%	23%
Other (inc. Riverbus)	0%	0%	0%
Total	**100%**	**100%**	**100%**

Table 5.3: Interim Serviced Apartments' Mode Share Targets

Mode	Proposed Mode Share	3rd Year Target	5th Year Target
London Underground	19%	18%	17.5%
DLR	19%	18%	17.5%
Elizabeth Line	19%	19%	18%
Bus	4%	4%	4%
Taxi	1%	1%	1%
Motorcycle	0%	0%	0%
Car Driver + Passenger	3%	3%	3%
Cycle	2%	3%	4%
Walk	31%	32%	33%
Other (inc. Riverbus)	2%	2%	2%
Total	**100%**	**100%**	**100%**

5.8 The interim mode share targets set out in the tables above encourage a shift towards walking and cycling.

Other Targets

5.9 Beyond the proposed mode share targets above, a number of additional preliminary targets that could be implemented by the individual tenants are outlined in **Table 5.4**.

Table 5.4: Other Potential Travel Plan Targets

Target	3rd Year Target	5th Year Target
Percentage of employees given the opportunity to take part in cycle training	100%	All new employees
Staff to have access to the Government's Cycle to Work Scheme	100%	100%
Reduction in business mileage	Reduction of 5%	Reduction of 10%
Offices to be equipped with facilities for telephone and business conferencing	100%	100%
Employers providing the opportunity for public transport season ticket loans	90%	100%

6. Travel Plan Management

Travel Plan Delivery

6.1 Effective management of the FTP and the full TP, combined with clearly defined roles and responsibilities, is recognised as being fundamental to achieving the overarching and tenant-specific objectives.

Framework Travel Plan

6.2 This FTP has been produced as not all of the tenants or phasing of the development is known. Therefore, this document has been prepared to provide, in principle, the measures, strategies and targets that will be required for individual tenant WTP or TPS once the occupiers are known.

6.3 The Applicant will manage this overarching FTP and will appoint a Site-Wide TPC to oversee the development and integration of various travel plans, including the RTP. Until such time, Steer will be responsible for the FTP.

Tenant Specific Travel Plans

6.4 Where appropriate, tenants will be required to produce an individual WTP or a TPS for their organisation, the scope of this will be agreed with LBTH and TfL post occupation.

6.5 Prospective tenants will be expected to make a commitment to this FTP and deliver measures to support it.

6.6 The Site-Wide TPC will be expected to liaise with each individual tenant to ensure that the WTP or TPS remain consistent with the FTP. To ensure that the WTPs or TPSs are effective, and that each individual tenant takes ownership for their commitments, each tenant will be expected to appoint a TPC.

6.7 The TPCs will be expected to be proactive in promoting the use of active travel and public transport and contribute towards the success of the FTP. The TPCs will be expected to liaise with LBTH's Travel Plan Coordinator to agree specific targets, measures and incentives as part of the production of their WTP or TPS.

Travel Plan Coordinator

6.8 The TPC's responsibilities will include:

- Obtaining and maintaining commitment and support from staff.
- Implementing an effective marketing campaign of the WTP or TPS and its measures.

- Liaising with parties within the organisation (e.g. different departments), other occupiers on-site and stakeholder (e.g. LBTH officers, TfL, public transport operators) (see below).
- Liaison with LBTH's Travel Plan officer.
- Giving advice and information on transport-related subjects to staff and visitors.
- Setting up and facilitating internal meetings.
- Coordinating the necessary data collection exercises and monitoring the programme of the WTP or TPS.

Securing and Funding the Travel Plan

6.9 It is envisaged that this FTP will be secured via an appropriately worded planning condition or s106 obligation. A series of sustainable transport measures will be implemented as part of the Proposed Development, demonstrating the commitment to this FTP by the Applicant.

6.10 The Applicant will ensure that suitable funding and a sufficient budget for the FTP is provided. This will ensure future commitment and on-going monitoring and review.

Partnership and Collaborative Working

6.11 The Site-Wide TPC will take the lead in the delivery of the FTP and will also be responsible for ensuring coordination with other key stakeholders.

Travel Plan Awareness and Monitoring

6.12 The success of the FTP is dependent on implementation of an effective marketing strategy which will be progressed by the TPC with help from the Applicant. The tenants (once identified), will continue to manage this on behalf of their organisation.

6.13 To increase awareness of the WTPs and TPSs, staff and visitors will be given information on the sustainable ways to travel to and from the site within the local area.

6.14 The travel surveys and pre-survey marketing will contribute towards raising awareness at the outset.

6.15 The Tenant TPCs will work to progress a marketing strategy. Whilst this will be subject to further discussions and agreement with LBTH, this is likely to include:

- the provision of local transport information on a website.
- the information on the car club locations in the vicinity of the site.
- an annual review of all marketing information will be undertaken, and material updated as appropriate.

Initiatives to Encourage Sustainable Travel

6.16 The Action Plan in **Chapter 7** details the specific measures that are to be pursued in relation to encouraging more sustainable travel patterns such as greater use of cycling, walking, public transport.

Efficient Use of Private Vehicles

6.17 The development is car-free in nature and on-street parking in controlled as a part of CPZ. However, this FTP recognises that the use of private cars varies and that whilst this can be reduced, it cannot be totally eradicated for various reasons such as shift patterns, mobility issues, children, etc.

6.18 The FTP will therefore encourage tenants, staff and visitors to make informed decisions about how they travel and will discourage the use of private cars. In addition, this FTP advocates good access for servicing and deliveries, to avoid congestion in and around the development.

Smarter Working Practices

6.19 This FTP advocates the use of 'smarter working practices' as a means of reducing the total number of trips made, including:

- Use of technology in place of face-to-face meetings (i.e. tele- and video conferencing) that might occur during the working day.
- Use of technology to enable staff to work from home/remotely and have access to the same information as in the office (i.e. remote access to the necessary computer networks).
- Implementation of more flexible working hours, with shift patterns co-ordinated to public transport operating times.

Visitor Travel

6.20 The FTP aims to reduce the number of visitors and to encourage essential journeys to be made by sustainable modes of transport. Visitors will be advised on how to reach the Site, so that they can make an informed decision. It will be clear that car parking is limited on-street.

Management Challenges

6.21 The various tenants will likely have different types of employees, visitors and servicing requirements. Times of operation will vary as will potential shift patterns.

6.22 It is important that the TPCs recognise these challenges and adapt measures to suit individual organisations. For example, where possible, shifts should be formalised and

those working outside normal working hours are still well informed on travel options and safe walking and cycling routes.

7. Measures and Action Plan

7.1 This chapter details the measures that have been set for the FTP. These measures relate to initiatives that will be introduced to achieve the targets set. At this stage, some measures are proposed as 'interim' as the Tenant TPCs will need to develop and prioritise their own measures which relate directly to the needs of their organisations.

Action Plan

7.2 An action plan is provided in **Table 7.1** overleaf, which lists potential measures that could be implemented depending on the outcome of the baseline travel survey, including a timescale and responsibility.

Table 7.1: Action Plan

Measure	Initiative	Timescale for Implementation	Responsibility
Managing the on-going development and delivery of the FTP			
Appoint Site-Wide Travel Plan Coordinator ("TPC")	A Site-Wide TPC will be responsible for managing the on-going development, delivery and promotion of the Travel Plan. The TPC will liaise with individual tenant TPCs.	Prior to occupation	The Applicant/Building Management
Produce WTPs for tenants that meet the threshold requirements	Ensure tenants produce individual WTPs.	Establish prior to occupation with full adoption following occupation.	The Applicant and Tenant TPCs
Employee Travel Surveys	Monitor effect of FTP on mode of travel to work and revise to ensure effective on-going results for future surveys.	Upon occupation and on-going	TPC
Increasing awareness of the FTP and Full FTPs			
Site information	TPCs to provide information to employees on access arrangements, walking, cycling and public transport services. This should include maps and website links to real-time journey information.	Upon occupation of each tenant	TPC
TPC to attend Canary Wharf Transport Forum Meetings	Existing Forum for Canary Wharf, Tower Hamlets, Transport for London, Transport Operators and Tenants.	Quarterly from occupation	TPC
Health and financial benefits	Inform employees and visitors of the health and financial benefits of walking and cycling through company websites and intranets or with promotional material. Information will include the location of safe walking and cycling routes, walk and cycle distances, and times and tax-efficient cycle purchase schemes.	From the date of first occupation and on-going for following five-year period.	TPC
Induction / Welcome Packs	Provision of induction/ welcome packs to tenants and to individual employees.	Following occupation of the tenant and on staff induction days	TPC
Personalised Journey Planning	The TPC to promote sustainable travel to occupiers	Following occupation of the tenant and on staff induction days	TPC

Measure	Initiative	Timescale for Implementation	Responsibility
Travel information boards	To provide travel information boards within the site to include up-to-date transport information on walking, cycling, public transport including maps, website links, real-time journey information, etc.	Upon occupation of each tenant	TPC
Encouraging walking and cycling			
Cycle parking and facilities	To provide secure long-stay cycle parking spaces, showers, lockers and short-stay visitor spaces in accordance with the Draft London Plan (2019) minimum standards (except Retail as agreed with TfL).	Before occupation	The Applicant
Monitoring of cycle parking	Monitor the use of the cycle parking to ensure there is sufficient provision to meet demand.	Annually	TPC
Information about local facilities	Information relating to local shops, restaurants, community and leisure facilities to reduce the need for travel by car and/or public transport.	Prior to first occupation	TPC
TfL Cycle Hire	To promote and encourage the usage of TfL Cycle Hire scheme within close proximity of or on site.	Following occupation of each tenant	TPC
Cycle training	TPC to inform and encourage the occupiers to attend cycle training courses and distribute information on cycle maintenance training courses. Cycle training is provided free of charge by LBTH to anyone who lives, works or studies within the borough. LBTH offers courses for all types of cyclists – *Family cycle training course*, *Cycle skills for adults* and *Cycle commuter training*.	Within first 2 years of occupation	TPC
Encouraging the best use of cars and sustainable freight travel			
Car Parking	Provision of accessible car parking.	Upon occupation	The Applicant
Car Club	Provide information on the car clubs operating in the area and their locations.	Upon occupation and ongoing	Tenant TPCs
Annual/regular promotional events	TPC to hold promotional events that coincide with other events such as Car Free Day.	From the date of first occupation and on-going for following five-year period	TPC

Measure	Initiative	Timescale for Implementation	Responsibility
Delivery and Servicing Plan	Ensure the DSP and FTPs work together to achieve common targets for reducing and managing deliveries/ servicing efficiently.	Prior to occupation and ongoing	Site management and Tenant TPCs
Out-of-Hours Servicing and Deliveries	Encourage servicing and deliveries to take place outside of network peak periods.	Following occupation of each tenant	TPC
Couriers	Encourage use of servicing and delivery companies who are FORS members or provide cycle couriers where/when possible.	Following occupation of each tenant	TPC
Tenant Handbooks	Ensure all tenants are provided with a 'Tenant Handbook', which will set out the policies and procedures for the site and will include details of servicing and delivery processes and procedures that must be adhered to.	Prior to occupation of each tenant /once tenants are known	TPC
Use of local sources/suppliers	Encourage tenants to source items locally, or from the same supplier, to reduce the number of delivery vehicle trips.	Within 1 year of occupation of each tenant	TPC
Vehicle Booking and Management System	Produce a delivery and servicing schedule to outline the most appropriate times for servicing vehicle movements. This is to ensure efficiency of the loading bay operations and ensure multiple vehicles do not arrive at the same time.	Start to develop once tenants are known. To be operational from occupation.	TPC
Promoting smarter working and living practices			
Tele- and Video Conferencing	Promote the use of tele- and video conferencing in place of face-to-face meetings.	Upon occupation and ongoing	Tenant TPCs
Working from home/ remote working	Enable staff to work from home/remotely and have access to the same information as in the office.	Upon occupation and ongoing	Tenant TPCs
Flexible working	Implement flexible working hours, with shift patterns coordinated to public transport operating times.	Upon occupation and ongoing	Tenant TPCs

8. Monitoring and Review

Monitoring Programme

8.1 This FTP is part of a continuous process requiring monitoring, reviewing and revising to ensure it remains relevant. This chapter sets out the proposals for monitoring and reviewing the FTP.

8.2 The Applicant will identify a Site-Wide TPC prior to occupation to ensure, where appropriate, tenants develop their own WTP or TPS depending on whether they meet the required TfL thresholds. Each tenant will have their own TPC who will liaise with the Site-Wide TPC.

8.3 The TPCs will oversee the monitoring and review of their own WTP or TPS. The Site-Wide TPC will ensure that the tenants include arrangements for review and monitoring on a regular basis.

8.4 The purpose of the monitoring and review process is to assess the overall progress in achieving objectives and targets but also, if possible, to see the impact of measures and thus decide whether to continue them. Monitoring can also prove a useful way to raise awareness.

8.5 It is acknowledged that it will be appropriate for tenants to amend their WTP or TPS in response to changing circumstances and that a TPS may not always include targets, with its content to be agreed with LBTH.

8.6 **Table 8.1** provides an indicative programme and timescale for the development, monitoring and review of the WTPs or TPSs. On the basis that this is an OPA and further Reserved Matters Applications (RMAs) will be required, the precise timescales for monitoring and review may change due to the phased nature of the scheme. This will be discussed and agreed with LBTH during the RMAs for the respective development plots.

Table 8.1: Plans and Timescales for TP Monitoring

Action	Timescale
Baseline employee travel survey	Within six months of full occupation of the first non-residential building.
Tenants to produce WTP or TPS using the most recent travel survey data available	Following baseline surveys.
Future travel surveys	On 3rd and 5th year anniversaries from the date of full occupation of the first non-residential building.
Feedback to employees	Every six months
Undertake comprehensive strategic review of all aspects of the FTP (objectives, targets, action plan and monitoring programme) and make relevant updates.	Following six month, 3rd and 5th year travel surveys.

Travel Surveys

8.7 The monitoring programme will begin with a baseline survey, to be undertaken within six months of full occupation of the first non-residential building. As discussed in **Chapter 4**, this will be

undertaken during the main operation hours of the Site on a single typical day during school term-time. The surveys will be promoted by the TPC to encourage a high response rate.

8.8 Following the baseline surveys, the targets will be reviewed and updated to reflect the actual mode splits. In the 3rd and 5th year, targets will then be reviewed against new surveys.

8.9 If the results of these surveys were to identify that any targets were not being met, a review of the outcomes will be discussed with LBTH. Following this process mitigation measures may be identified that will be implemented by the TPCs.

8.10 The surveys will consist of the following elements:

- **Site Management Questionnaire** – a self-completion questionnaire that will be issued to the site manager. It will request information regarding floor area, site area, number of deliveries and travel measures already in place.
- **Multi-modal count of all trips to and from the site** – a count of all people, vehicles and deliveries entering and leaving the site on a single day covering all entrances/exits.
- **Parking Counts** – record the number of parked cars, cycles and other vehicles on-site before the start, at the end and at regular intervals throughout the survey period.
- **Visitor surveys** – visitors to the site, including visitors to the serviced apartments, will be asked to give a brief interview of how they travelled to the site, including their home postcode.
- **Employee questionnaire** – employees will be asked to complete a questionnaire to show a one-day record of their journeys to and from work and any other trips undertaken during the day. The questions could include:
  - Time in and out of the site
  - Origin and destination postcodes
  - Main mode to work
  - Final mode to work
  - First mode out
  - Main mode out
  - Car parking location (if applicable, e.g. as part of a multi-modal journey)
  - Trips made during working hours including mode and timings.

Appendix 1 - Proposed Plans

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

HERTSMERE ROAD

NQA1

NQB1

NQD1

Security Hut

Vehicle Ramp to B2

Retail

Residential Amenities

Refuse Store

Cycle Lifts

Resi Lobby

Office Lobby

MUGA

POPLAR PLAZA

Office Lobby

NORTH QUAY WAY

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

WEST INDIA QUAY

GARDEN SQUARE

QUAY SQUARE

DOCK SQUARE

UPPER BANK STREET

BILLINGSGATE MARKET

NQA4

NQA5

NQD3

NQD4

reception/entrance

Cycle Store

Store

BOH

S. apt. Lobby

CROSSRAIL PLACE

0 25.0 m 50.0 m

1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP

85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
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North Quay Masterplan

INDICATIVE SCHEME GROUND FLOOR LEVEL
GENERAL ARRANGEMENT
19141-00-07-100

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

(WEST INDIA DOCK ROAD ABOVE)

(LIMEHOUSE LINK TUNNEL ABOVE)

(WEST INDIA DOCK ROAD ABOVE)

(HERTSMERE ROAD ABOVE)

(MARRIOTT HOTEL ABOVE)

(WEST INDIA QUAY ABOVE)

(WEST INDIA QUAY DLR STATION ABOVE)

(CASTOR LANE ABOVE)

(POPLAR DLR STATION ABOVE)

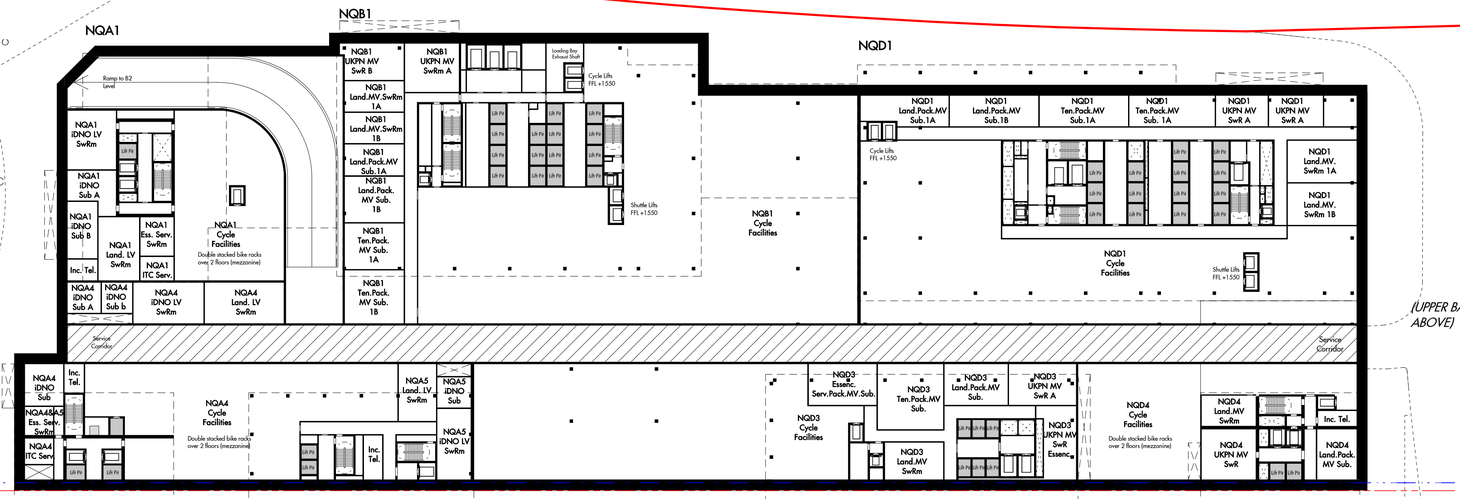
(ASPEN WAY PEDESTRIAN BRIDGE ABOVE)

(ASPEN WAY ABOVE)

(UPPER BANK STREET ABOVE)

(NORTH QUAY DOCK ABOVE)

(CROSSRAIL PLACE ABOVE)



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0 25.0 m 50.0 m

1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP
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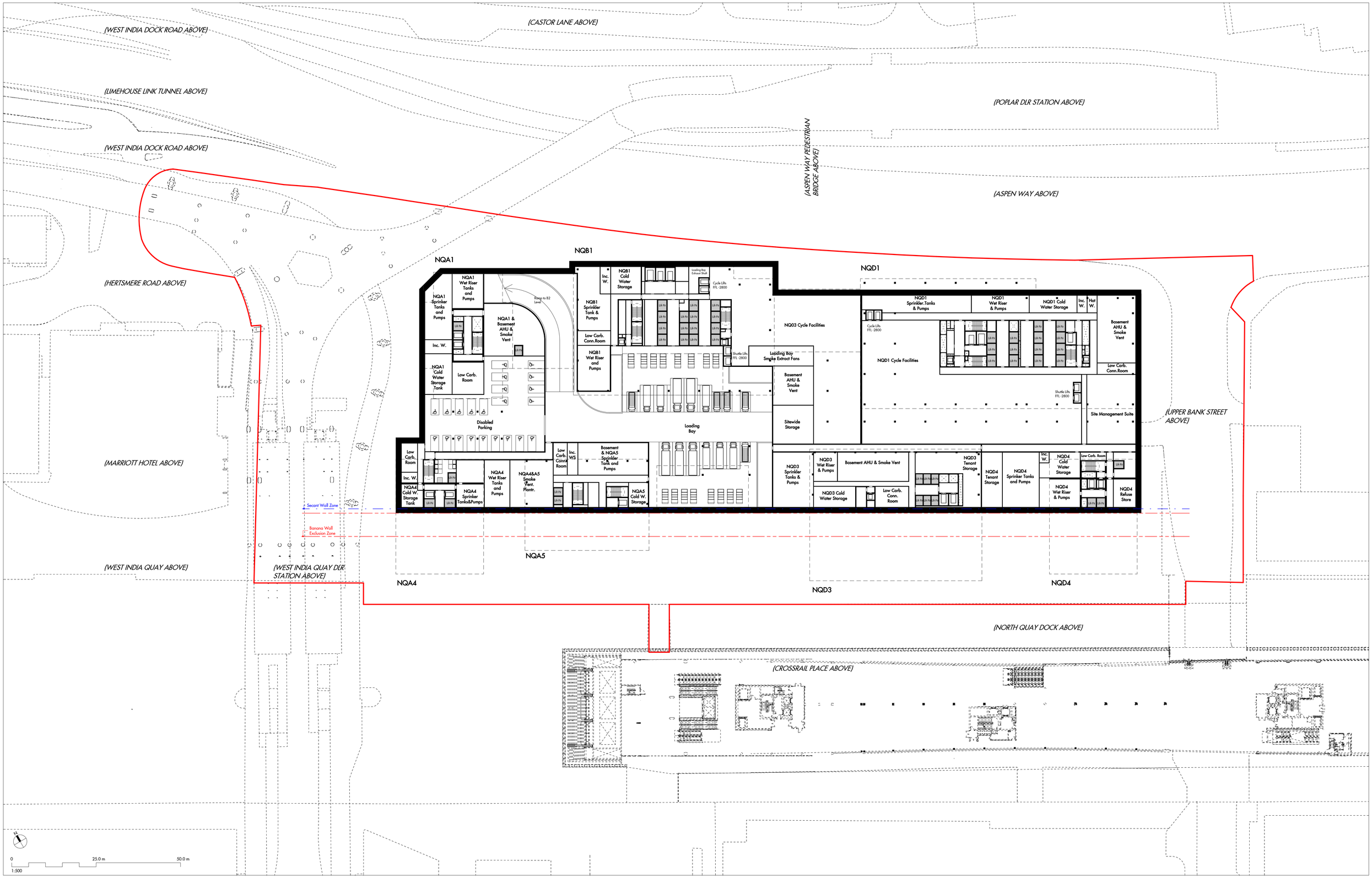
North Quay Masterplan

INDICATIVE SCHEME BASEMENT 1 LEVEL
GENERAL ARRANGEMENT
19141-00-07-099

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION



REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

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North Quay Masterplan

INDICATIVE SCHEME BASEMENT 2 LEVEL GENERAL ARRANGEMENT

19141-00-07-098

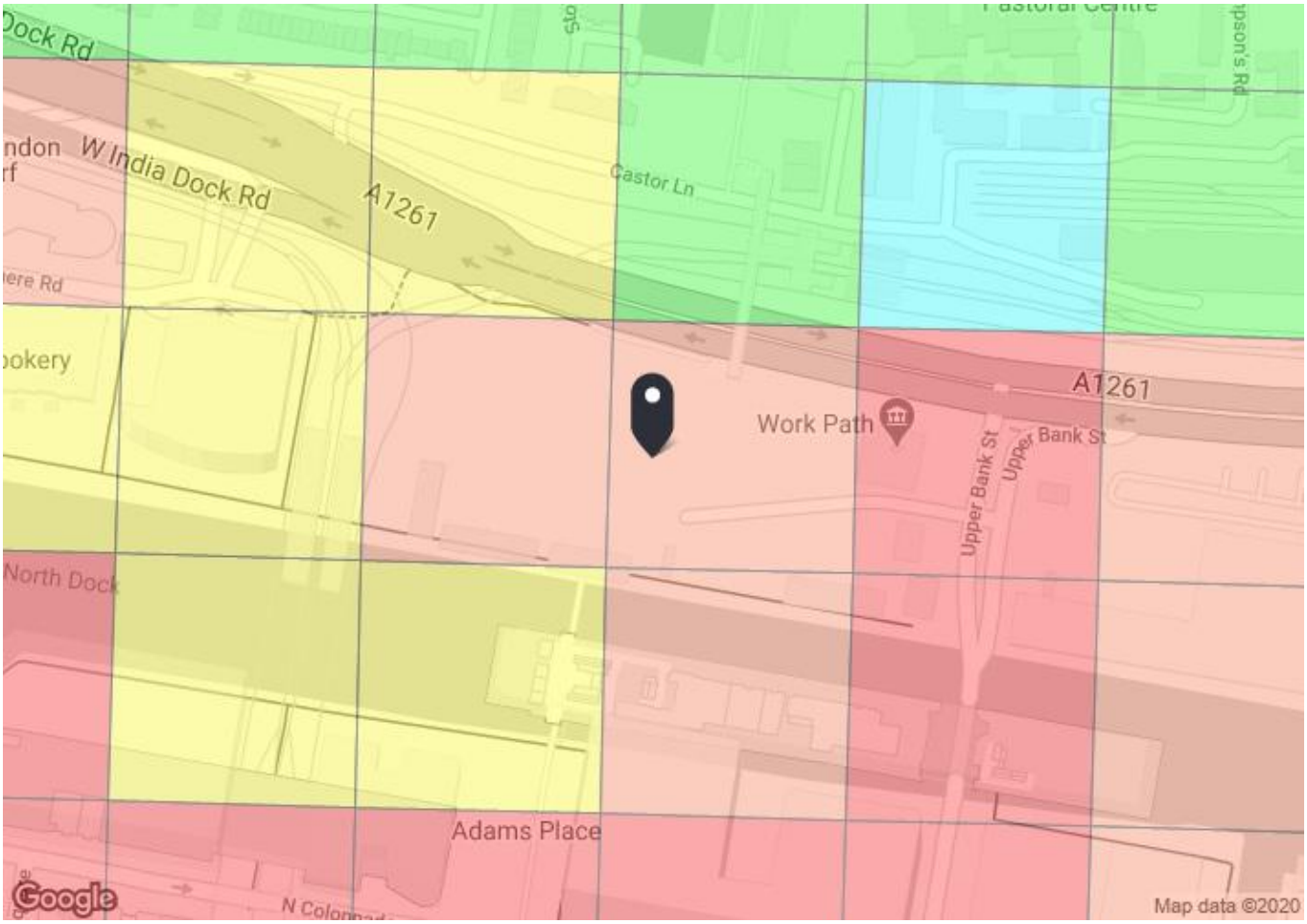
SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

Appendix 2 - PTAL Report

TRANSPORT FOR LONDON



PTAL output for Base Year
5

Poplar, Poplar, London E14 0AF, UK
Easting: 537615, Northing: 180539

Grid Cell: 80889

Report generated: 12/03/2020

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Canada Square Canary Whf	D7	410.03	9	5.13	5.33	10.46	2.87	0.5	1.43
Bus	Canada Square Canary Whf	135	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	D8	410.03	5	5.13	8	13.13	2.29	0.5	1.14
Bus	Canada Square Canary Whf	D3	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	277	410.03	9	5.13	5.33	10.46	2.87	1	2.87
LUL	Poplar	'WWARSL-BANK'	250.48	7.5	3.13	4.75	7.88	3.81	1	3.81
LUL	Poplar	'BECKTON-TWRGWAY'	250.48	7.5	3.13	4.75	7.88	3.81	0.5	1.9
LUL	Poplar	'STRATF-LEWISHAM'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Poplar	'CNRYWH-STRATF'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Canary Wharf	'LEWISHAM-BANK'	503.47	15	6.29	2.75	9.04	3.32	0.5	1.66
LUL	Canary Wharf	'WembleyPark-Stratfo'	503.47	3.67	6.29	8.92	15.22	1.97	0.5	0.99
LUL	Canary Wharf	'Stratford-Willesden'	503.47	4.33	6.29	7.68	13.97	2.15	0.5	1.07
LUL	Canary Wharf	'Stanmore-Stratford'	503.47	17.65	6.29	2.45	8.74	3.43	0.5	1.72
									Total Grid Cell AI:	**22.11**

Appendix 7 - Outline Delivery and Servicing Plan

CANARY WHARF
GROUP PLC

NQ.PA.13

North Quay
Delivery and Servicing Plan

Steer
July 2020

Contents

1. Introduction

Background

1.1 This Delivery and Servicing Plan (DSP) has been prepared by Steer on behalf of Canary Wharf (North Quay) Limited ("the Applicant") in support of the:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
    - *Business floorspace (B1)*
    - *Hotel/Serviced Apartments (C1)*
    - *Residential (C3)*
    - *Co-Living (C4/Sui Generis)*
    - *Student Housing (Sui Generis)*
    - *Retail (A1-A5)*
    - *Community and Leisure (D1 and D2)*
    - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.2 The full Site address is North Quay, Aspen Way, London, E14. The Site is situated in the London Borough of Tower Hamlets ("LBTH").

1.3 The Proposed Development offers an opportunity to make better use of underdeveloped land in an area with excellent public transport accessibility.

1.4 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use. For this reason, the description of development provides the Applicant with flexibility as to the uses that could be undertaken on the Site.

1.5 However, in order to ensure that the level of flexibility is appropriately restricted, the OPA seeks approval for three Control Documents which describe the principal components of the Proposed Development, define the parameters for the Proposed Development (the "Specified Parameters") and control how the Proposed Development will come forward in future. They provide the parameters, design principles and controls that will guide future reserved matters applications ("RMAs"). These Control Documents are – (1) the Development Specification; (2) the Parameter Plans; and (3) the Design Guidelines:

- The Development Specification sets out the type and quantity of development that could be provided across the Site (including setting a maximum floorspace across the Site);
- The Parameter Plans set the parameters associated with the scale, layout, access and circulation and distribution of uses classes and public space for the Proposed Development. They also establish the Development Zones and Development Plots across the Site; and
- The Design Guidelines set the design principles and controls for future development.

1.6 Together, these documents set out the information required to allow the impacts of the Proposed Development to be identified with sufficient certainty as future RMAs will be required to demonstrate compliance with the Specified Parameters and controls in these Control Documents.

1.7 In order to test and validate the OPA, an Indicative Scheme showing the potential location of buildings, uses and open spaces has been produced. This scheme provides a vehicle for examining the possible architectural, environmental, operational and social impacts of the project. It remains schematic but it conforms to the development parameters as defined in the Development Specification, Parameter Plans and Design Guidelines. It has been essential in testing these development parameters. The Indicative Scheme is not a design template or submitted for approval; it represents one possible way the principles as defined in the above listed documents could be interpreted/achieved and developed into a design. The Development Specification, land use floorspace ranges and Indicative Scheme schedule are summarised at Table 1.1 and the Indicative Scheme residential unit mix is provided in Table 1.2. This Indicative Scheme and its Development Plots have been used to generate the images and diagrams for the Design Guidelines. In some instances, these Development Plots are used as reference in the Guidelines to help illustrate the point.

1.8 The Indicative Scheme demonstrates one interpretation of the Specified Parameters but is used throughout this DSP to illustrate the type of mixed-use development that could come forward and the associated car and cycle parking, servicing and delivery and waste storage requirements. The Indicative Scheme basement 1/2 and ground level plans can be found at **Appendix 1**.

1.9 The maximum Site wide total floorspace permitted within the Development Specification is 355,000m^2 (GIA) and the Indicative Scheme floor area totals 354,927m^2 (GIA).

Table 1.1: Development Specification and Indicative Scheme Area Schedule

Land Use	Minimum Floorspace (GIA)		Maximum Floorspace (GIA)	Indicative Scheme
A1-A5 Retail	Total 10,000	A1-A5 5,000	20,000	13,681
D1 Community			20,000	-
D2 Leisure			20,000	-
B1 Business	150,000		240,000	174,653
C1 Hotel	-		150,000	44,081
C3 Residential	-		150,000	84,736
C4 Co-Living	-		150,000	-
Sui Generis: Student Housing	-		150,000	-
Sui Generis: Private Members Clubs, Conference Centres, Theatres, Casinos and Launderettes	-		25,000	-
Below Ground				
A1-A5 Retail	-		5,000	-
B1 Business	-		20,000	-
D1 Community	-		5,000	-
D2 Leisure	-		10,000	-
Ancillary floorspace comprising Business, Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, Energy Centres, Electricity Sub Stations etc.	-		No maximum	Above ground: 9,730 Below ground: 28,047

Table 1.2: Indicative Residential Unit Mix

Type	Number of Units
Studio	30
1 bed	159
2 bed	316
3 bed	141
4 bed	56
Total	702

Site Context

1.10 The Site is bounded by Canary Wharf Elizabeth Line (also referred to as Crossrail in other supporting documentation) station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

1.11 Currently the Site comprises mostly cleared land, being previously used as a construction laydown site for the Canary Wharf Elizabeth Line station. There are some temporary uses

currently on site, including the Tower Hamlets Employment and Training Services, WorkPath and advertising structures.

1.12 The Site is well connected to the local and regional road network. The Site is bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively. Existing access to the development is provided from the east via Upper Bank Street.

1.13 A Site location plan is shown in **Figure 1.1**.

Figure 1.1: Site Location Plan

What is a DSP?

1.14 DSPs provide a framework to better manage all types of freight vehicle movement to and from individual buildings. A DSP is essentially the equivalent of a workplace travel plan for freight. It will sit alongside the Framework Travel Plan (FTP) to manage freight movements, whereas the FTP is predominantly aimed at managing journeys by workers and visitors.

1.15 The Transport for London's 'Freight and servicing action plan' (2019) highlights DSPs as one of the four measures to improve freight and servicing in London. The other three measures include the Fleet Operator Recognition Scheme (FORS), Construction Logistics Plans (CLPs) and the Freight Information Portal (FIP). A Construction chapter, which forms an Outline CLP is provided as Chapter 9 of the TA, as part of this application.

DSP Context and Scope

1.16 This DSP sets out the operation of the Proposed Development and includes a strategy for managing servicing and delivery vehicle movements and measures to minimise delivery and service vehicle impacts. The construction of the Proposed Development and mitigation of its impacts have been detailed in the Transport Assessment (TA) and the Environmental Statement (ES).

1.17 The servicing strategy for the Proposed Development has been produced by Steer in consultation with the LBTH and TfL. A complementary Site Waste Management Plan has been produced by Steer and submitted separately in support of the planning application. This DSP references the Site Waste Management Plan where applicable.

1.18 This DSP provides a framework for the entire Site and will evolve over time as the development is built out. At present, this DSP has been prepared as an 'outline' document with interim measures which will be developed further and updated once the baseline surveys have been undertaken. It is envisaged that the DSP will be secured via an appropriately worded planning condition or s106 obligation and will provide the basis for sustainable servicing and delivery operations prior to and following occupation of the Site.

Benefits of DSPs

1.19 TfL's 'Delivery and Servicing Plans – Making Freight Work for You' (2010) document identifies the benefits of DSPs to local authorities, residents, building developers, businesses and freight operators.

1.20 In summary, DSPs will:

- help developers and local authority planning officials comply with:
  - the promotion of more sustainable transport choices for moving freight; and
  - the Traffic Management Act (2004), the London Plan, the Mayor's Transport Strategy and any borough-specific policies, such as road safety and air quality action plans.
- demonstrate that goods and services can be delivered, and waste removed, in a safe, efficient and environmentally friendly way;
- identify deliveries that could be reduced, re-timed or consolidated;
- help cut congestion on London's roads and ease pressure on the environment;

- improve the reliability of deliveries to the Site concerned;
- reduce the operating costs of building occupants and freight companies; and
- reduce the impact of freight activity on local residents.

1.21 The London Freight Plan (2007) recognises that:

- improvement of the efficiency of the freight sector will help reduce the environmental and social impacts of freight transport on London, particularly the contribution to climate change;
- achieving sustainable freight distribution in London will make a real and positive contribution to improving the lives of those who live, work and visit London; and
- road network efficiency will be increased by each traffic authority's response to its Network Management Duty, which will include the reduction of freight vehicle Penalty Charge Notice (PCN) hotspots to improve congestion and help reduce CO2 emissions.

DSP Objectives

1.22 The overall objective of this Outline DSP is:

"To minimise the impacts of freight movements and facilitate sustainable freight travel to and from the Proposed Development".

1.23 It is envisaged that the subsequent Detailed DSP will also be prepared in accordance with this objective. To support the realisation of this overarching objective, several sub-objectives have been set out, and include:

- promoting smarter operations that reduce the need for freight travel overall or that reduce or eliminate trips particularly those in peak periods;
- encouraging greater use of sustainable freight modes;
- encouraging use of greener vehicles;
- managing the on-going development and delivery of the DSP with the future hotel operator and retail tenants;
- communication of site servicing/delivery facilities (through dissemination of information) to staff and suppliers;
- communication of the DSP and its constituent measures to the Site occupiers; and
- encouraging the most efficient use of freight vehicles and servicing/delivery trips.

DSP Structure

1.24 This Outline DSP is divided into the following sections:

- **Chapter 1**: Introduction;
- **Chapter 2**: Policy and Guidance Context;
- **Chapter 3**: Servicing Management Strategy and Trip Calculations;
- **Chapter 4**: Access Arrangements;
- **Chapter 5**: Encouraging Sustainable Freight;
- **Chapter 6**: DSP Strategy; and
- **Chapter 7**: Conclusions

2. Policy Review

2.1 The following list outlines the transport policies and guidance documents that are relevant to this Outline DSP and the Proposed Development:

National Policy Guidance

- National Planning Policy Framework (2019)
- National Planning Practice Guidance (2014)
- Designing for Deliveries, Freight Transport Association (2006)
- BS:5906 Waste Management in buildings - Code of Practice (2005).

Regional Policy Guidance

- The London Plan – Consolidated with Alterations since 2011 (2016) (the London Plan)
- The London Plan – Intend to Publish (2019) (the Draft London Plan)
- Mayor's Transport Strategy (2018)
- Freight and servicing action plan (TfL) (2019) Freight Operator Recognition Scheme (FORS)
- Freight Information Portal (FIP).

Local Policy Guidance

- London Borough of Tower Hamlets Local Plan 2031: Managing growth and sharing the benefits (2020)
- London Borough of Tower Hamlets Planning Obligations Supplementary Planning Document (2016)
- London Borough of Tower Hamlets Draft Transport Strategy 2019-2041 (2019).

3. Servicing Management Strategy

Introduction

3.1 A servicing management strategy has been developed, based on a centralised operation for deliveries and waste collection relating to the proposed office, retail, residential, serviced apartment and other uses associated with the Proposed Development. A separate Site Waste Management Plan has been developed by Steer in support of this Outline Planning Application ("OPA").

3.2 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use and for this reason the OPA is made for ranges of floorspace within each proposed land use category. These ranges ensure that the Proposed Development must deliver a quantum of development for each land use within the range that is specified.

3.3 The Indicative Scheme demonstrates one interpretation of the Specified Parameters and forms the basis of this Outline DSP to describe the servicing strategy. However, retail is the most intensive land use in terms of servicing and delivery trip generation. Therefore, to ensure a robust assessment of the impact of the scheme a Maximum Commercial Scenario, which includes the maximum level of retail floorspace permitted has also been assessed. Further details on the floor area schedules and development scenarios are provided in Chapter 5 of the Transport Assessment.

3.4 A centralised and enclosed basement servicing area would serve all the land uses as part of the Proposed Development. A total of 16 loading bays are shown in the Indicative Scheme, comprising 5 HGV bays (up to 10m Rigid vehicles), 6 medium bays (up to 8m box vans [7.5t]) and 5 smaller bays (up to 6m transit vans). There are also loading bays along North Quay Way to allow for some at-grade deliveries and servicing.

Indicative Scheme

3.5 The Indicative Scheme floor areas (excluding ancillary areas) used to derive the servicing trip generation, broken down by building are shown in **Table 3.1**.

Table 3.1: Indicative Scheme Floor Areas (sqm NIA)

Building	B1 Office	C3 Residential	A1-A5 Retail	Serviced Apartments
NQA1/A2	-	19,809	395	-
NQA4	-	39,047	263	-
NQB1	51,479	-	1,444	-
NQA5	-	-	3,396	-
NQD1/D2	56,370	-	2,085	-
NQD3	17,907	-	1,676	-
NQD4	-	-	593	31,738
Total	**125,750**	**58,855**	**9,850**	**31,738**

3.6 The Indicative Scheme basement level and ground floor plans are provided in **Appendix 1**.

Retail Servicing Trip Generation

3.7 The retail servicing trip rates below are based on data collated from Canary Wharf Crossrail Place and Jubilee Place retail servicing areas in 2016.

A1 Servicing Daily Trip Rate = **0.7** trips per 100sqm NIA

3.8 There is a significant difference in servicing trips for different types of retail. Through discussion with the Applicant on the likely make-up of the retail floorspace, Steer has assumed for the purposes of this assessment 30% of retail would be A1 use and 70% would be A3 use.

3.9 **Table 3.1** shows the servicing vehicle trips associated with retail uses at each building in the Indicative Scheme, both during the typical highway peak hour (0800 – 0900) and daily. The typical evening highway peak hour (1700-1800) is less significant as servicing activity is significantly reduced during this period and so has not been considered.

Table 3.1: Retail Servicing Vehicle Trips

Building	Highway Peak (0800 – 0900)			Daily		
	In	Out	Total	In	Out	Total
NQA1/A2	2	2	4	8	8	16
NQA4	1	1	2	6	6	12
NQB1	5	5	10	30	30	60
NQA5	12	12	24	69	69	138
NQD1/D2	7	7	14	42	42	84
NQD3	6	6	12	34	34	68
NQD4	2	2	4	13	13	26
Total	**35**	**35**	**70**	**202**	**202**	**404**

Office Servicing Trip Generation

3.10 The office servicing trip rate below is based on Steer's in-house servicing database. This includes 2016 survey data from 40 Bank Street, 25 Churchill Place and One Canada Square on the Canary

Wharf estate and has been considered robust for many planning applications at Canary Wharf, including the Wood Wharf development.

Office Servicing Daily Trip Rate = **0.21** trips per 100sqm NIA (based on multiple occupants)

3.11 The office servicing trip rates have been applied to each building in the Indicative Scheme providing commercial uses, as shown in **Table 3.2**.

Table 3.2: Office Servicing Vehicle Trips

Building	Highway Peak (0800 – 0900)			Daily		
	In	Out	Total	In	Out	Total
NQA1/A2	0	0	0	0	0	0
NQA4	0	0	0	0	0	0
NQB1	9	9	18	110	110	220
NQA5	0	0	0	0	0	0
NQD1/D2	12	12	24	118	118	236
NQD3	3	3	6	38	38	76
NQD4	0	0	0	0	0	0
Total	**24**	**24**	**48**	**266**	**266**	**532**

Residential Servicing Trip Generation

Residential Servicing Daily Trip Rate = 0.2 trips per 100sqm NIA

Highway Peak Period Distribution = 5% of trips arrive between 0800-0900

3.12 The above trip rate is based on Steer's in-house servicing database and includes an uplift to take account of ongoing general increases in home deliveries.

3.13 The residential servicing trip rates have been applied to the two buildings providing residential accommodation in the Indicative Scheme, as shown in **Table 3.3.**

Table 3.3: Residential Servicing Vehicle Trips

Building	Highway Peak (0800 – 0900)			Daily		
	In	Out	Total	In	Out	Total
NQA1/A2	2	2	4	39	39	78
NQA4	4	4	8	78	78	156
Total	**6**	**6**	**12**	**117**	**117**	**234**

Serviced Apartments Servicing Trip Generation

3.14 For the purposes of determining the servicing trips associated with the Indicative Scheme, the service apartments are considered as hotel land use as this presents the worst-case servicing trip forecasts. The hotel servicing trip rates derived from Steer's database are presented below.

Hotel/Serviced Apartments Servicing Daily Trip Rate = 0.3 trips per 100sqm NIA

Highway Peak Period Distribution = 12% of trips arrive between 0800-0900

3.15 The hotel/serviced apartments servicing trip rates have been applied to building NQD4, as shown in **Table 3.4.**

Table 3.4: Serviced Apartments Servicing Trips

Building	Highway Peak (0800 – 0900)			Daily		
	In	Out	Total	In	Out	Total
NQD4	12	12	24	95	95	190
Total	**12**	**12**	**24**	**95**	**95**	**190**

Total Servicing Trip Generation

3.16 The servicing vehicle trips associated with each land use presented above have been combined to provide the overall development servicing trips, as shown in **Table 3.5**.

Table 3.5: Total Development Servicing Vehicle Trips (Indicative Scheme)

Building	Highway Peak (0800 – 0900)			Daily		
	In	Out	Total	In	Out	Total
NQA1/A2	4	4	8	47	47	94
NQA4	5	5	10	84	84	168
NQB1	14	14	28	140	140	280
NQA5	12	12	24	69	69	138
NQD1/D2	19	19	38	160	160	320
NQD3	9	9	18	72	72	144
NQD4	12	12	24	95	95	190
Total	**75**	**75**	**150**	**667**	**667**	**1,334**

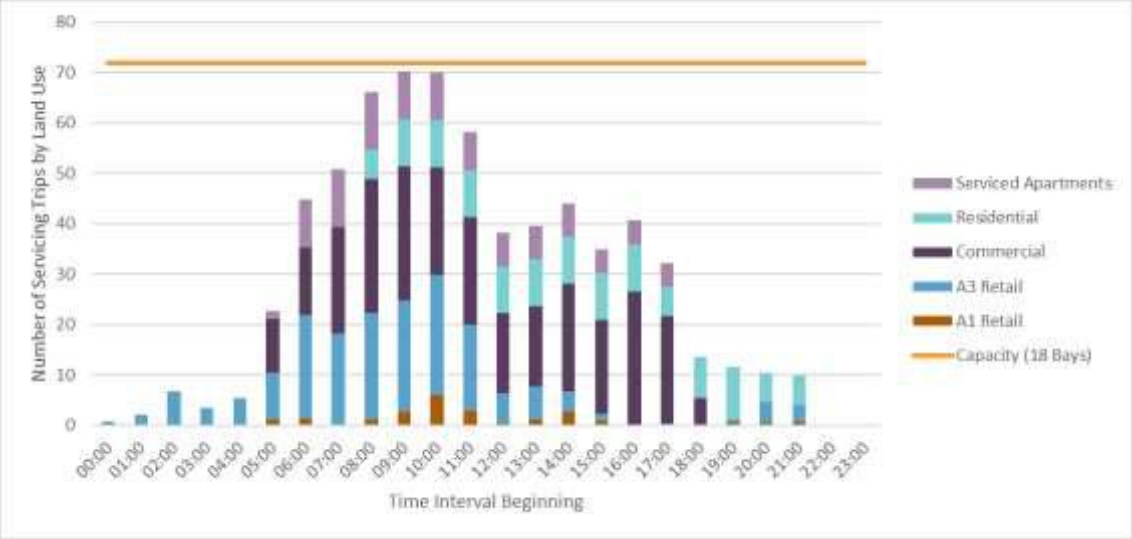
3.17 To calculate the loading bay requirement for each building, the peak servicing vehicle activity has been applied to the average vehicle dwell times - 15 minutes for cars/vans and 20 minutes for MGV/HGV. The peak hour loading bay requirements are shown in **Table 3.6**.

Table 3.6: Peak Hour Loading Bay Requirement

Building	Highway Peak (0800 – 0900)			Loading Bays Required		
	Cars/Vans	MGV/HGV	Total	Cars/Vans	MGV/HGV	Total
NQA1/A2	3	1	4	1	0	1
NQA4	4	1	5	1	0	1
NQB1	13	1	14	3	1	4
NQA5	10	2	12	2	1	3
NQD1/D2	15	4	19	2	2	4
NQD3	8	1	9	2	0	2
NQD4	8	4	12	2	1	3
Total	**61**	**14**	**75**	**13**	**5**	**18**

3.18 **Table 3.6** suggests that 18 loading bays would be required to accommodate peak servicing demand (0800-0900). However, as shown in **Figure 3.1** below the loading bays would be significantly underutilised during other periods of the day.

Figure 3.1: Combined Servicing Profile



Rationalising Servicing

3.19 The Proposed Development, with a consolidated servicing area at basement level, presents the opportunity to rationalise and better manage deliveries to North Quay so that the vehicle arrival profile is distributed more evenly across the day. A Vehicle Booking and Management System will be operational for commercial tenants from occupation. A delivery and servicing schedule to outline the most appropriate times for servicing vehicle movements. This is to ensure efficiency of the loading bay operations and ensure multiple vehicles do not arrive at the same time.

3.20 Canary Wharf retail servicing is currently 24 hours and retailers are allowed to receive deliveries at any time with no restrictions. However, the analysis below considers shorter daily servicing periods to provide a robust assessment.

3.21 The sensitivity tests outlined in **Table 3.7** are based on a worst-case assessment of a 12 hour daily operating period and a slightly extended 18 hour operating period for deliveries.

Table 3.7: Rationalised Servicing Scenarios – Indicative Scheme

Rationalised Servicing	12 Hour Servicing Period	18 Hour Servicing Period
Number of deliveries per day	667	667
Total loading bays	16	11
Maximum occupancy	768 (64 per hour)	792 (44 per hour)
Occupancy ratio	87%	84%

3.22 As shown above, the number of servicing bays may be reduced to 16 for a 12 hour servicing period, or 11 loading bays for an 18 hour period, both of which would operate at 84-87% capacity. The loading bay will be carefully managed and involve a strict pre-booking delivery system. An interim management system will also be in place to distribute deliveries as quickly as possible to ensure a maximum 15 minute dwell time for servicing vehicles. This will involve staff coming to collect goods from the loading area or a servicing manager distributing goods from the loading bay to individual buildings/units.

3.23 It should be noted that data taken from Jubilee Place for a 3 month period (November 2016 to January 2017) shows that on average 10% of retail servicing vehicles are articulated lorries. No provision is to be made for articulated lorries within the basement, therefore restrictions will be put in place and communicated to future occupiers to ensure that no vehicles larger than 10m rigid vehicles deliver to North Quay.

3.24 Based on the above, 16 loading bays is considered to provide sufficient capacity and flexibility to accommodate all servicing activity associated with the Indicative Scheme. This also assumes that all servicing activity will take place via the basement servicing yard, however loading bays are to be provided along North Quay Way to allow for some at-grade delivery and servicing activity, primarily for retail uses, which will improve the operational capacity of the basement servicing yard.

Maximum Servicing Trip Generating Scheme

3.25 As the OPA will provide significant flexibility in the quantum/mix of land uses which could be provided, consideration has been given to the most intensive scheme which could come forward in terms of servicing activity.

3.26 This is the 'Maximum Commercial Scheme' which contains the maximum retail offering, office and serviced apartments. As set out in the TA, a 10% reduction to the maximum floor areas set out in the Development Specification has been applied for servicing and delivery trip generation purposes to account for basement, plant and car/cycle parking that would inherently be required with any scheme to come forward within the Development Specification and Specified Parameters of the OPA.

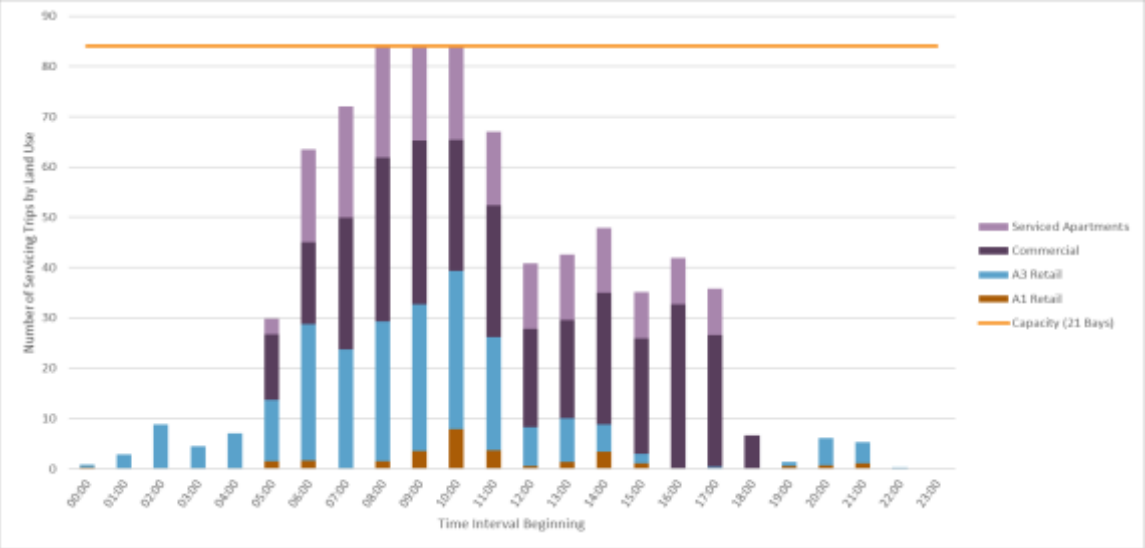
3.27 The Maximum Commercial Scheme floor areas used to provide a robust worst-case assessment are as follows:

- B1 Office – 155,520 m2 NIA
- A1-A5 Retail – 12,960 m2 NIA
- Serviced Apartments – 61,560 m^2 NIA

3.28 As set out above the serviced apartment delivery and servicing trip rates are derived from hotel surveys. The development scheme generating the highest quantum of servicing trips could therefore include either serviced apartments or hotel uses, however for consistency with the 'Maximum Commercial Scenario' presented in the TA, serviced apartments are considered within the following analysis.

3.29 The servicing trip rates presented above have been rerun for the above floor areas to assess the quantum of activity associated with a maximum servicing trip generating scheme. As shown in **Figure 3.2**, 21 loading bays would be required to meet peak demand.

Figure 3.2: Combined Servicing Profile – Maximum Servicing Trip Generating Scheme



3.30 As set out above, a consolidated loading area would allow servicing trips to be rationalised and better managed to even the daily distribution. Applying the same worst-case 12 hour and 18-hour sensitivity test, as outlined above, results in the following requirements.

Table 3.8: Rationalised Servicing Scenarios – Maximum Commercial Scheme

Rationalised Servicing	12 Hour Servicing Period	18 Hour Servicing Period
Number of deliveries per day	772	772
Total loading bays	19	13
Maximum occupancy	912 (76 per hour)	936 (52 per hour)
Occupancy ratio	85%	82%

3.31 Although the basement configuration is likely to change if the Maximum Commercial Scheme were to come forward and there is flexibility within the basement to provide more loading bays, the 16 loading bays shown in the Indicative Scheme layout, supported by the four additional loading bays on North Quay Way, would be sufficient to accommodate the 12 hour servicing demand generated by the Maximum Commercial Scheme, although that scheme is unlikely to come forward.

3.32 The loading bay will be managed with strict delivery protocols to rationalise the daily demand, whilst there is flexibility within the basement to accommodate more or fewer loading bays depending on the scheme which comes forward via the Reserved Matters Applications (RMA). As mentioned above, additional loading bays will also be provided on North Quay Way, primarily for retail use, which will further improve the operational capacity of the basement servicing yard.

4. Access Arrangements

Overview

4.1 This chapter provides details of the access arrangements for the Proposed Development with a focus on refuse collection and servicing vehicles. It is noted that the planning application is also supported by a standalone Site Waste Management Plan. This chapter should also be read in conjunction with the Transport Assessment and Design and Access Statement.

Proposed Servicing Strategy

4.2 All proposed servicing and delivery activity for the Proposed Development will be accommodated on-site, within an enclosed and centralised servicing area at basement level. The main vehicle and service access will be from a ramp via Hertsmere Road. Vehicles will travel beneath the DLR tracks at Delta Junction before passing a security check point and entering the Site.

4.3 Loading bays will also be provided on North Quay Way to allow for some at-grade deliveries and servicing.

4.4 The proposals for vehicular access from Hertsmere Road are shown in **Appendix 1**, whilst vehicle tracking plans are provided at **Appendix 2**.

4.5 A strict pre-book delivery system would operate to ensure an even arrival profile of servicing vehicles to minimise the potential for vehicle queuing. Any vehicles that arrive which are not registered on the manifest would be rejected.

4.6 The service area provides a total of 16 loading bays (as described in Chapter 3). Waste management and collection will also take place from the loading bays as described in the Site Waste Management Plan. Dedicated goods and servicing lifts will be used to move waste/deliveries to, from and around the development.

Development of the DSP

4.7 It is envisaged that a Detailed DSP will be secured and developed through an appropriate planning condition following planning approval and following completion of baseline surveys of the Proposed Development.

4.8 As the occupiers of the Proposed Development are unknown at this stage, no baseline surveys have been undertaken to determine travel patterns at the Site. A full travel survey is proposed to be undertaken within six months of full occupation or at 75% occupancy of the Proposed Development, whichever comes last. The baseline surveys will include multi-modal counts including delivery and servicing data together with resident and visitor questionnaires.

5. Encouraging Sustainable Freight

Delivery and Servicing Plan Measures

5.1 Table 5.1 outlines indicative measures to ensure that the best practice of delivery and servicing is experienced at all times. In addition to outlining the timescale and who should be responsible for their implementation, the measures aim to achieve the DSP sub-objectives and minimise the impact of the servicing and deliveries forecast for the Proposed Development.

5.2 The DSP measures for the Proposed Development need to be developed once the needs of the tenants have been identified through servicing and delivery surveys. The timescales for these surveys are set out in Chapter 6. However, at this stage it is anticipated that during its development the DSP will consider a combination of the measures outlined in **Table 5.1**.

DSP Targets

5.3 As the occupiers of the Proposed Development are currently unknown, it is difficult to develop specific targets for the DSP. Once all of the tenants are confirmed and the servicing and delivery surveys have been undertaken, a series of targets can be taken forward with the Developer to compile the Detailed DSP. The targets should align with the objectives and measures set out previously and should be SMART (Specific, Measurable, Achievable, Relevant, Time bound).

5.4 Examples of targets that could be developed are as follows:

- Number, or a specific percentage of, servicing and delivery trips to be undertaken during the AM and PM peak hours;
- A limited number of servicing and deliveries to be undertaken overnight (00:00 – 06:00);
- Target a specific number of servicing and deliveries to encourage the consolidation of trips to the Site;
- All, or a specific proportion of, servicing and delivery companies used to be a member of FORS; and
- A specific percentage of the Proposed Development servicing and delivery vehicles to be ‘green’ vehicles.

Table 5.1: Outline DSP Measures

Measure	Description	Benefit	Timescale	Responsibility
Management of the DSP				
Adoption of the Detailed DSP	Early buy in from the Facilities Management will be essential to ensure the DSP is an active, living document.	The involvement of the tenants will mean that more policies can be implemented, and better results delivered.	Following completion of baseline surveys and prior to the occupation of each building.	The Applicant
Assign Responsibility of the DSP to the Travel Plan Co-ordinator	Travel Plan Co-ordinator to be responsible for managing the on-going development, delivery and promotion of the DSP.	To ensure that the DSP is taken forward and results delivered.	Prior to first occupation of each building.	Facilities Management
Raise awareness and promote DSP initiatives	Provide Site information and promote the DSP to residents, FM and other key stakeholders.	To promote the measures and targets of the DSP to a wide audience.	Following first occupation of each building.	Travel Plan Co-ordinator
Training of Staff	All staff associated with the delivery and servicing of the Proposed Development will be required to undertake appropriate training.	To ensure staff are aware of and understand the measures of the DSP to implement them effectively.	Following first occupation of each building.	Travel Plan Co-ordinator
Tenant Awareness	Ensure all tenants are made aware of the DSP and its requirements upon entering the tenancy agreement.	To ensure all tenants are aware of the DSP and its likely implications.	Prior to first occupation of each building.	Facilities Management
Reducing Servicing and Delivery Trips				
Couriers	Adopt a site-wide 'smart' courier policy that could potentially reduce the number of motorised vehicle trips generated by the commercial land uses.	Using cycle couriers when viable to reduce the number and impact of motorised vehicles upon the local highway network.	Within 1 year of first occupation of each building or as otherwise agreed with LBTH.	Travel Plan Co-ordinator

Measure	Description	Benefit	Timescale	Responsibility
Use of local sources/suppliers	Encourage tenants to source items locally, or from the same supplier.	To reduce the number of delivery vehicles making trips to the Proposed Development.	Within 1 year of first occupation of each building or as otherwise agreed with LBTH.	Travel Plan Co-ordinator
Servicing and Delivery Operations				
Site information	Publish details of servicing/delivery facilities and procedures to tenants and residents indicating: preferred delivery times; delivery locations; preferred local suppliers	To encourage deliveries to take place outside of peak times, in appropriate locations and by preferred suppliers.	Prior to first occupation of each building.	Travel Plan Co-ordinator
Fleet Operator Recognition Scheme (FORS)	Encourage the use of suppliers who are FORS members and encourage non FORS members to sign up to the scheme.	To provide the mutual benefits FORS members have and the best practice operational guidelines that contribute towards driver training, fleet management, safety (including cycle safety) and reduced emissions.	Prior to first occupation of each building and on-going.	Travel Plan Co-ordinator
Vehicle Booking and Management System	Produce a delivery and servicing schedule to outline the most appropriate times for servicing vehicle movements and co-ordinate with tenants to optimise collection.	To ensure efficiency of the loading bay operations and reduce the risk of vehicles conflict resultant of overcapacity.	Within 1 year of first occupation of each building.	Travel Plan Co-ordinator

6. Delivery and Servicing Strategy

Management of the DSP

6.1 The Outline DSP will be implemented upon first occupation of the Site and will be developed into a Detailed DSP after the comprehensive servicing and delivery surveys have been carried out (within six months of occupation). The Applicant will work with the management companies to ensure the Detailed DSP is implemented and developed over time.

6.2 The Detailed DSP will be an overarching plan, setting a framework to better manage all types of freight vehicle movement to and from individual buildings. Each individual tenant will be required to comply with the Detailed DSP under the terms of their occupational lease.

6.3 The RTP/FTP and DSP documents are interlinked, and it is proposed that the management of the DSP will be the responsibility of the Travel Plan Co-ordinator(s).

6.4 The DSP will then be managed via steering groups, which will be established for the RTP and FTP. This will help ensure that the DSP is taken forward effectively and will feed back to facilities management to ensure continued support and resources for the DSP.

Raising Awareness

6.5 It will be important to inform all occupiers about this DSP including:

- the content and reason/need for the DSP;
- the importance of DSPs, freight movements and their impacts;
- what tenants can do to help encourage the use of sustainable servicing and delivery movement to and from the Site; and
- the potential benefits of successfully using and implementing a DSP.

6.6 Raising awareness will help to garner support from the tenants for the DSP and ensure that the specified targets, protocol and measures are met.

6.7 To increase awareness of the DSP, relevant staff and most importantly suppliers, will be given information on the DSP and encouraged to use sustainable freight to and from the Site.

6.8 It is essential that relevant employees working at the Site and suppliers are involved in the implementation and ongoing development of the DSP. The servicing/delivery surveys will

contribute to raising awareness at the outset. It will also allow staff and suppliers to have an input into the ongoing development and review of the DSP.

Review and Monitoring

6.9 Given the crossover in survey requirements, it is proposed that the review and monitoring of the DSP will be closely linked to the RTP and FTP that have also been prepared in support of the Proposed Development.

6.10 The Applicant will ensure reasonable funding for the DSP is provided for monitoring and review. These funds will be secured in the S106 agreement associated with this OPA, to be agreed with LBTH.

6.11 This sum of money will cover the costs for the monitoring and review of the DSP in conjunction with LBTH. The Applicant will seek agreement with LBTH regarding how this sum of money can be best utilised to ensure the DSP is most effective.

6.12 The following paragraphs outline an indicative schedule of monitoring, this will be further developed as part of the Detailed DSP.

Stage 1 – Initial Development (six months)

6.13 The first stage of the monitoring and review programme will be to undertake comprehensive servicing and delivery surveys within six months of full occupation of the first building.

6.14 In line with TfL guidance this survey should cover:

- frequency of visits;
- who the provider is;
- type of goods/materials being delivered;
- quantity or size of goods being delivered;
- urgency of the deliveries;
- access and arrival routes;
- mode of transport and vehicle size; and
- the destination of the delivery.

Stage 2 – Continued Monitoring and Review

6.15 Following the implementation of the Full DSP, regular monitoring and review will be required to maintain the live document.

6.16 **Table 6.1** sets out an indicative programme for monitoring and review of the DSP. On the basis that this is an OPA and further Reserved Matters Applications (RMAs) will be required, the precise timescales for monitoring and review may change due to the phased nature of the scheme. This will be discussed and agreed with LBTH during the RMAs for the respective Development Plots.

Table 6.1: Programme of Monitoring and Review

Action	Timescale
Baseline employee, visitor and delivery surveys	Within 6 months of full occupation of the first building.
Produce a Detailed DSP	Within 9 months of full occupation of the first building (3 months after the baseline survey).
Future servicing and delivery surveys	3rd and 5th year anniversaries of the date of full occupation of the first building (in line with the timescales set out within the FTP/RTP).
Undertake comprehensive strategic review of all aspects of the DSP (including the objectives, targets, action plan and monitoring programme)	6 months, 3rd and 5th year anniversaries from the date of full occupation of the first building (in line with the timescales set out within the FTP/RTP).

7. Summary and Conclusion

7.1 This report outlines the proposed delivery and servicing strategy for the Proposed Development and how delivery and servicing requirements can be fully accommodated.

7.2 The total number of future servicing and delivery trips has been estimated and the DSP demonstrates that the number of servicing and delivery vehicles forecast can access the Site.

7.3 The Indicative Scheme identifies a total of 16 designated loading bays which will be provided within an enclosed and centralised servicing area at basement level. The number of loading bays has been shown as sufficient for the Maximum Commercial Scenario based on an 18-hour servicing operation, which generates a higher quantum of delivery and servicing trips than the Indicative Scheme. Servicing and delivery vehicles will access the development from the northwest via Hertsmere Road. Dedicated goods and servicing lifts will be used to move waste/deliveries to, from and around the development.

7.4 A separate Site Waste Management Plan has been prepared in support of this application which sets out the waste storage requirements.

7.5 A set of draft measures has been proposed (see Chapter 5) to be taken forward as the DSP evolves over time. This is to encourage sustainable freight movements and to reduce unnecessary servicing and delivery trips, particularly during peak times.

7.6 As none of the eventual occupiers of the Site are currently known it is not considered appropriate to identify specific targets for the DSP. These will instead be progressed with the Applicant following occupation forming the development of the Detailed DSP, followed by regular monitoring and review of the DSP.

7.7 This Outline DSP has been prepared as a framework document and provides a framework for how the Detailed DSP will be managed, reviewed and monitored. It is envisaged that the DSP will be secured and developed through an appropriate planning condition following planning approval. Thereafter, the Developer is committed to developing a Detailed DSP as the Site becomes occupied and following the baseline surveys. Therefore, this report is considered to be a living document which will be updated following the results of the proposed monitoring surveys.

7.8 Finally, this Outline DSP demonstrates that the servicing and delivery requirements can be sufficiently and efficiently accommodated at the Proposed Development. It also demonstrates the commitment by the Applicant to encourage sustainable modes of freight in the future.

Appendix 1 - Proposed Plans

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

HERTSMERE ROAD

NQA1

NQB1

NQD1

Security Hut

Vehicle Ramp to B2

Retail

Residential Amenities

Refuse Store

Cycle Lifts

Resi Lobby

Office Lobby

MUGA

POPLAR PLAZA

Office Lobby

NORTH QUAY WAY

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

WEST INDIA QUAY

GARDEN SQUARE

QUAY SQUARE

DOCK SQUARE

UPPER BANK STREET

BILLINGSGATE MARKET

NQA4

NQA5

NQD3

NQD4

reception/entrance

Cycle Store

Store

BOH

S. apt. Lobby

CROSSRAIL PLACE

0 25.0 m 50.0 m

1:500

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP

85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

North Quay Masterplan

INDICATIVE SCHEME GROUND FLOOR LEVEL
GENERAL ARRANGEMENT
19141-00-07-100

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

(WEST INDIA DOCK ROAD ABOVE)

(LIMEHOUSE LINK TUNNEL ABOVE)

(WEST INDIA DOCK ROAD ABOVE)

(HERTSMERE ROAD ABOVE)

(MARRIOTT HOTEL ABOVE)

(WEST INDIA QUAY ABOVE)

(WEST INDIA QUAY DLR STATION ABOVE)

(CASTOR LANE ABOVE)

(POPLAR DLR STATION ABOVE)

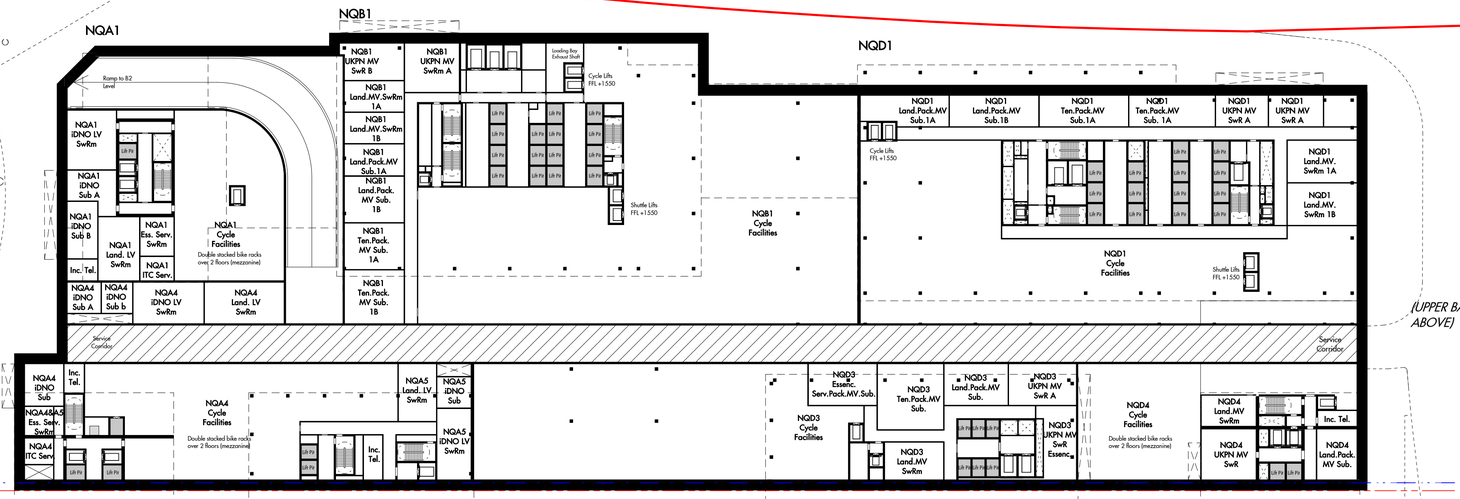
(ASPEN WAY PEDESTRIAN BRIDGE ABOVE)

(ASPEN WAY ABOVE)

(UPPER BANK STREET ABOVE)

(NORTH QUAY DOCK ABOVE)

(CROSSRAIL PLACE ABOVE)



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REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP
85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

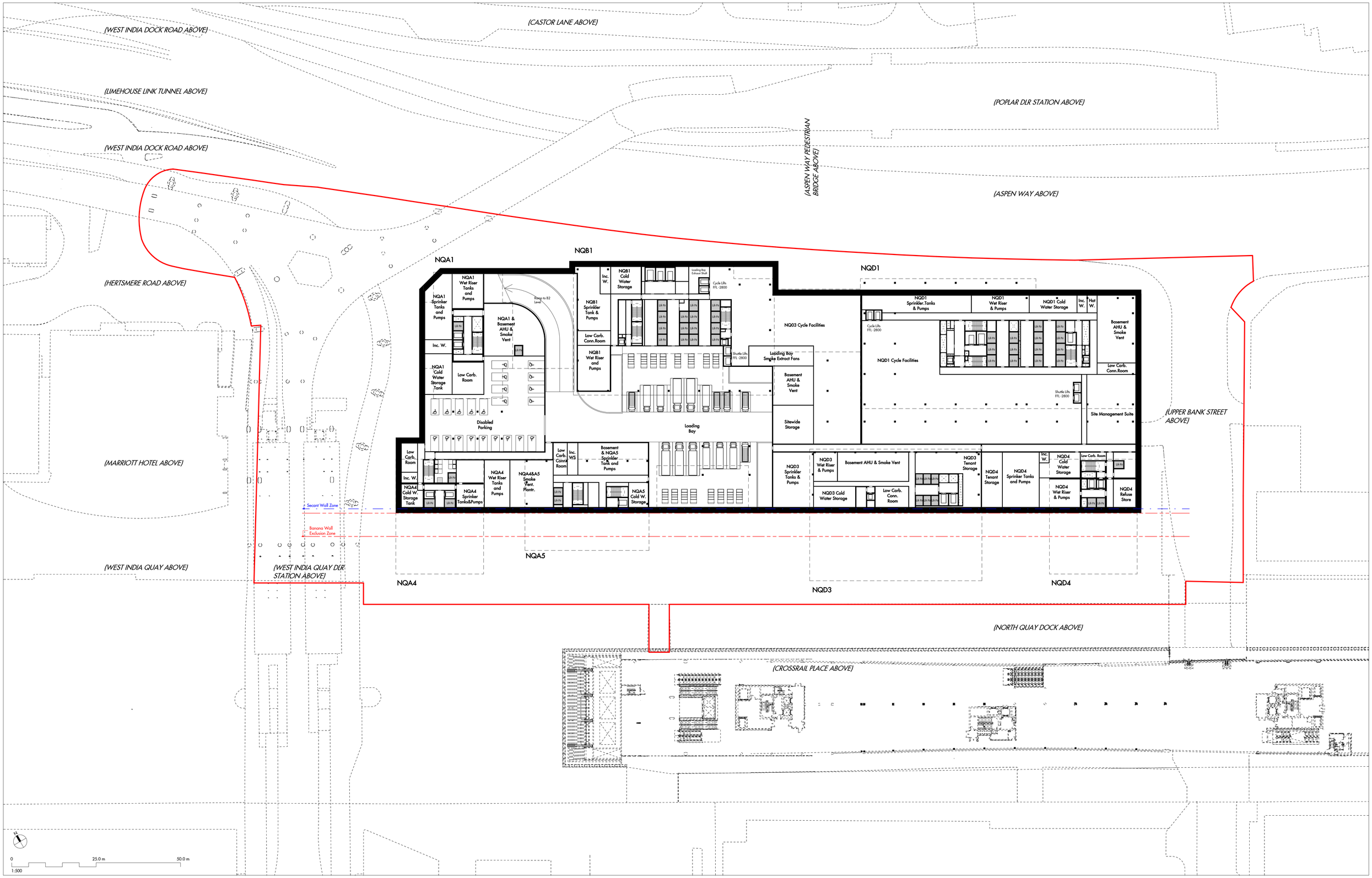
North Quay Masterplan

INDICATIVE SCHEME BASEMENT 1 LEVEL
GENERAL ARRANGEMENT
19141-00-07-099

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION



REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

Allies and Morrison LLP
85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

North Quay Masterplan

INDICATIVE SCHEME BASEMENT 2 LEVEL GENERAL ARRANGEMENT

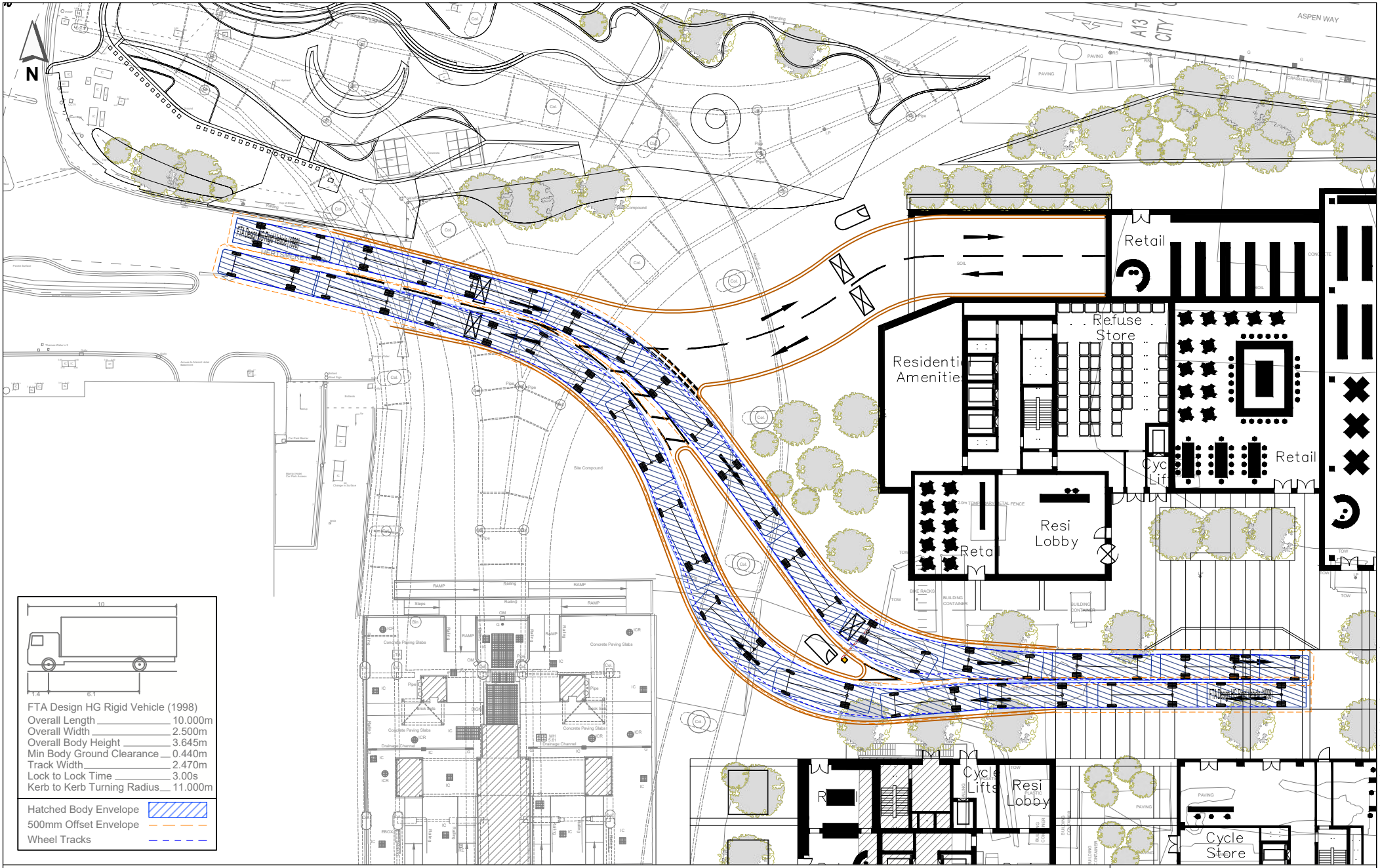
19141-00-07-098

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

FOR INFORMATION

Appendix 2 - Vehicle Swept Path Analysis



North Quay

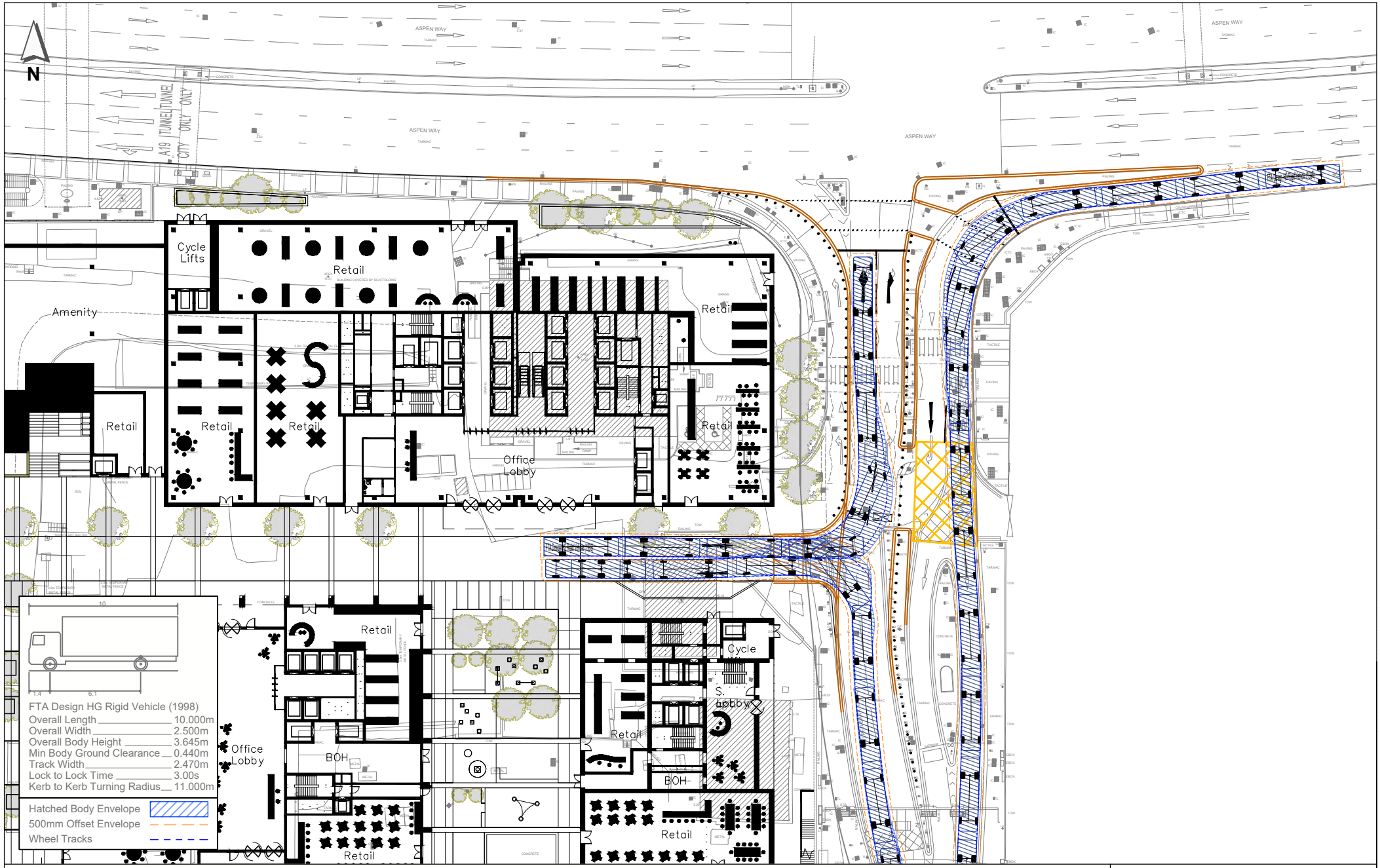
Hertsmere Road Swept Path Analysis (Level 00)

steer

Drawing Reference	Rev.	Date	Des	Chk	App
00-SPA-01	P0	22APR2020	CJM	JWI	

CAD REFERENCE: P:\Projects\229\0\25\10\CAD\Drawings\Figures\Hertsmere Road Swept Path Analysis (Level 00) - 00-SPA-01

DATE: 22/04/2020



North Quay

Upper Bank Street Swept Path Analysis (Level 00)

steer

00-SPA-02	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Upper Bank Street Swept Path Analysis (Level 00) - 00-SPA-02

DATE: 28/04/2020

North Quay

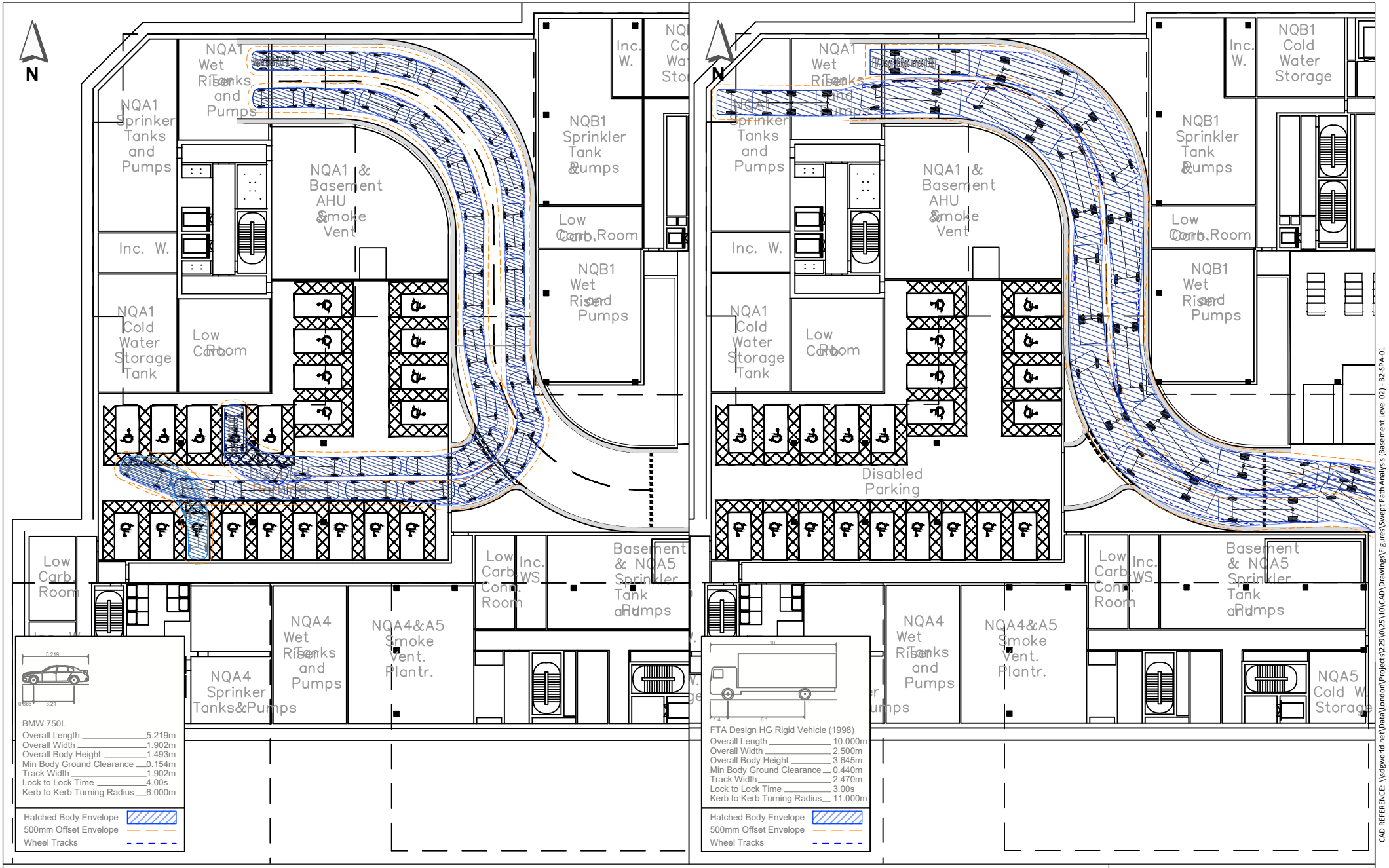
Swept Path Analysis (Basement Level 02)

steer

B2-SPA-02	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Swept Path Analysis (Basement Level 02) - B2-SPA-02

DATE: 24/04/2020



North Quay

Swept Path Analysis (Basement Level 02)

steer

B2-SPA-01	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25110\CAD\Drawings\Figures\Swept Path Analysis (Basement Level 02) - B2-SPA-01

DATE: 24/04/2020

Appendix 8 - Parameter Plan - Access and Circulation Routes

CASTOR LANE

LIMEHOUSE LINK TUNNEL

ASPEN WAY PEDESTRIAN BRIDGE

POPLAR DLR STATION

ASPEN WAY

HERTSMERE ROAD

NQ.A

NQ.B

NQ.C

NQ.D

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

UPPER BANK STREET

NQ.G

NQ.E

NQ.H

BILLINGSGATE MARKET

WEST INDIA QUAY

NQ.F

CROSSRAIL PLACE

REV	DATE	DESCRIPTION	CKD
P0	JULY 2020	PLANNING SUBMISSION	LP

0 25.0 m 50.0 m
1:500 @ A1
1:500

0 50.0 m 100.0 m
1:1000 @ A3
1:1000

KEY

- Planning Application Boundary
- Development Zones (refer to NQMP-PP-004)
- A Development Zone Reference
- Limit Of Deviation
- Vehicular and Cycle Access / Egress
- Vehicle and Cycle Route
- Servicing / Emergency Vehicles Route
- Pedestrian Route to Connect to Aspen Way Pedestrian Bridge
- Cycle / Pedestrian Routes
- Cycle / Pedestrian Access / Egress
- Pedestrian Routes
- Potential pedestrian connection if NQ.A1/NQ.A4 come forward for Residential Use (refer to NQMP-PP-009)

NOTES:
This plan does not preclude other routes coming forward.

- Potential pedestrian connection if NQ.D4 comes forward for Residential Use (refer to NQMP-PP-009)

Allies and Morrison LLP
85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
email studio@alliesandmorrison.com

STATUS: FOR APPROVAL

North Quay Masterplan

PARAMETER PLAN
ACCESS AND CIRCULATION ROUTES
NQMP-PP-006

SCALE 1 : 500 @A1 1 : 1000 @A3

P0
Revision

Appendix 9 - Cycle Parking

X:\JOBS\7118_NORTH_QUAY\7\CAD\DRAWINGS\SKETCHES\7118-LDA-L-XX-M3-XXX-SK009.DWG

LEGEND

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

NQA1

HERTSMERE ROAD

Removable Security Bollocation TBC)

Vehicle Ramp to B2

Refuse Store

Residential Amenities

Retail

Resi Lobby

NQB1

Cycle Lifts

Loading Bay (shared with South)

Display shuttle lift

Amenity

Office Lobby

POPLAR DOCK PLAZA

NQD1

Cycle Lifts

Office Lobby

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

Security Bollocation (TBC)

NORTH QUAY WAY

Cycle Store

Store

QUAY SQUARE

Cycle Lift

Office Lobby

BOH

DOCK SQUARE

NQA5

NQA4

NQD3

NQD4

UPPER BANK STREET

BILLINGSGATE MARKET

WEST INDIA QUAY

172 cycle stands for 344 bikes

CANARY WHARF CROSSRAIL PLACE

CANARY WHARF CROSSRAIL STATION

0 20m

North

REV. DESCRIPTION APP. DATE

LDĀDESIGN

PROJECT TITLE
NORTH QUAY

DRAWING TITLE
LOWER SHORT-STAY CYCLE PARKING PROVISION
172 SHEFFIELD STANDS

ISSUED BY	London	T: 020 7467 1470	
DATE	MARCH 20	DRAWN	RM
SCALE@A1	1:500	CHECKED	SL
STATUS	Sketch	APPROVED	BW

DWG. NO 7118-LDA-ZZ-GF-DR-L-SK009

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Sources Ordnance Survey

X:\JOBS\7118_NORTH_QUAY\7\CAD\DRAWINGS\SKETCHES\7118-LDA-L-XX-M3-XXX-SK010.DWG

LEGEND

CASTOR LANE

LIMEHOUSE LINK TUNNEL

POPLAR DLR STATION

ASPEN WAY PEDESTRIAN BRIDGE

ASPEN WAY

THE DELTA

ASPEN WAY GARDEN

NQA1

NQB1

NQD1

HERTSMERE ROAD

Removable Security Bollocation TBC)

Vehicle Ramp to B2

Refuse Store

Residential Amenities

Retail

Resi Lobby

Cycle Lifts

Loading Bay Refuse Chute

Display shutter lift

Amenity

Office Lobby

POPLAR DLR PLAZA

Security Bollocation (TBC)

NORTH QUAY WAY

MARRIOTT HOTEL

WEST INDIA QUAY DLR STATION

WEST INDIA QUAY

Cycle Store

Store

QUAY SQUARE

Cycle Lift

Office Lobby

BOH

DOCK SQUARE

UPPER BANK STREET

BILLINGSGATE MARKET

NQA4

NQA5

NQD3

NQD4

304 cycle stands for 608 bikes

CANARY WHARF CROSSRAIL PLACE

CANARY WHARF CROSSRAIL STATION

0 20m

North

REV. DESCRIPTION APP. DATE

LDĀDESIGN

PROJECT TITLE
NORTH QUAY

DRAWING TITLE
HIGHER SHORT -STAY CYCLE PARKING PROVISION
304 SHEFFIELD STANDS

ISSUED BY	London	T: 020 7467 1470	
DATE	MARCH 20	DRAWN	RM
SCALE@A1	1:500	CHECKED	SL
STATUS	Sketch	APPROVED	BW

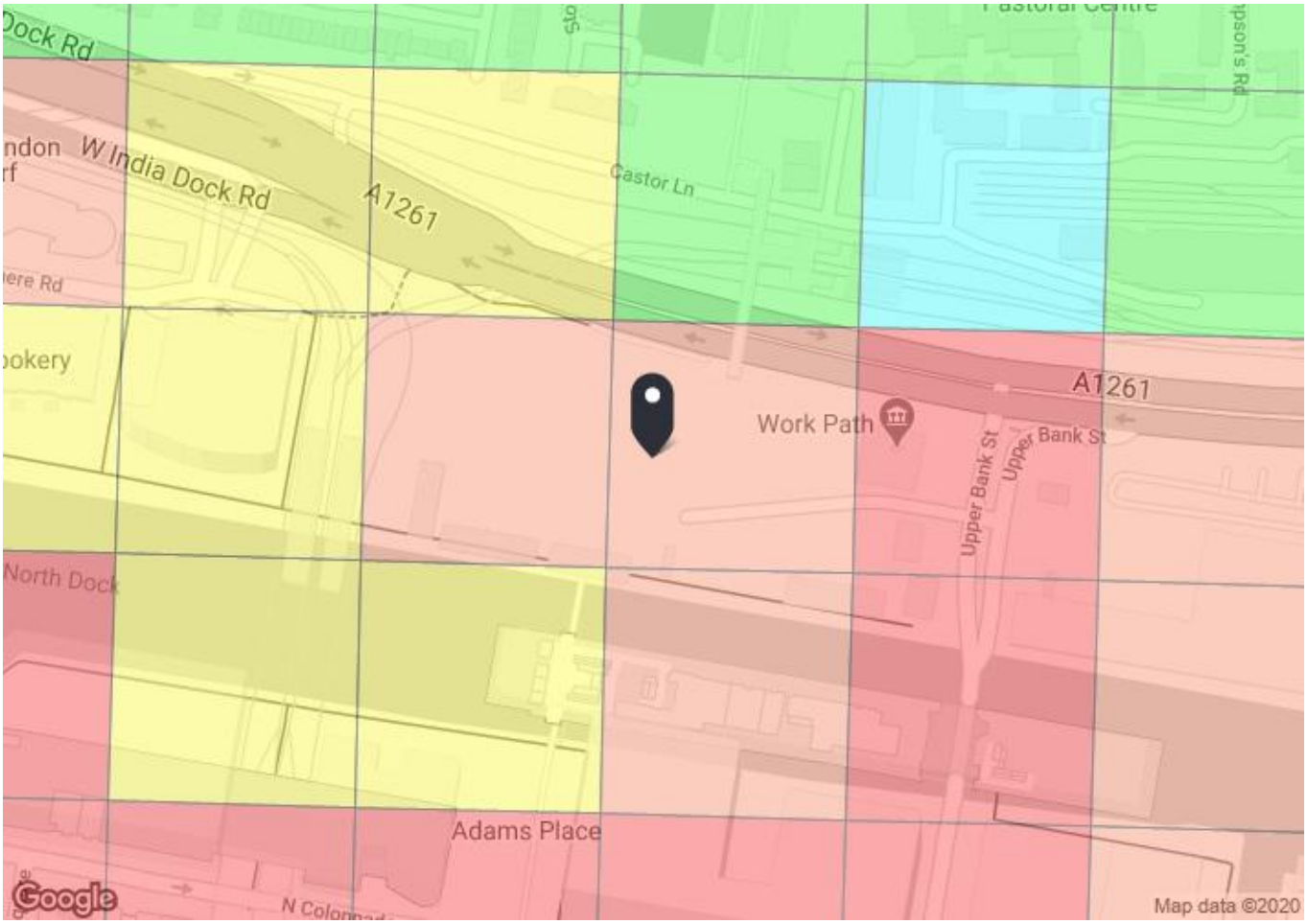
DWG. NO 7118-LDA-ZZ-GF-DR-L-SK010

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Sources Ordnance Survey

Appendix 10 - TfL WebCAT PTAL Report

TRANSPORT FOR LONDON



PTAL output for Base Year
5

Poplar, Poplar, London E14 0AF, UK
Easting: 537615, Northing: 180539

Grid Cell: 80889

Report generated: 12/03/2020

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	Canada Square Canary Whf	D7	410.03	9	5.13	5.33	10.46	2.87	0.5	1.43
Bus	Canada Square Canary Whf	135	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	D8	410.03	5	5.13	8	13.13	2.29	0.5	1.14
Bus	Canada Square Canary Whf	D3	410.03	6	5.13	7	12.13	2.47	0.5	1.24
Bus	Canada Square Canary Whf	277	410.03	9	5.13	5.33	10.46	2.87	1	2.87
LUL	Poplar	'WWARSL-BANK'	250.48	7.5	3.13	4.75	7.88	3.81	1	3.81
LUL	Poplar	'BECKTON-TWRGWAY'	250.48	7.5	3.13	4.75	7.88	3.81	0.5	1.9
LUL	Poplar	'STRATF-LEWISHAM'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Poplar	'CNRYWH-STRATF'	250.48	5	3.13	6.75	9.88	3.04	0.5	1.52
LUL	Canary Wharf	'LEWISHAM-BANK'	503.47	15	6.29	2.75	9.04	3.32	0.5	1.66
LUL	Canary Wharf	'WembleyPark-Stratfo'	503.47	3.67	6.29	8.92	15.22	1.97	0.5	0.99
LUL	Canary Wharf	'Stratford-Willesden'	503.47	4.33	6.29	7.68	13.97	2.15	0.5	1.07
LUL	Canary Wharf	'Stanmore-Stratford'	503.47	17.65	6.29	2.45	8.74	3.43	0.5	1.72
									Total Grid Cell AI:	**22.11**

Appendix 11 - Parking Design and Management Plan

Contents

1. Introduction

Background

1.1 This Parking Design and Management Plan (PDMP) has been prepared by Steer on behalf of Canary Wharf (North Quay) Limited ("the Applicant") in support of the:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
  - *Business floorspace (B1)*
  - *Hotel/Serviced Apartments (C1)*
  - *Residential (C3)*
  - *Co-Living (C4/Sui Generis)*
  - *Student Housing (Sui Generis)*
  - *Retail (A1-A5)*
  - *Community and Leisure (D1 and D2)*
  - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.2 The full Site address is North Quay, Aspen Way, London, E14. The Site is situated in the London Borough of Tower Hamlets ("LBTH").

1.3 The Proposed Development offers an opportunity to make better use of underdeveloped land in an area with excellent public transport accessibility.

Site Context

1.4 The Site is bounded by Canary Wharf Crossrail station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

1.5 Currently the Site comprises mostly cleared land, being previously used as a construction laydown site for the Canary Wharf Crossrail station. There are some temporary uses currently on Site, including the Tower Hamlets Employment and Training Services, WorkPath and advertising structures.

1.6 The Site is well connected to the local and regional road network. The Site is bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively. Existing access to the development is provided from the east via Upper Bank Street.

1.7 This PDMP relates primarily to residential car parking within the Proposed Development. It sets out the strategy for managing car parking for residents and visitors on-site. It is envisaged the PMDP will be secured via an appropriately worded planning condition or s106 obligation and will provide the basis for managing on-site car parking prior to and following occupation of the Site.

1.8 A Site location plan is shown in **Figure 1.1**.

Figure 1.1: Masterplan Site Location Plan

Aims and Objectives

1.9 The key aims of the PDMP are to:

- Ensure an adequate level of car parking is provided to serve the residential elements of the Proposed Development in line with planning policy.
- Ensure an adequate level of accessible parking is provided to meet the needs of Blue Badge holders.
- Facilitate and enforce the designated use of the car parking facilities by eligible users.

- Limit opportunities for misuse of facilities and provide a mechanism to restrict unauthorised parking practices.
- Monitor the use of the car parking facilities to review usage and to identify any potential changes that may benefit users and management.

Report Structure

1.10 Following this introduction, the remainder of this report is structured as follows:

- **Chapter 2:** Car Parking Provision
- **Chapter 3**: Operation and Management of Car Parking Spaces
- **Chapter 4**: Review and Updates.

2. Car Parking Provision

2.1 Due to the outline nature of the OPA, the assessment presented in the TA focuses on the reasonable worst-case scenario for transport and accessibility; that is a scenario which would generate the maximum number of trips based on the proposed use classes and their respective trip rates and mode shares, as well as the maximum floor space areas from the Development Specification.

2.2 An Indicative Scheme has also been developed which demonstrates one interpretation of the Specified Parameters and which represents a proportionate and realistic assessment for a quantum and mix of development which would be likely to come forward.

2.3 Irrespective of which scheme comes forward through the Reserved Matters Approvals, the Proposed Development will be car-free in accordance with Draft Policy T6 of the Draft London Plan given its excellent connections to public transport, with the exception of accessible parking which will be provided for a minimum of 3% of residential units from the outset.

2.4 Based on the Indicative Scheme (702 residential units), this equates to 21 accessible spaces, although 23 are illustrated in the basement level 2 plan at Appendix 2 of the TA, which exceeds Draft London Plan requirements. Should a maximum residential scheme come forward (1,110 residential units), then 33 accessible spaces would be required. This is not illustrated on any plans as the basement composition/layout would likely change from that shown in the Indicative Scheme, however suitable flexibility is provided to ensure that the RMAs which come forward can demonstrate that 3% of residential units would be provided with an accessible parking space. It is envisaged that this will be secured by an appropriately worded planning condition or S106 planning obligation.

2.5 The Draft London Plan Policy T6.1 also requires that a further 7% of dwellings could be provided with Blue Badge spaces in the future upon request, as soon as existing provision is insufficient.

2.6 Table DIS0109 of the Department for Transport statistics[1] recorded that, in 2019, 1.6% of Tower Hamlets' residents held a valid Blue Badge. Therefore, even if take-up of Blue Badges within the development were higher than the current Borough average, providing 3% of units with a Blue Badge space exceeds anticipated parking requirements by Blue Badge holders.

[1] Department for Transport (2019) *Department for Transport statistics. Table DIS0109 Valid Blue Badges held and population measures: England, by Local Authority 2019*

2.7 As discussed with TfL and set out in their pre-application advice letter at Appendix 4 of the TA, the limited additional available basement space and constraints to the ground floor mean that providing accessible car parking for an additional 7% of residential units is not an option. High-quality, inclusive access routes will be provided from the Site to accessible public transport. It is noted that all public transport in the vicinity of the Site is step-free, including the forthcoming Elizabeth Line.

2.8 Accessible parking for only 3% of residential units will therefore be provided from the outset and will be allocated for Blue Badge Holders.

2.9 Accessible car parking for Blue Badge Holders will also be provided at ground level on North Quay Way for commercial uses. It is anticipated that one space per commercial building will be provided, although this will be set out through the RMAs that come forward.

2.10 In accordance with Policy T6.1 of the Draft London Plan, 20% of the spaces will be provided with Electric Vehicle Charging Points (EVCPs) from the outset. Passive provision will be made to extend EVCPs to all car parking spaces, if evidenced by demand.

2.11 Residents will be ineligible to apply for parking permits within Controlled Parking Zones (CPZ) outside the Site.

3. Operation and Management of Car Parking

Overview

3.1 This chapter considers car parking management measures, to ensure that the proposed car parking facilities serve the requirements of users, and in order to limit misuse of the parking provision on Site.

Management Responsibilities

3.2 The Applicant, or an independent parking management contractor (IPMC) appointed by the Applicant, will ultimately be responsible for managing this PDMP.

3.3 Prior to first occupation of the development, this PDMP will be updated to provide contact details of the proposed PDMP coordinator.

Allocation of Car Parking Spaces

3.4 As per the Draft London Plan policy requirements, all of the allocated accessible car parking spaces at basement level will be leased to residents.

3.5 Residents requiring an accessible parking space would be required to present a valid Blue Badge parking permit.

3.6 Permits will only be issued for private domestic vehicles registered at an address of the Proposed Development. Any commercial vehicles, such as vans, will be excluded unless exceptional circumstances can be demonstrated by the resident.

3.7 The size of vehicles will also be considered in relation to the available car parking spaces. Vehicles that are unable to utilise spaces without causing obstruction to adjacent bays, aisles or passageways will not be permitted.

3.8 It is not envisaged that any visitor parking permits will be issued.

Allocation of EVCPs

3.9 Owners of electric and hybrid vehicles will declare a requirement for access to an EVCP as part of the permit application process. Parking spaces that accommodate EVCPs will be allocated to suitably eligible residents and the number and usage of EVCPs will be monitored through this PDMP.

3.10 Once it is identified that more than 90% of the initial EVCPs have been allocated to owners of such vehicles, the parking management contractor will implement necessary changes to activate a suitable proportion of passive EVCPs in line with observed demand.

User Information

3.11 All residents moving to the Proposed Development will be provided with an information pack prior to occupying their dwelling which will include details of the criteria necessary to obtain a permit and restrictions on use of the accessible parking spaces.

3.12 The operation of facilities such as EVCPs will be described in the information pack. Furthermore, the guide will outline procedures relating to enforcement action that will be taken against any activities defined as being detrimental to the operation of the parking areas.

3.13 To help manage demand for parking on local streets, within the information pack, all residents will be discouraged from parking off-site near the Proposed Development in addition to being ineligible to apply for on-street parking permits within existing CPZs external to the Site.

Access and Signage

Access Control

3.14 The basement accessible parking will be accessed via ramp from Hertsmere Road. Residents would be required to pass a security check-point before entering the basement, however it is also anticipated that the parking area would be controlled via gates or barrier with access fob or similar. Further details will be provided in a detailed PDMP to be secured via a planning condition and/or submitted alongside future RMAs.

Signage and Road Markings

3.15 Signage and markings on the private streets within the Proposed Development would be implemented by the parking management contractor in line with the appropriate contract law. Signage would set out the relevant terms and conditions.

3.16 Signage will be an important tool to manage the operation of the parking spaces. Signage at the entrance to the Site, individual demarcation of parking spaces and driver eye-level signage will show that the car parking spaces are allocated to permit holders or where parking is not permitted.

Enforcement Process

3.17 The Applicant will enforce the permit scheme within the basement car park. Enforcement action will be taken for the following parking practices:

- Vehicles not authorised to park (without a permit).

- Vehicles not parking in a demarcated space (i.e. in aisles).
- Vehicles parking inappropriately and causing an obstruction to other drivers.

3.18 All car parking on the private streets, except for in dedicated Blue Badge Holder bays on North Quay Way, will not be permitted and will be enforced as per the below.

3.19 Car parking activity will be monitored by CCTV and regular patrols of the car park and streets by the parking management contractor.

3.20 In the event that a vehicle is parked and is breaching the terms of the permit scheme, the Applicant will cross-reference the vehicle registration with the permit database. If the vehicle is not authorised to park, the parking management contractor will operate an enforcement procedure, taking photographic evidence of the parking offence. Offending vehicles will receive a Penalty Charge Notice (PCN).

3.21 Where vehicles otherwise authorised to park in the development have not parked in the correct space, the Applicant will in the first instance issue a notice to the owner advising them to park appropriately.

3.22 In the event of repeat offences, the Applicant will have the ability to initiate a penalty procedure, likely a PCN, in line with the parking contract agreed with the user.

3.23 The Applicant can withdraw parking permits from users for repeat misuse of the parking permit.

3.24 In extreme cases, any vehicle parked in an obstructive location will receive a PCN and will be immediately towed away.

3.25 The parking management contractor will have a clear appeals process. If the PCN fee is not recovered then the parking management contractor would reserve the right to take appropriate action for recovery of their fee, be it through the county courts or via referral to a debt recovery agency.

Exempt Vehicles

3.26 The following vehicles will be exempt from parking enforcement on the private streets:

- Emergency vehicles
- Breakdown and car recovery vehicles
- Utility vehicles (e.g. gas/electricity, broadband providers)
- Funeral vehicles

4. Review and Updates

Preamble

4.1 This PDMP is a live document that will be subject to updates which can be used to implement future changes in allocation, operation and enforcement. The PDMP will respond to the scheme which comes forward through the RMAs to ensure that it remains relevant as a mechanism to manage Site-wide car parking.

Review of Allocation

4.2 The allocation and leasing of resident Blue Badge Holder spaces will be continually reviewed as new residents move into the development to monitor uptake of and parking demand. Full reviews of the scheme will be carried out in accordance with the Residential Travel Plan survey and review timescales – within 6 months of full occupation, and the 3rd and 5th year anniversaries thereafter.

4.3 Residents will also be contacted in advance of their accessible parking space lease expiring with the option to renew or cancel the lease.

Integration with Residential Travel Plan

4.4 The Residential Travel Plan produced as part of the OPA is provided in Appendix 5 of the TA.

4.5 The Residential Travel Plan is a coordinated package of measures aimed at promoting sustainable travel to, from and within a development. A successfully implemented Travel Plan can offer substantial gains towards the sustainable transport objectives of central and local governments and improve the ambiance and functioning of a development.

4.6 Mode share targets, a detailed action plan and monitoring strategy have been developed to encourage residents and visitors to utilise sustainable transport modes and reduce car use. The Residential Travel Plan will complement the car parking management suggested within this report to ensure the sustainable operation of the Site and safe operation of the public highway and private streets. As discussed above, the survey and review timescales of the Residential Travel Plan and car parking review will be coordinated to ensure the effective implementation and management of both.

Appendix 12 - Site Waste Management Plan

CANARY WHARF
GROUP PLC

NQ.PA.22

North Quay
Site Waste Management Plan

Steer
July 2020

Contents

1. Introduction

Background

1.1 This Site Waste Management Plan ("SWMP") has been prepared by Steer on behalf of Canary Wharf (North Quay) Ltd ("the Applicant") in support of the:

"Application for outline planning permission (all matters reserved) for the redevelopment of the North Quay site for mixed use comprising:

- *Demolition of existing buildings and structures;*
- *Erection of buildings and construction of basements;*
- *The following uses:*
  - *Business floorspace (B1)*
  - *Hotel/Serviced Apartments (C1)*
  - *Residential (C3)*
  - *Co-Living (C4/Sui Generis)*
  - *Student Housing (Sui Generis)*
  - *Retail (A1-A5)*
  - *Community and Leisure (D1 and D2)*
  - *Other Sui Generis Uses*
- *Associated infrastructure, including a new deck over part of the existing dock;*
- *Creation of streets, open spaces, hard and soft landscaping and public realm;*
- *Creation of new vehicular accesses and associated works to Aspen Way, Upper Bank Street, Hertsmere Road and underneath Delta Junction;*
- *Connections to the Aspen Way Footbridge and Crossrail Place (Canary Wharf Crossrail Station);*
- *Car, motorcycle, bicycle parking spaces, servicing;*
- *Utilities including energy centres and electricity substation(s); and*
- *Other minor works incidental to the proposed development."*

1.2 The full Site address is North Quay, Aspen Way, London, E14. The Site is situated in the London Borough of Tower Hamlets ("LBTH").

1.3 The Proposed Development offers an opportunity to make better use of underdeveloped land in an area with excellent public transport accessibility.

1.4 At the time of making the OPA, the Applicant is unable to determine exactly how much of the Proposed Development is likely to come forward in which land use. For this reason, the description of development provides the Applicant with flexibility as to the uses that could be undertaken on the Site.

1.5 However, in order to ensure that the level of flexibility is appropriately restricted, the OPA seeks approval for three Control Documents which describe the principal components of the Proposed Development, define the parameters for the Proposed Development (the "Specified Parameters") and control how the Proposed Development will come forward in future. They provide the parameters, design principles and controls that will guide future reserved matters applications ("RMAs"). These Control Documents are – (1) the Development Specification; (2) the Parameter Plans; and (3) the Design Guidelines:

- The Development Specification sets out the type and quantity of development that could be provided across the Site (including setting a maximum floorspace across the Site);
- The Parameter Plans set the parameters associated with the scale, layout, access and circulation and distribution of uses classes and public space for the Proposed Development. They also establish the Development Zones and Development Plots across the Site; and
- The Design Guidelines set the design principles and controls for future development.

1.6 Together, these documents set out the information required to allow the impacts of the Proposed Development to be identified with sufficient certainty as future RMAs will be required to demonstrate compliance with the Specified Parameters and controls in these Control Documents.

1.7 In order to test and validate the OPA, an Indicative Scheme showing the potential location of buildings, uses and open spaces has been produced. This scheme provides a vehicle for examining the possible architectural, environmental, operational and social impacts of the project. It remains schematic but it conforms to the development parameters as defined in the Development Specification, Parameter Plans and Design Guidelines. It has been essential in testing these development parameters. The Indicative Scheme is not a design template or submitted for approval; it represents one possible way the principles as defined in the above listed documents could be interpreted/achieved and developed into a design. The Development Specification, land use floorspace ranges and Indicative Scheme schedule are summarised at Table 1.1 and the Indicative Scheme residential unit mix is provided in Table 1.2. This Indicative Scheme and its Development Plots have been used to generate the images and diagrams for the Design Guidelines. In some instances, these Development Plots are used as reference in the Guidelines to help illustrate the point.

1.8 The Indicative Scheme demonstrates one interpretation of the Specified Parameters but is used throughout this SWMP to illustrate the type of mixed-use development that could come forward and the associated waste storage requirements. The Indicative Scheme basement level 2 plans can be found at **Appendix 1**.

1.9 The maximum Site wide total floorspace permitted within the Development Specification is 355,000m^2 (GIA) and the Indicative Scheme floor area totals 354,927m^2 (GIA).

Table 1.1: Development Specification and Indicative Scheme Area Schedule

Land Use	Minimum Floorspace (GIA)		Maximum Floorspace (GIA)	Indicative Scheme
A1-A5 Retail	Total 10,000	A1-A5 5,000	20,000	13,681
D1 Community			20,000	-
D2 Leisure			20,000	-
B1 Business	150,000		240,000	174,653
C1 Hotel	-		150,000	44,081
C3 Residential	-		150,000	84,736
C4 Co-Living	-		150,000	-
Sui Generis: Student Housing	-		150,000	-
Sui Generis: Private Members Clubs, Conference Centres, Theatres, Casinos and Launderettes	-		25,000	-
Below Ground				
A1-A5 Retail	-		5,000	-
B1 Business	-		20,000	-
D1 Community	-		5,000	-
D2 Leisure	-		10,000	-
Ancillary floorspace comprising Business, Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, Energy Centres, Electricity Sub Stations etc.	-		No maximum	Above ground: 9,730 Below ground: 28,047

Table 1.2: Indicative Residential Unit Mix

Type	Number of Units
Studio	30
1 bed	159
2 bed	316
3 bed	141
4 bed	56
Total	702

Site Context

1.10 The Site is bounded by Canary Wharf Elizabeth Line (also referred to as Crossrail in other supporting documentation) station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway (DLR) station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

1.11 Currently the Site comprises mostly cleared land, being previously used as a construction laydown site for the Canary Wharf Elizabeth Line station. There are some temporary uses

currently on site, including the Tower Hamlets Employment and Training Services, WorkPath and advertising structures.

1.12 The Site is well connected to the local and regional road network. The Site is bounded by the A1261 Aspen Way to the north, and Hertsmere Road and Upper Bank Street to the west and east respectively. Existing access to the development is provided from the east via Upper Bank Street.

1.13 A Site location plan is shown in **Figure 1.1**.

Figure 1.1: Site Location Plan

Site Location

1.14 The Site is bounded by Canary Wharf Crossrail station to the south, Aspen Way (A1261) to the north, Hertsmere Road to the west and Billingsgate Market to the east. The West India Quay Docklands Light Railway ("DLR") station and Delta Junction are located on the western side of the Site and the Site also incorporates parts of North Dock, Upper Bank Street and Aspen Way.

Assessment Overview

1.15 This SWMP considers the potential impacts that may arise from waste generated during the operational phase of the Proposed Development, with the overall aim of developing a strategy for legislative compliance and good practice in the separation, storage and collection of waste arisings for all proposed land uses across the Site. The impacts of the construction phase of the Proposed Development and their potential mitigation have been outlined in Chapter 9 of the Transport Assessment and the Environmental Statement.

1.16 This SWMP is an interim plan setting the framework for the waste management arrangements and protocols. It is envisaged a detailed SWMP will be secured via an appropriately worded planning condition or s106 obligation and will provide the basis for the appropriate storage and management of waste prior to and following occupation of the Site.

1.17 This SWMP assesses the waste arisings, storage and management strategy associated with the Indicative Scheme, however the maximum number of residential units (1,264, 150,000 sqm (GIA)) which could come forward is also considered to provide a robust assessment. This SWMP therefore provides an overestimation of waste which could be generated (as 1,264 residential units, 750 serviced apartments and the office and retail uses detailed above would exceed the 355,000 sqm GIA site-wide floorspace limit), but nonetheless provides a robust assessment and demonstrates the waste storage and management flexibility within the Masterplan. The same approach is not applied to assess the waste arisings associated with a maximum commercial scheme as the Indicative Scheme is considered a reasonable representation of what may come forward and the proposed use of compactors provides the flexibility to accommodate any commercial floor areas which may come forward through the RMAs (i.e. by increasing compactor size or frequency of collection).

Report Structure

1.18 This report is split into four sections.

- Section 1: Introduction
- Section 2: Waste Legislation, Policy and Local Guidance
- Section 3: The Storage and Management of Residential Waste
- Section 4: The Storage and Management of Commercial Waste
- Section 5: Summary and Conclusions.

2. Waste Legislation, Policy and Local Guidance

Introduction

2.1 This section provides details of legislation as well as strategic national guidance on how to treat waste and the latest local guidance which specifies the planning requirements for waste storage facilities.

National Legislation

2.2 A list of relevant items of national waste legislation is outlined below in reverse chronological order:

- **Waste Management, The Duty of Care Code of Practice (2016 update)**

  This code of practice replaces the 1996 Code and is pursuant to Section 34(9) of the Environmental Protection Act 1990. It sets out practical guidance on how to meet waste duty of care requirements and is admissible as evidence in legal proceedings i.e. its rules will be considered where relevant in any case based on breach of the duty of care.

- **The Waste (England and Wales) Regulations 2011 (as amended)**

  From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. It also imposes a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.

- **Environmental Protection Act 1990**

  Part II of the act was originally implemented by the Duty of Care Regulations 1991. The Duty of Care is a legal requirement for those dealing with certain kinds of waste to take all reasonable steps to keep it safe and is set out in Section 34 of the Act. The Waste (England and Wales) Regulations 2011 repealed the Environmental Protection (Duty of Care) Regulations 1991 and apply the Duty of Care requirements brought in by the Environmental Protection Act 1990.

National, London and Local Waste Policy

2.3 The relevant national, London and local waste policies that were reviewed during the preparation of this Site Waste Management Plan are listed below:

- **National Planning Policy Framework (2019)**

  The National Planning Policy Framework ("the Framework") sets out the Government's economic, environmental and social planning policies for England and provides a framework within which local people and councils can produce local and neighbourhood plans.

  The Framework does not provide specific guidelines on planning policy for the development of waste infrastructure, but rather acts as a policy guidance umbrella, advising strategic policies to *"set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for: (…)*

  – *infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat)".*

- **National Planning Policy for Waste (2014)**

  The National Planning Policy for Waste replaces 'Planning Policy Statement 10: Planning for Sustainable Waste Management' ("PPS 10") and is to be considered alongside other national planning policy for England - such as in The National Planning Policy Framework and the Waste Management Plan for England. As its primary focus is on planning for waste management facilities, it is not considered relevant to the Proposed Development

- **Planning Practice Guidance on Waste (2015)**

  The online Planning Practice Guidance on Waste only covers waste development such as metal recycling sites and energy from waste incineration, so is not relevant to the Proposed Development.

- **Waste Management Plan for England (2013)**

  The Waste Management Plan for England, published in December 2013, provides an analysis of the current waste management situation in England and fulfils the mandatory requirements of Article 28 of the revised Waste Framework Directive ("rWFD"). The rWFD required that Member States ensure that their competent authorities, in this instance the Department for Environment, Food & Rural Affairs ("DEFRA"), establish one or more waste management plans covering all of their territory.

  The Plan does not introduce new policies or change the landscape of how waste is managed in England. Its core aim is to bring current waste management policies under the umbrella of one national plan. It supersedes the previous waste management plan, the Waste Strategy for England 2007.

- **BS: 5906:2005 Waste management in buildings – Code of Practice (2005)**

  BS 5906 is a code of practice for methods of storage, collection, segregation for recycling and recovery, and on-site treatment of waste from residential and non-residential buildings and healthcare establishments. BS 5906 applies to new buildings, refurbishments and conversions of residential and non-residential buildings, including but not limited to retail and offices.

- **The Mayor's Vision for London's Waste (2010)**

  In 2010, the Mayor unveiled London's first dedicated draft document aimed at tackling the 16 million tonnes of waste from sources such as the commercial & industrial (C&I) sectors.

  The strategy, which is non-statutory, particularly focuses on waste reduction and highlights the economic benefits of businesses improving their waste management practices.

  When the document was published, London recycled 57% of its waste; the Mayor specified a target of 80% of all London's waste to be recycled or composted by 2031, setting the following recycling targets for London:

  – "*To recycle or compost 70% of C&I waste by 2020, maintaining this performance to 2031.*"

- **Making Business Sense of Waste: The Mayor's Business Waste Strategy for London (2010)**

  Making Business Sense of Waste is the first Mayoral strategy for London's business waste. It sets out initiatives to help all kinds of London's businesses, from shops, restaurants, office buildings, manufacturers to construction companies to save money and reduce harm to the environment through better waste management.

- **The London Plan – the Spatial Development Strategy for London Consolidated with Alterations since 2011 (March 2016)**

  The London Plan is the "*strategic plan setting out an integrated social, economic and environmental framework for the future development of London*".

  The strategy includes the following waste management policy that has influenced the development of more specific business waste guidance:

  "*Policy 5.16 Waste self-sufficiency*

  – *The Mayor will work with London boroughs and waste authorities, the London Waste and Recycling Board (LWaRB), the Environment Agency, the private sector, voluntary and community sector groups, and neighbouring regions and authorities to:*
  – *manage as much of London's waste within London as practicable, working towards managing the equivalent of 100% of London's waste within London by 2031;*
  – *create positive environmental and economic impacts from waste processing, and x work towards zero biodegradable or recyclable waste to landfill by 2031.*
  – *This will be achieved by targeting the following: o minimising waste; o encouraging the reuse of and reduction in the use of materials;*

- *exceeding recycling/composting levels in commercial and industrial waste of 70% by 2020;*
- *improving London's net self-sufficiency through reducing the proportion of waste exported from the capital over time, and*
- *working with neighbouring regional and district authorities to co-ordinate strategic waste management across the greater south-east of England."*

- **The London Plan: (Intend to Publish Version) The Spatial Development Strategy for London – 2019**

  The 'Intend to Publish' version of the Draft London Plan is a statutory Spatial Development Strategy which aims to succeed the adopted London Plan.

  Policies SI 7 – SI 9 focus on waste and its management. In particular, Policy SI 8 *Waste capacity and net waste self-sufficiency* states that:

  "D Development proposals for materials and waste management sites are encouraged where they:

  1) deliver a range of complementary waste management and secondary material processing facilities on a single site"

- **LBTH Local Plan 2031: Managing growth and sharing the benefits (Adopted January 2020) (Appendix 4: Waste collection standards)**

  The Local Plan states that "the management of waste is one of the most pressing issues facing Tower Hamlets". The document details the measures that must be incorporated into the design and operation of new developments to help the Borough manage its waste. These are summarised in Policy D.MW3 of Section 3 and are further detailed in Appendix 4: Waste collection standards. The Local Plan provides guidelines on waste storage (including mass waste collection and storage) and collection.

3. The Storage and Management of Residential Waste

Introduction

3.1 This Site Waste Management Plan is intended to demonstrate that suitable arrangements are proposed to store and manage the waste and recycling generate by all land uses across the Site. This section covers the residential element of the scheme. Note that the Indicative Scheme includes a total of 702 residential units, but in order to demonstrate that the waste storage proposals are fit for purpose this chapter assesses the 'maximum residential' scheme, whereby 3 buildings (Development Plots NQ.A1/A2, NQ.A4 and NQ.D4) come forward for residential development. In this scenario, a total of 1,264 total residential units would be provided across the Site.

3.2 One key factor for residential waste is that it will be collected by LBTH waste operatives. The Applicant is therefore committed to a collaborative approach and will undertake extensive engagement with LBTH in forming the detailed SWMP which will support the subsequent RMAs. Waste management best practice changes frequently and there are often opportunities to improve efficiencies.

Waste Storage Volumes

3.3 The waste storage proposed have been designed to meet the latest LBTH standards as published in Appendix 4 'Waste collection standards' of the recently adopted Local Plan (2020). The waste capacities for each residential unit type as set out by LBTH are shown in the **Table 3.1**.

Table 3.1: LBTH Waste Capacity Guidelines

Number of Bedrooms	Suggested Capacity per week (Litres)		
	Refuse	Dry Recyclables	Organic (without garden waste)
1	70	60	23
2	120	90	23
3	165	120	23
4	215	150	23

3.4 The calculations in this section cover the proposed maximum residential mix within the parameters of Development Specification. In this scheme the total number of units provided are as shown in **Table 3.2**.

Table 3.2: Residential Unit Mix – Max Residential Scheme

Unit Type	Number provided
Studio	240
1 Bedroom	563
2 Bedroom	332
3 Bedroom	106
4 Bedroom	23
Total	**1,264**

3.5 Based on this unit mix the total volume of waste and recycling to be stored on the Site would be as shown in **Table 3.3**.

Table 3.3: Residential Waste Generation – Weekly in Litres

Plot	Minimum Capacity per week (litres)			Total
	Refuse	Dry Recycling	Compostable	
Total	118,485	94,230	29,072	241,787

Waste Storage Proposals

3.6 The method of storage for waste will be confirmed as RMAs come forward, however the general principles for waste management are devised in accordance with the following key waste storage guidance detailed in the Local Plan:

- "… sufficient accessible space to separate and store dry recyclables, organics and residual waste… both within individual units and for the building as a whole"
- "… incorporate high quality waste collection systems … compatible with our waste collections methods outlined …"
- "Use larger containers … more waste collected in a single round"
- "systems could include compactors, underground storage containers, vacuum systems and automated waste collection systems."
- "Discuss options with our team that manages waste collection… a collaborative approach"

3.7 To comply with these key principles, it is proposed that the majority of waste will be stored in portable skip compactors similar to the one shown in **Figure 3.1**.

Figure 3.1: Portable Skip Compactor Example

3.8 These skip compactors will be stored within the loading bay in the basement of the scheme where direct vehicle access is provided. This will be made available to LBTH waste collection vehicles as defined by the waste collection schedule to be agreed prior to occupation.

3.9 **Table 3.4** summarises the waste storage requirements if 10.7m³ portable skip compactors are used to store general waste and dry mixed recyclables. Note that general waste is assumed to compact to a ratio of 3:1 whereas recyclable waste is only compacted a ratio of 2:1 as this needs to be separated at the Materials Recovery Facility (MRF).

Table 3.4: Waste Storage requirements – 10.7m³ compactors

Waste type	Volume generated (m³)	Storage method	Volume (m³)	Compaction level	# of units
Residual	118.5	Compactor	10.70	3	4
Mixed Recyclable	94.2	Compactor	10.70	2	5
Organic	29.1	Wheeled Bin	0.24	1	121

3.10 **Table 3.4** suggests that 9 compactors (10.7m³) would be required for the maximum residential (1,264 unit) scheme. The proposed layout of compactors at basement level 2 of the Indicative Scheme are shown in the drawing at **Appendix 1**.

3.11 Organic waste will be stored in wheeled bins (240L). The waste will be collected by standard recycling vehicles which undertake a collection round for organic waste bins only.

3.12 The swept path analysis of skip lorries and refuse collection vehicles at basement level 2 of the Indicative Scheme are shown in the drawing at **Appendix 2.**

3.13 In order to minimise the number of waste collection visits to the Site undertaken by LBTH waste collection team, a larger compactor may be an option that is considered going forward. The larger size of compactor is the 27m³ version which is a “Rolonof” version, so named as it is “rolled” on

and off the collection vehicle. If this compactor size can be used, the following waste storage would be required if for the Maximum Residential Scheme.

Table 3.5: Waste Storage requirements – 27m³ compactors

Waste type	Volume generated (m³)	Storage method	Volume (m³)	Compaction level	# of units
Residual	118.5	Compactor	27.00	3	2
Mixed Recyclable	94.2	Compactor	27.00	2	2
Organic	29.1	Wheeled Bin	0.24	1	121

3.14 **Table 3.5** suggests that 4 compactors (27m^3) would be required for the maximum residential (1,264 unit) scheme. The proposed layout of compactors at basement level 2 of the Indicative Scheme are shown in the drawing at **Appendix 1**.

3.15 The Applicant will continue to liaise with LBTH waste collection department in progressing the RMAs to ensure that the most appropriate storage and collection methods are set out within the detailed SWMP, to be secured by condition as part of the OPA.

Individual Resident's Site Waste Management Plans

3.16 The proposed SWMPs for the individual buildings will be determined within future RMAs however the general principles established within the OPA are set out below.

3.17 To comply with LBTH requirements, each residential property would be provided with a compliant segregated waste bin. **Figure 3.2** shows an example of a segregated waste bin that complies with LBTH requirements.

Figure 3.2: Proposed style of segregated waste bin

3.18 The segregated waste bin shown includes the following bin sizes:

- Dry Mixed Recycling: 30 litres; and
- Residual Waste: 19 litres.

3.19 The residential units would be designed so that the proposed segregated waste bin would fit within a single kitchen unit, minimum width 500mm.

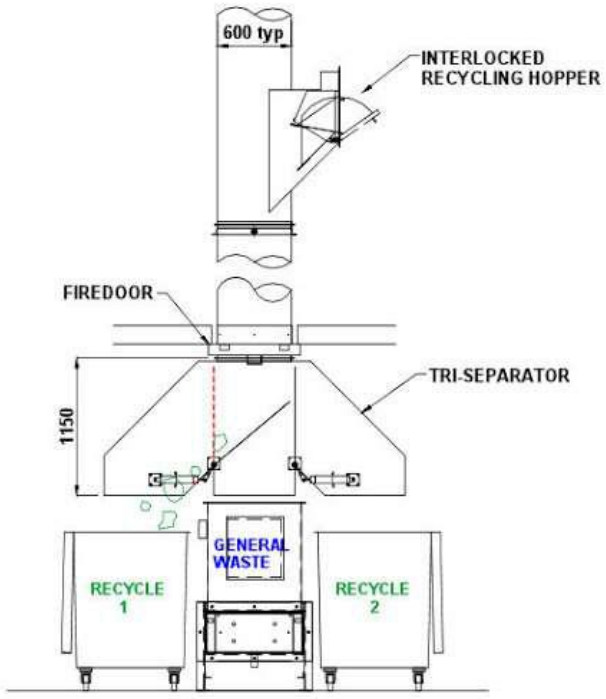
3.20 In addition, on commencement of the food waste collection service, LBTH would provide a suitable kitchen caddy and bio-bags to each residential unit for the collection of organic waste. The kitchen caddy would be placed in a suitable position in the kitchen by residents. Residents are then likely to transfer organic waste to bin storage areas within each residential building and into 240L wheeled bins for collection.

3.21 The exact means by which all waste is transferred to the main store will be determined for each building within the RMAs to follow. Residents will be given access to a waste disposal location / system which will ensure that they do not have to transport waste more than 30m in order to deposit waste (horizontal distance) in line with "BS5906 Waste management in buildings – Code of practice".

3.22 The waste deposit location may be via direct access to a bin store, via access to a "holding area" where a smaller volume of containers are provided to store waste temporarily, or the building may include refuse chutes which would be provided with access points on all occupied floors.

3.23 Note that in all cases there will be the provision to deposit waste in the three proposed waste streams separately. If refuse chutes are used then waste segregation would occur using a "tri-separator" device fitted at the base of each refuse chutes which can segregated waste and recycling as it is deposited into the chute. An example tri-separator system is illustrated in **Figure 3.3**.

Figure 3.3: Example of tri-separator Refuse Chute system.



Residential Bulky Waste

3.24 As details of the basement are only provided in outline for the Indicative Scheme, no specific bulky waste store has been identified. However, there would be sufficient space within the basement and a bulky waste store will be provided and detailed in the RMAs which come forward. It will be sized appropriately for the likely demand for bulky waste storage and will be available for all residents who need to dispose of large items such as sofas, large kitchen appliances etc. An on-site Facilities Management (FM) team will be available to proactively manage the bulky waste storage area which will be located adjacent to the service yard. Residents would be required to pay the appropriate fee to LBTH and show evidence to the FM team prior to depositing their bulky waste. The FM team would assist the residents to move their bulky waste from their apartments to the bulky waste storage area if necessary.

4. The Storage and Management of Commercial Waste

Introduction

4.1 This SWMP is intended to demonstrate that suitable arrangements are proposed to store and manage the waste and recycling generated by all land uses across the Site. This section assesses the commercial element of the Indicative Scheme as per the below schedule.

- 44,081 sqm GIA serviced apartments (750 units)
- 174,653 sqm GIA office space
- 13,681 sqm GIA retail space (note that the retail is assumed to be 30% A1 and 70% A3 for the purposes of this assessment)

4.2 As set out in the assessment overview in Chapter 1, the total Site wide floor area assessed within this Site Waste Management Plan exceeds that set out in the Development Specification as a maximum residential scenario is assessed in Chapter 3. The use of compactors to store commercial waste will also provide the flexibility to accommodate the waste arisings with any commercial floor areas which may come forward through the RMAs (i.e. by increasing the compactor size or frequency of collection). This is considered to provide a robust assessment and demonstrate the waste storage and management flexibility within the Masterplan.

4.3 It has previously been established with LBTH for the Wood Wharf development that the volume of waste generated by a serviced apartment is likely to be similar to that generated by a one bedroom flat and therefore the LBTH one bedroom flat standard has been used to establish the weekly waste volume generated. The waste volumes for other land uses are based on the parameters in **Table 4.1** which come from "BS5906 Waste management in buildings – Code of Practice".

Table 4.1: Commercial Waste Standards

Use	Equation for Weekly Waste Generation
Offices	50L per employee (assumed occupation density 1 person per 10m² NIA)
Retail	3,000L per 1,000 sqm (NIA)
Serviced Apartment	70L Refuse 60L recycling 23L compostable

4.4 This generates the total weekly waste volume as shown in **Table 4.2**.

Table 4.2: Commercial Waste Generation – Weekly in Litres

B1 Office (L)	A1 Retail (L)	A3 Retail (L)	Serviced Apartments (L)	Total (L)
880,030	12,313	28,730	114,750	1,035,823

4.5 To minimise the size of waste stores it is proposed that a daily collection will be undertaken for all commercial waste streams. When a daily collection strategy is proposed there will be a requirement to provide for two days of waste storage capacity for all waste streams to account for the occasional missed collection for example on Bank Holidays. The frequency of collection will be set out in the detailed SWMP to be secured by a planning condition. The two-day waste storage volume is shown in **Table 4.3**. Note that it is assumed that 70% of all waste will be recycled.

Table 4.3: Two Day commercial waste storage requirements

Land Use	Total Waste volume (m³)	General Waste (m³)	Recyclable Waste (m³)
A1 Retail	3.5	1.0	2.5
A3 Retail	8.2	2.5	5.7
Serviced Apartments	32.8	9.8	23.0
B1 Office	251.4	75.4	176.0
Total	**296**	**89**	**207**

4.6 The recyclable waste will be split further into different recyclable waste streams dependent on the land use. An estimate breakdown by waste stream is shown in **Table 4.4**.

Table 4.4: Waste stream break down by land use.

	A1 Retail	A3 Retail	B1 Office	Serviced Apartments
Total Waste Volume (m³)	3.5	8.2	251.4	32.8
Residual	1.05	2.46	75.43	14.75
Organic	0.21	0.98	17.60	4.92
Glass	0.28	0.65	5.03	0.00
Recyclable	1.27	3.13	123.20	13.11
Card	0.70	0.98	30.17	0.00

4.7 It is proposed that general waste and recyclables are stored in 10.7m³ portable skip compactors. Further processing of cardboard and glass are also proposed to minimise storage and collection requirements. The proposed storage method for each waste stream is shown in **Table 4.5**.

Table 4.5: Waste storage method by waste stream

Waste type	Volume generated (m³)	Storage method	Volume (m³)	Compaction level	# of units
Residual	93.7	Compactor	10.70	3	3
Recyclable	140.7	Compactor	10.70	3	5
Organic	23.7	Wheeled bin	0.36	1	66
Glass	6.0	Wheeled bin	0.24	5	5
Card	31.9	Cardboard bale	0.66	6	9

4.8 It is therefore proposed that the waste equipment listed below would be required to manage and store all of the commercial waste generated by the Indicative Scheme.

- 3 x 10,700L Compactor for Residual Waste
- 5 x 10,700L Compactor for Recyclable Waste
- 66 x 360L Wheeled bin for Organic Waste
- 5 x 240L Wheeled bin for Glass Waste
- 9 x 660L Cardboard bale
- 1 x Glass crusher / compactor
- 1 x Cardboard baler
- 5 x Waste oil drum

4.9 As shown above, 8 compactors (10.7m^3) would be required in the basement for the commercial elements of the Indicative Scheme. The proposed layout of compactors at basement level 2 of the Indicative Scheme are shown in the drawing at **Appendix 1**.

4.10 Combined, the maximum residential and Indicative Scheme commercial floor areas assessed would require 17 compactors (10.7m^3) to accommodate the overestimated Site waste arisings. 16 compactors are shown within the Indicative Scheme at basement level 2. On the basis that the above analysis overestimates the quantum of storage required (based on the maximum number of residential units but does not make any corresponding allowances for reduced commercial floor areas) and that larger 27m^3 compactors could be used to further reduce compactor requirements (or increase the capacity of storage required for a maximum commercial scheme), the space for 16 compactors as shown within the Indicative Scheme is considered to provide sufficient capacity to accommodate the waste arising for any scheme which may come forward through the RMAs to follow.

4.11 Specific areas for wheeled containers and other waste equipment are not detailed within the Indicative Scheme, however the waste management strategy will be discussed with LBTH in progressing the RMAs and fully set out in the detailed SWMP to be secured by condition. This will include space for equipment such as cardboard balers and glass crushers, examples of which are shown in **Figure 4.1**.

Figure 4.1: Cardboard Baler and Glass Crusher examples

Proposed Waste Management Strategy – Public Realm

4.12 Bins for visitors to the Site to deposit their waste and recycling will be provided through the public realm. It is proposed that these waste containers for various waste recycling and general waste streams be provided in order to promote waste reduction and maximise recycling opportunities.

4.13 The waste would be regularly removed from the bins in the public realm by the on-site FM team as part of their ongoing daily cleaning activities and would be transported to the main waste storage area in the basement for collection.

5. Summary and Conclusions

5.1 The waste storage and management proposals detailed within the document have been established to take account of Local, Regional and National Planning Policy and in reference to Best Practice Guidance.

5.2 This document has outlined how the Proposed Development responds to and satisfies the most recent guidance contained within Appendix 4: Waste collection standards of the LBTH Local Plan 2031in terms of waste collection and sufficient waste storage capacity and location, which will be provided internally within the units, across the public realm and collected centrally.

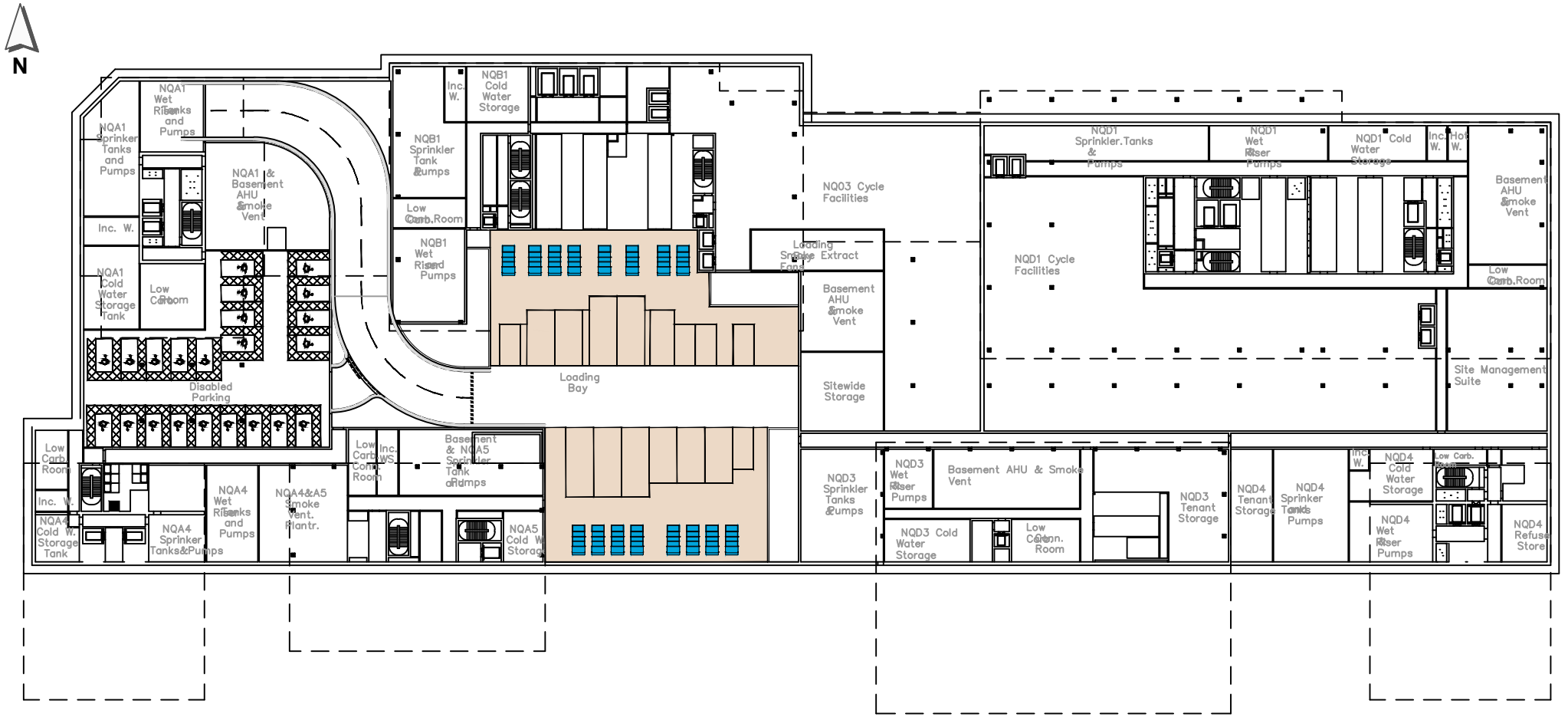
5.3 The waste storage and management proposals have been shown to meet the waste requirements of the Indicative Scheme. An overestimation of the waste requirements has also been provided which considers the maximum number of residential units but does not make any corresponding allowances for reduced commercial floor areas. This SWMP has therefore robustly demonstrated that there is capacity and flexibility within the Masterplan to accommodate any scheme which comes forward in the RMAs.

5.4 A detailed SWMP will be secured by condition and detail the waste storage, management and collection strategies to support the scheme which comes forward. The Applicant will also develop details of the waste strategy for each Development Plot in collaboration with LBTH waste officers and provide details to support the RMAs which come forward. As outlined in the preceding chapters, each RMA will include details on:

- Waste collection schedule
- Waste storage and collection methods
- Waste storage capacity

5.5 This will ensure that the waste management arrangements are able to react to future changes in policy, and any changes in best practice regarding opportunities to recycle and any potential to establish a circular economy for waste management.

Appendix 1 - Indicative Scheme Basement Level 2 Compactor Layout



KEY:

SERVICING / LOADING AREA

WASTE MANAGEMENT

North Quay

Servicing and Waste (Basement Level 02)

steer

B2-SER	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Servicing and Waste (Basement Level 02) - B2-SER

DATE: 24/04/2020

Appendix 2 - Swept Path Analysis for Skip Lorries and Refuse Collection Vehicles

North Quay

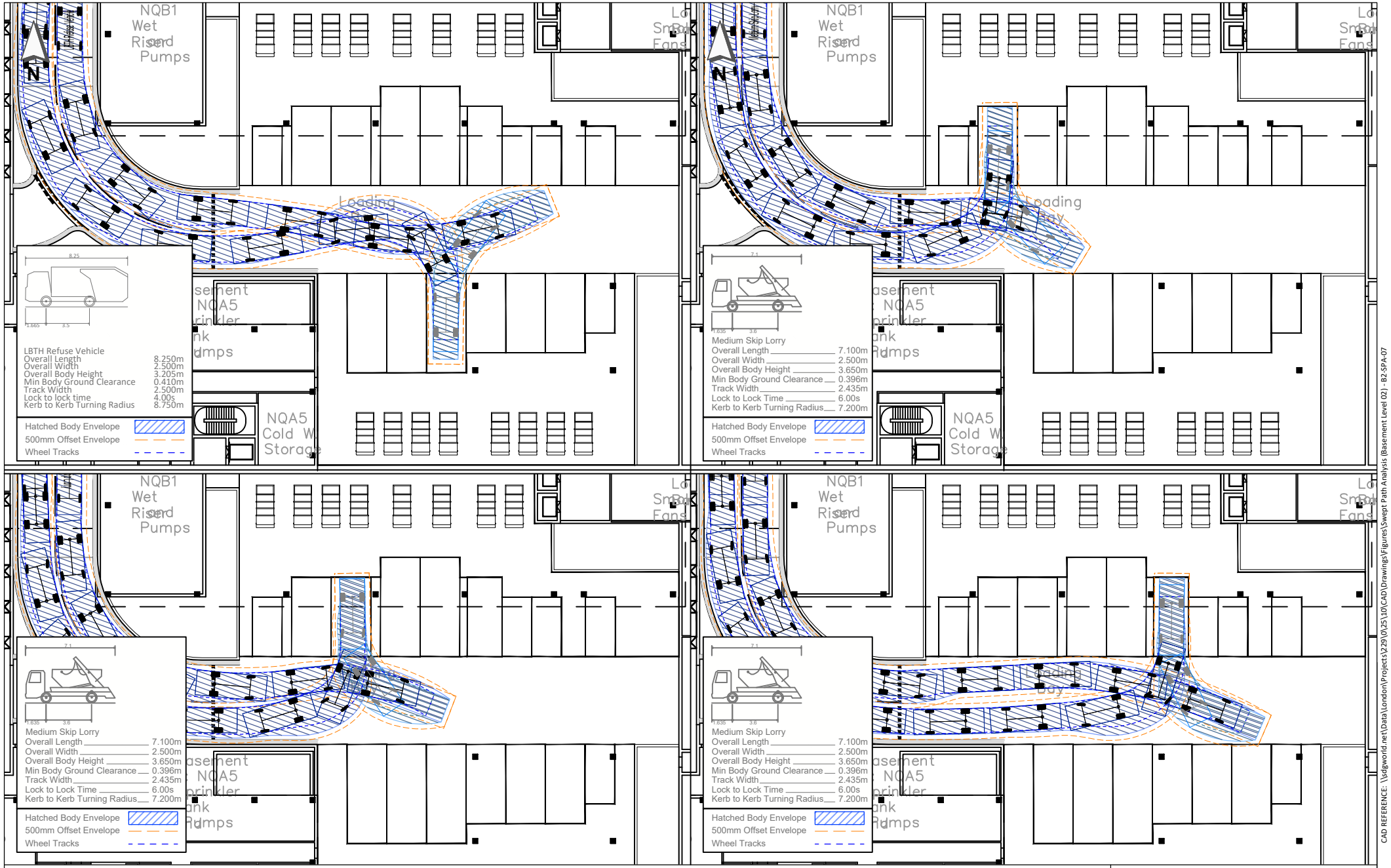
Swept Path Analysis (Basement Level 02)

steer

B2-SPA-06	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Swept Path Analysis (Basement Level 02) - B2-SPA-06

DATE: 11/05/2020



North Quay

Swept Path Analysis (Basement Level 02)

steer

B2-SPA-07	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

DATE: 11/05/2020

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Swept Path Analysis (Basement Level 02) - B2-SPA-07

North Quay

Swept Path Analysis (Basement Level 02)

steer

B2-SPA-08	P0	22APR2020	CJM	JWI	
Drawing Reference	Rev.	Date	Des	Chk	App

CAD REFERENCE: \\sdgworld.net\Data\London\Projects\229\0\25\10\CAD\Drawings\Figures\Swept Path Analysis (Basement Level 02) - B2-SPA-08

DATE: 11/05/2020

Appendix 13 – TRICS Outputs

Calculation Reference: AUDIT-720101-191030-1049

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

01	GREATER LONDON		
	IS	ISLINGTON	1 days
	KI	KINGSTON	1 days
	KN	KENSINGTON AND CHELSEA	2 days
	SK	SOUTHWARK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 53 to 294 (units:)
Range Selected by User: 50 to 493 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 21/06/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	1 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	2 days
100,001 or More	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	1 days
500,001 or More	4 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	3 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

5 Very Good	2 days
6a Excellent	2 days
6b (High) Excellent	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

Site(1):	IS-03-C-07	Site area:	0.21 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	185
Location:	ISLINGTON	Housing density:	1423
Postcode:	EC1V 1AD	Total Bedrooms:	292
Main Location Type:	Edge of Town Centre	Survey Date:	06/06/19
Sub-Location Type:	Development Zone	Survey Day:	Thursday
PTAL:	5 Very Good	Parking Spaces:	86
Site(2):	KI-03-C-02	Site area:	0.72 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	132
Location:	KINGSTON UPON THAMES	Housing density:	455
Postcode:	KT2 5AQ	Total Bedrooms:	232
Main Location Type:	Edge of Town Centre	Survey Date:	14/06/10
Sub-Location Type:	No Sub Category	Survey Day:	Monday
PTAL:	6a Excellent	Parking Spaces:	149
Site(3):	KN-03-C-02	Site area:	0.71 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	294
Location:	SOUTH KENSINGTON	Housing density:	588
Postcode:	W14 8TR	Total Bedrooms:	609
Main Location Type:	Edge of Town Centre	Survey Date:	15/06/10
Sub-Location Type:	Residential Zone	Survey Day:	Tuesday
PTAL:	6a Excellent	Parking Spaces:	290
Site(4):	KN-03-C-03	Site area:	0.56 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	72
Location:	KENSINGTON	Housing density:	180
Postcode:	W8 6UT	Total Bedrooms:	252
Main Location Type:	Edge of Town Centre	Survey Date:	11/05/12
Sub-Location Type:	Residential Zone	Survey Day:	Friday
PTAL:	5 Very Good	Parking Spaces:	60
Site(5):	SK-03-C-01	Site area:	0.20 hect
Development Name:	BLOCK OF FLATS	Number of dwellings:	53
Location:	SOUTHWARK	Housing density:	589
Postcode:	SE1 9ES	Total Bedrooms:	88
Main Location Type:	Edge of Town Centre	Survey Date:	19/09/14
Sub-Location Type:	Built-Up Zone	Survey Day:	Friday
PTAL:	6b (High) Excellent	Parking Spaces:	59

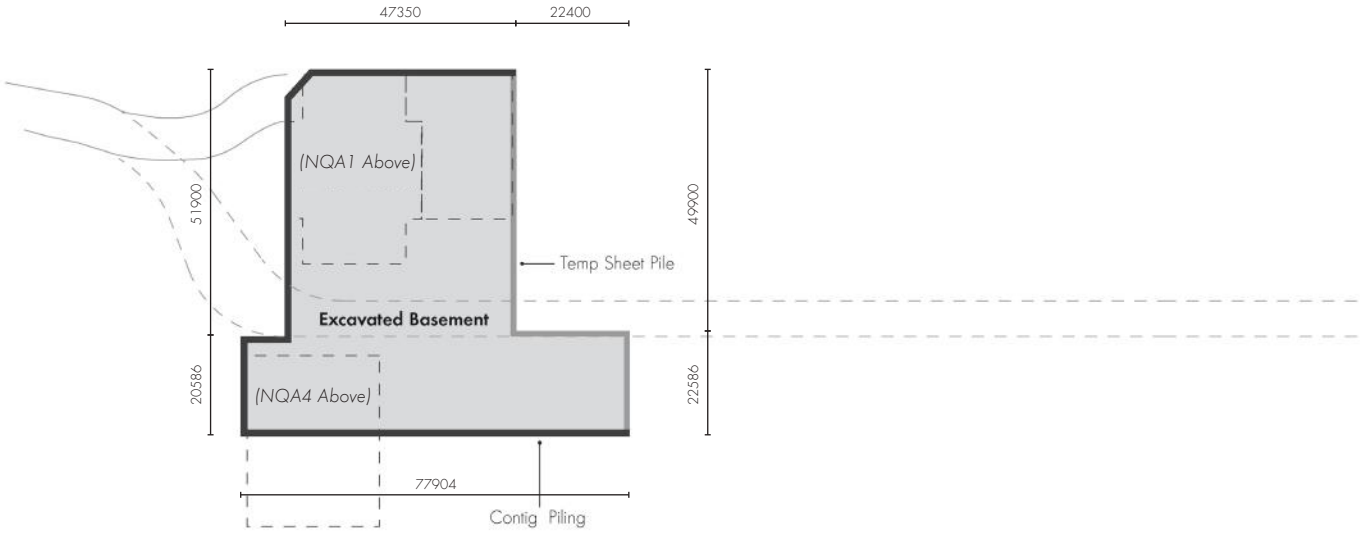
TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	147	0.043	5	147	0.208	5	147	0.251
08:00 - 09:00	5	147	0.111	5	147	0.546	5	147	0.657
09:00 - 10:00	5	147	0.124	5	147	0.223	5	147	0.347
10:00 - 11:00	5	147	0.086	5	147	0.175	5	147	0.261
11:00 - 12:00	5	147	0.125	5	147	0.117	5	147	0.242
12:00 - 13:00	5	147	0.174	5	147	0.163	5	147	0.337
13:00 - 14:00	5	147	0.167	5	147	0.154	5	147	0.321
14:00 - 15:00	5	147	0.151	5	147	0.167	5	147	0.318
15:00 - 16:00	5	147	0.236	5	147	0.148	5	147	0.384
16:00 - 17:00	5	147	0.223	5	147	0.168	5	147	0.391
17:00 - 18:00	5	147	0.295	5	147	0.179	5	147	0.474
18:00 - 19:00	5	147	0.363	5	147	0.160	5	147	0.523
19:00 - 20:00	2	240	0.269	2	240	0.127	2	240	0.396
20:00 - 21:00	2	240	0.167	2	240	0.102	2	240	0.269
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.534			2.637			5.171

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Appendix 14 - Phasing Plan

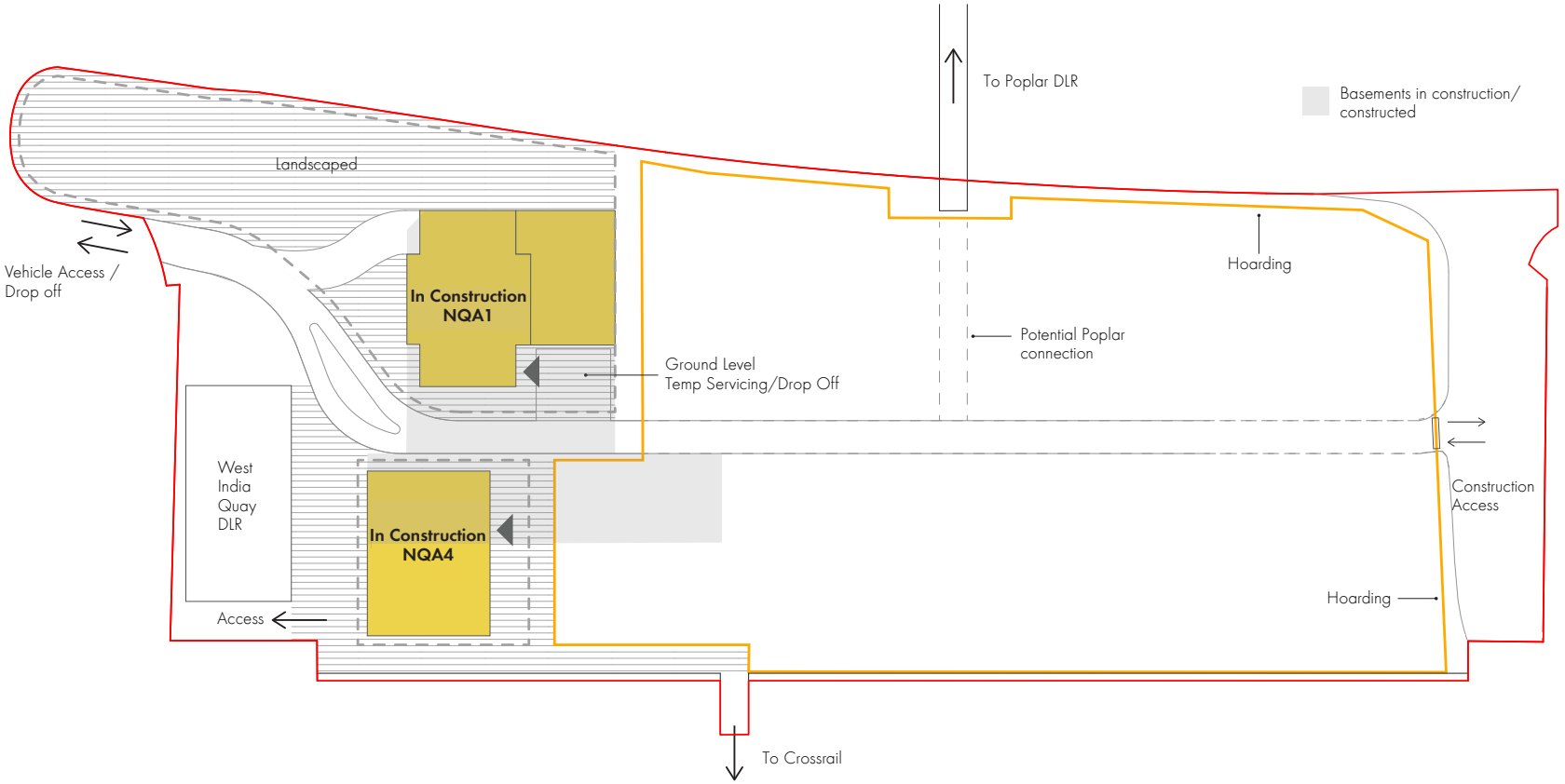


NORTH QUAY
INDICATIVE PHASING STRATEGY
19141-PH-001

For Information
Rev P2
14.02.20

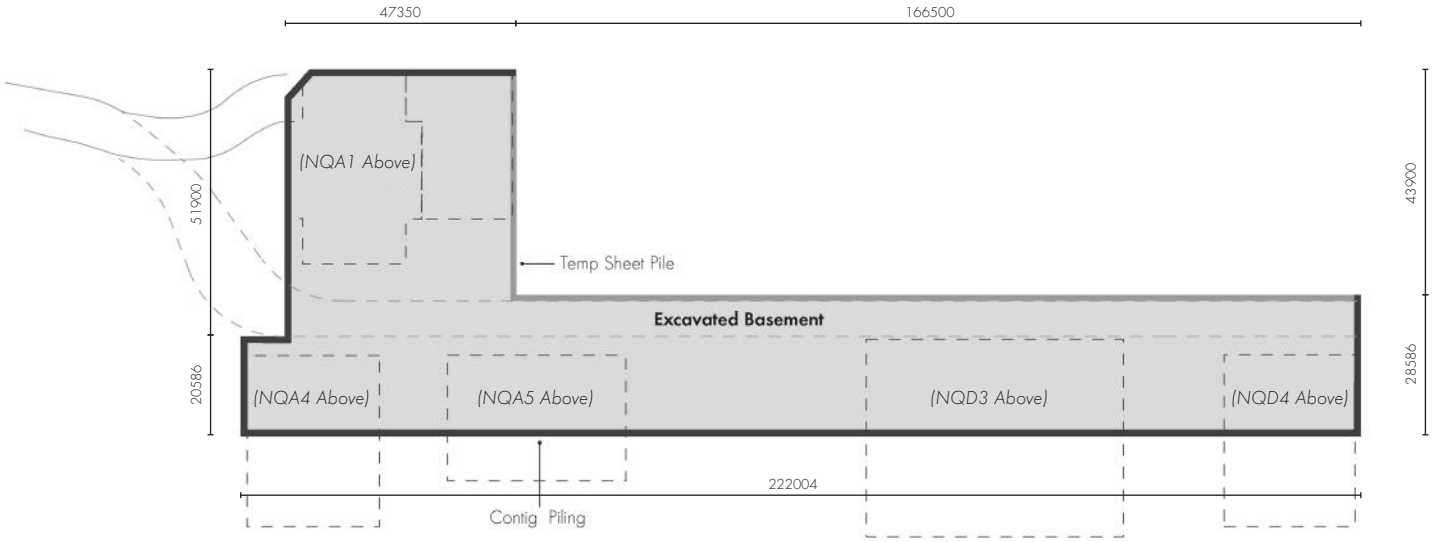
ALLIES AND MORRISON

PHASE 1
(below grade)



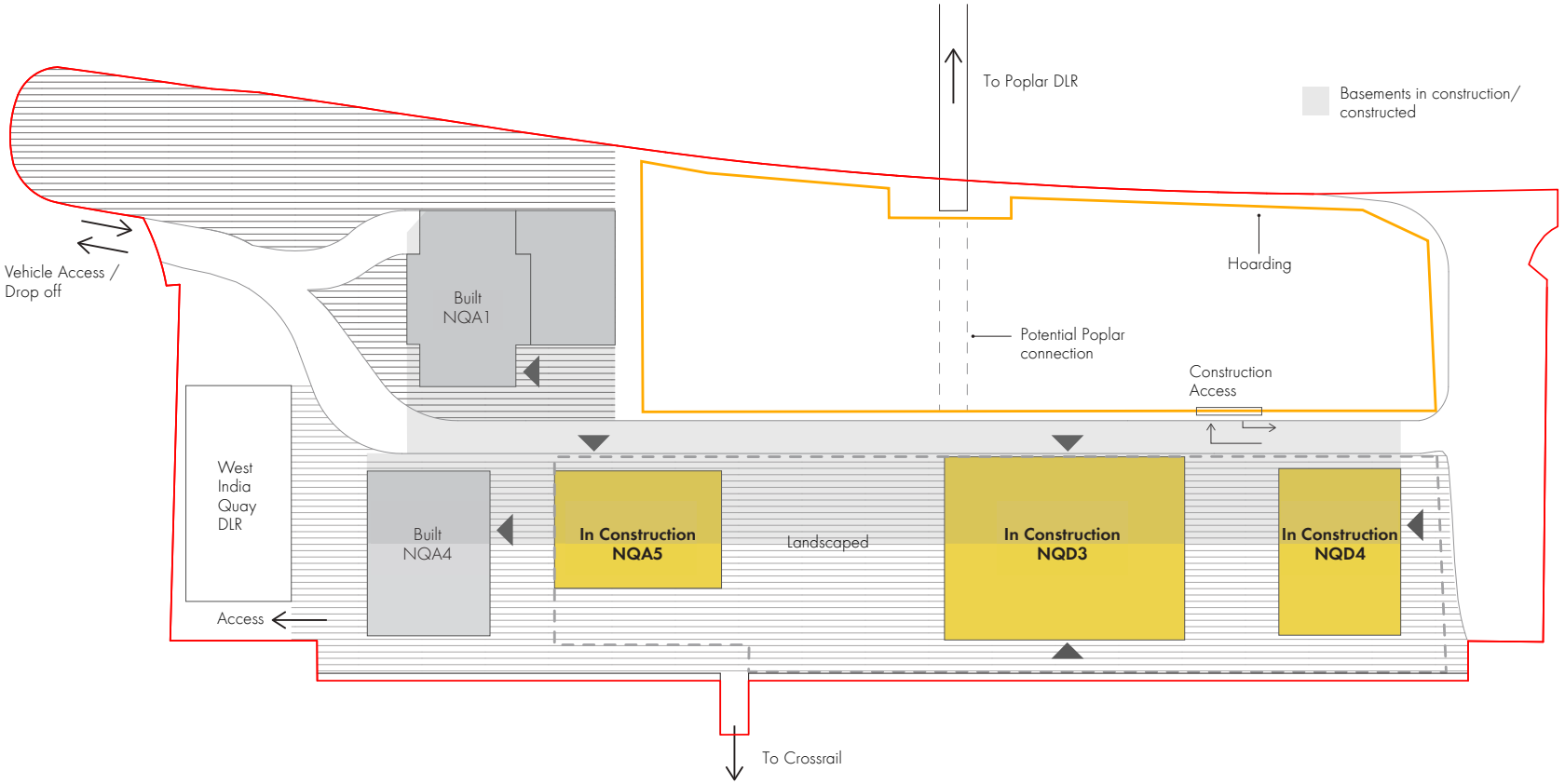
PHASE 1

(above grade)



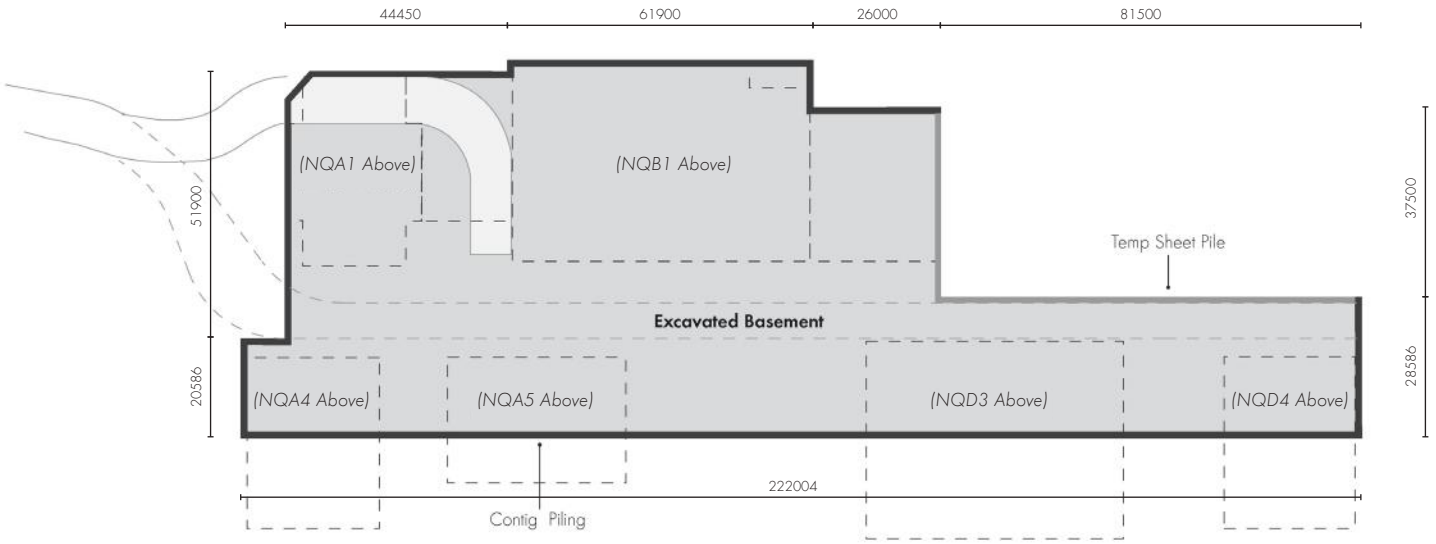
PHASE 2

(below grade)



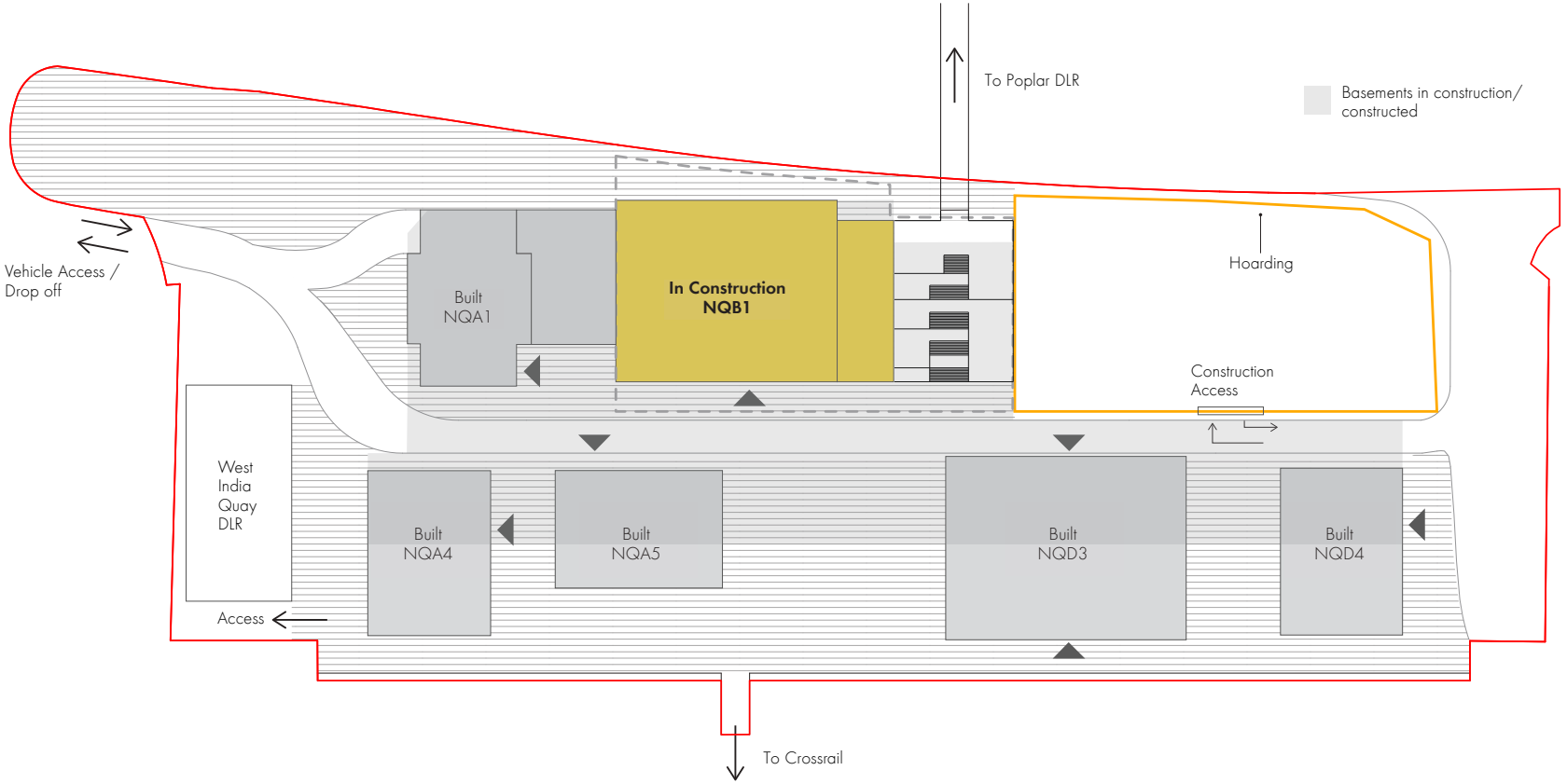
PHASE 2

(above grade)



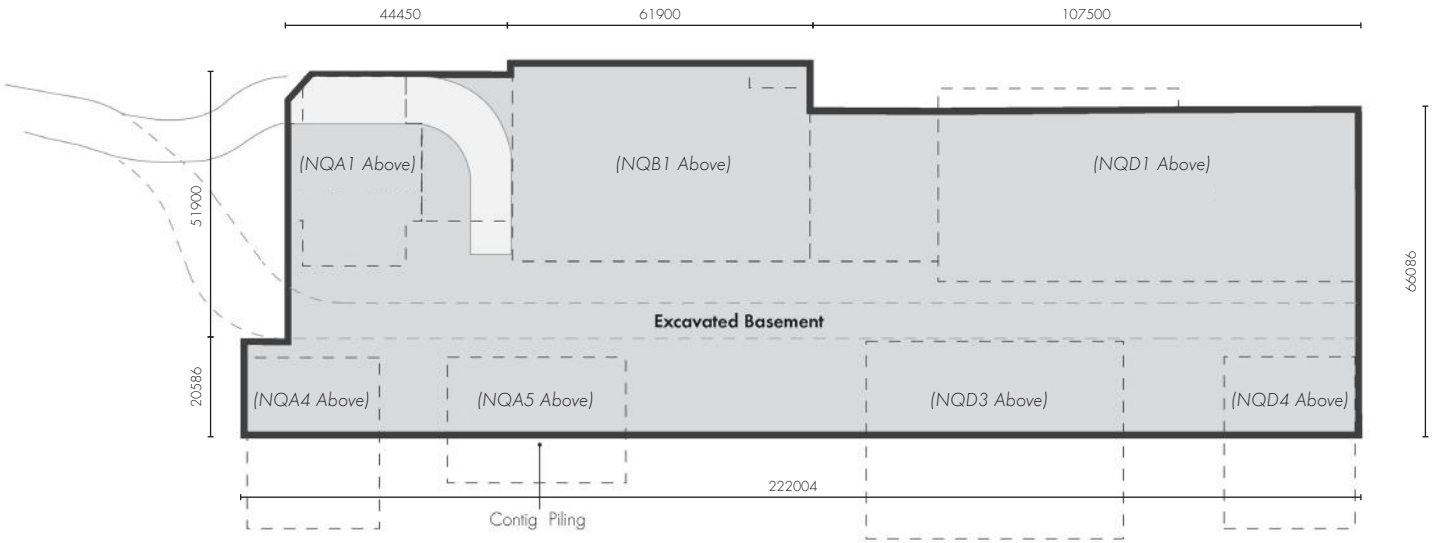
PHASE 3

(below grade)

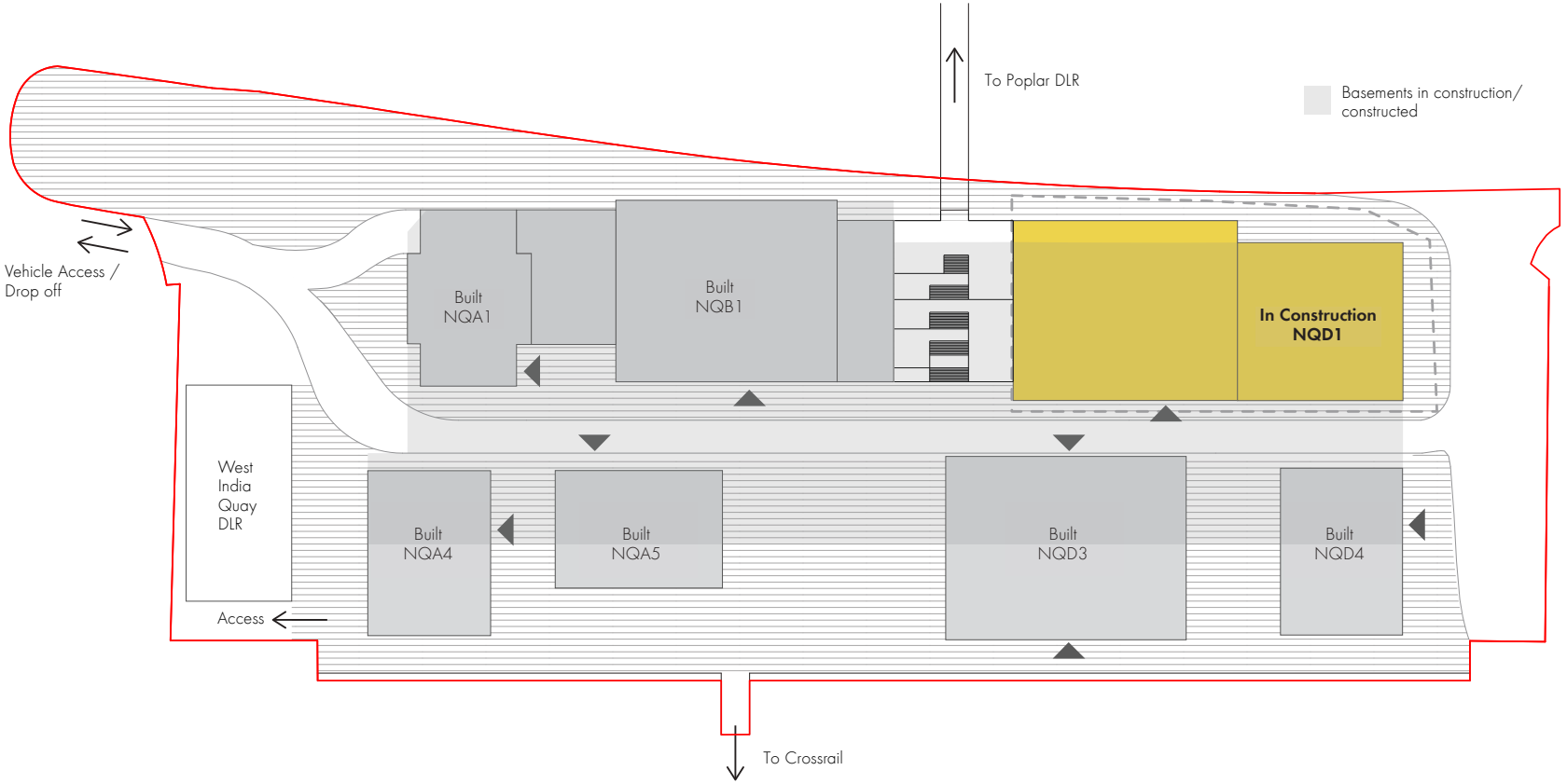


PHASE 3

(above grade)

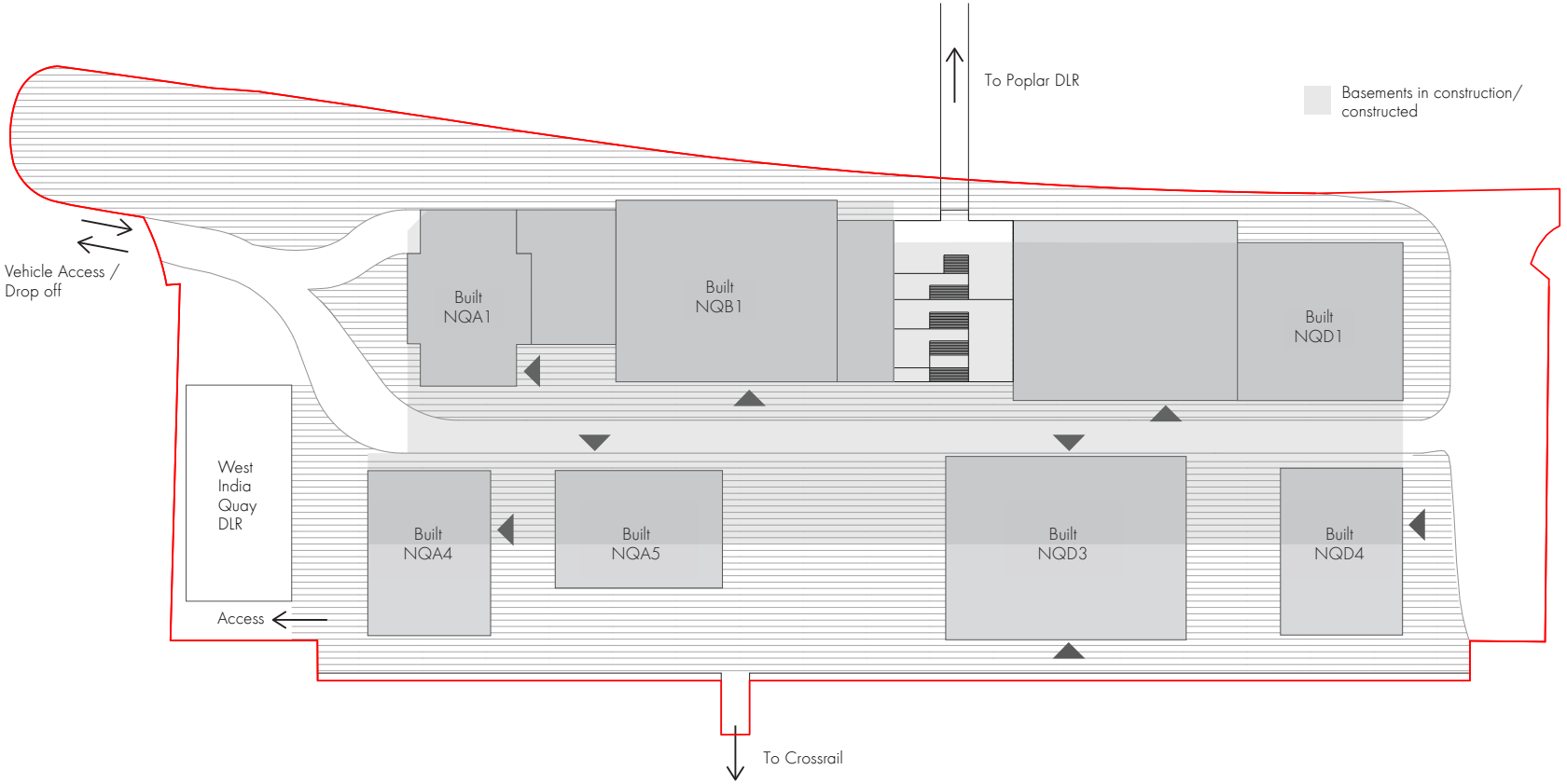


PHASE 4
(below grade)



PHASE 4

(above grade)



ABOVE GROUND CONSTRUCTION COMPLETE