

# Manchester City Council

Space Studios, Manchester – Phase 3

November 2021

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Transport Statement

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Report control

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# 1 Introduction

## Introduction

- 1.1 Vectos have been instructed by Manchester City Council (MCC) to advise on proposals for Phase 3 of development at Space Studios in Gorton, Manchester.
- 1.2 The report provides information on the traffic and transport planning aspects of the development proposals and will form supplementary information to assist in the determination of a forthcoming planning application. The site lies within the jurisdiction of MCC who act as the planning and highway authority.

## Site Location

- 1.3 The site is located in West Gorton, approximately 3.5 kilometres to the east of Manchester City Centre. The location of the application site in relation to the wider area is shown in **Plan 1** while **Plan 2** shows the location of the site in a more local context.
- 1.4 The application site is located within a mixed use area comprising industrial and employment uses to the north and residential areas to the east, south and west.
- 1.5 The proposals form Phase 3 of development on the Space Studios site. Phase 1 saw the conversion of part of the site into a Drama Production Centre, while Phase 2 involved the conversion of the eastern part of the site to provide production space, bespoke accommodation and workshop buildings.

## Proposed Development

- 1.6 The planning application proposes “*Demolition of existing structure and construction of a new building to accommodate two no. acoustically treated stages for film and television production and adaptable workshop units (use class B8 and Class E) associated landscaping, parking and access arrangements*”.
- 1.7 The development will deliver a building of 7,002 sqm (GIA). This will comprise 2 large stage buildings, which will bookend a lower central element that is to accommodate supporting office and workshop space.
- 1.8 The development will provide 121 new parking spaces on the site, along with 38 new cycle parking spaces.
- 1.9 Vehicle access to the development will be achieved from the existing Space Studios priority controlled junction with Vaughan Street.
- 1.10 The proposed site layout is provided as **Plan 3**.

## Scope of Report

- 1.11 This scope of this Transport Statement reflects a similar document which was prepared by Vectos in 2016 to support the Phase 2 Outerspace proposals on the Space Studios site (LPA Ref: 112014/VO/2016/N2).
- 1.12 The scope of the report has also been the subject of pre-application discussions with officers from MCC. A copy of the Scoping Note submitted as part of this enquiry, and officers subsequent comments, are provided in **Appendix A**.
- 1.13 Following this introduction the report will provide the following information:
- **Section 2** – A review of baseline conditions in the vicinity of the site;
  - **Section 3** – A summary of pertinent national planning policy guidelines;
  - **Section 4** – A review of the accessibility of the site by non-car modes;
  - **Section 5** – A description of the development proposals;
  - **Section 6** – A traffic impact assessment; and
  - **Section 7** – The report summary and conclusions.

## 2 Transport Planning Policy

### Introduction

- 2.1 This section of the report considers the national planning policy guidance which is pertinent in the context of the development proposals.

### National Planning Policy

#### National Planning Policy Framework

- 2.2 The latest National Planning Policy Framework (NPPF) was published in July 2021 by the Ministry of Housing, Communities and Local Government, replacing the previous versions published in 2012, 2018 and 2019. The NPPF sets out the government's planning policies for England and how these are expected to be applied. At the heart of the Framework is a presumption in favour of sustainable development.
- 2.3 As part of promoting sustainable transport, paragraph 110 of the revised NPPF states that in assessing applications for development, it should be ensured that:
- a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location.
  - b) safe and suitable access to the site can be achieved for all users;
  - c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
  - d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.
- 2.4 Paragraph 111 goes on to state that 'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe'.

### 3 Baseline Conditions

#### Introduction

- 3.1 Section 3 of this report provides a description of the baseline conditions in the vicinity of the site, including the surrounding area, local highway network and personal injury accident data.

#### Development Site and Its Location

- 3.2 Space Studios is sited on a former industrial / manufacturing site in the West Gorton area of Manchester.
- 3.3 The site was acquired by MCC in 2012, with a masterplan then developed for the phased re-development of the initial 14 acres of land to create a purpose-built Film and TV production facility for the North of England. The phased masterplan exploited the site's commercial potential and was tailored to allow future phases to be developed in the context of the particular sensitivities of adjoining residents and businesses, and to allow drama productions and other tenants to maintain continuity of their businesses during construction work.
- 3.4 The first phase of this redevelopment comprised 12,000 sqft of high-end TV production stages, 10,000 sqft of workshop space, and 40,000 sqft of production offices and support spaces, along with other ancillary uses. Following the success of this development a second phase, named 'Outerspace' was completed in 2017 on an adjacent 3.6 acre site. This comprised a 30,000 sqft sound stage with 10,000 sqft of bespoke accommodation and 50,000 sqft of adaptable workshop units.
- 3.5 The planning application site is located in the southwest corner of the studio site. The site is bounded by Phase 1 to the north, Kniveton Road to the west and Wenlock Way to the south.
- 3.6 The site is currently vacant having been cleared fairly recently of the previous built development. This provided 10,281 sqm of Class E and B8 floorspace, which comprised the 5,650 sqm Fujitsu Tower, a 2,900 sqm Research and Development facility, a 939 sqm Canteen and a 792 sqm Exec Block. Since being cleared a secure boundary has been constructed and the site has been used as a backlot/ unit base within the Space Studios site.
- 3.7 The existing Phase 1 and 2 developments provide 451 car parking spaces including 34 disabled spaces. Based on the combined overall floorspace of Phase 1 (11,875 sqm) and Phase 2 (8,459 sqm) this provides a car parking ratio of 1 per 45 sqm. This accords with the MCC's maximum car parking standards for business park uses of 1 per 35 sqm.

#### Site Access

- 3.8 As part of Phase 1 development a new priority controlled access junction was built, which provided access to the site from Vaughan Street. This access is used by all vehicles entering and leaving the Studio site, including 16.5 metre articulated vehicles, and is barrier controlled. From this junction an access road links directly to the main site car park, with distributor roads then providing access to the buildings on the site. The Vaughan Street junction also serves as the access point for pedestrians and cyclists.

## Surrounding Highway Network

- 3.9 The site is very well located for access to the local and strategic highway network. The A57 Hyde Road passes to the south of the site and provides a connection between Manchester City Centre and the M60 and M67 motorways. Bennett Street and Wenlock Way connect the site to the A57 Hyde Road with footways provided to either side.
- 3.10 Vaughan Street provides a single carriageway in each direction and is subject to a 30mph speed restriction.
- 3.11 Travelling north from the site access Vaughan Street forms the minor arm of a priority controlled junction with Gorton Road. Approximately 285 metres east of this junction Gorton Road then forms a signal controlled junction with the A6010 Pottery Lane to the north and south, and Ambrose Street to the east.
- 3.12 The A6010 Pottery Lane then travels north to form a large signal controlled junction with the A635 Ashton Old Road and Alan Turing Way, and south to form a large signal controlled junction with the A57 Hyde Road. From both these junctions connections are available towards the M60 and M67 motorways to the east and the A57(M) and Manchester City Centre to the west.
- 3.13 Travelling south from the Vaughan Street access the highway bends sharply to the right, at which point it is renamed Bennett Street. Bennett Street then travels to the west, passing under a 4.8 metre railway bridge, and after approximately 750 metres provides an alternate connection to the A57 Hyde Road via a priority controlled junction.
- 3.14 It is, however, noted that the Bennett Street route to the A57 passes through residential areas and past a school, and as such is less suitable for larger goods vehicles. For this reason, the Servicing Strategy document that was included with the Transport Statement supporting the Phase 2 application detailed that all regular delivery and service vehicles would route to and from the site via the A6010 Pottery Lane and Gorton Road.

## Accident Data Analysis

- 3.15 To consider the safety of the highway network in the vicinity of the site the Crashmap website has been interrogated for a five year period between 2015 and 2020.
- 3.16 Crashmap uses data collected by the police about road traffic crashes occurring on British roads where someone is injured. This data is approved by the National Statistics Authority and reported on by the Department for Transport each year.
- 3.17 The Crashmap data for the highway network in the vicinity of the site is provided in **Figure 3.1** below, with the site location indicated by the red star.

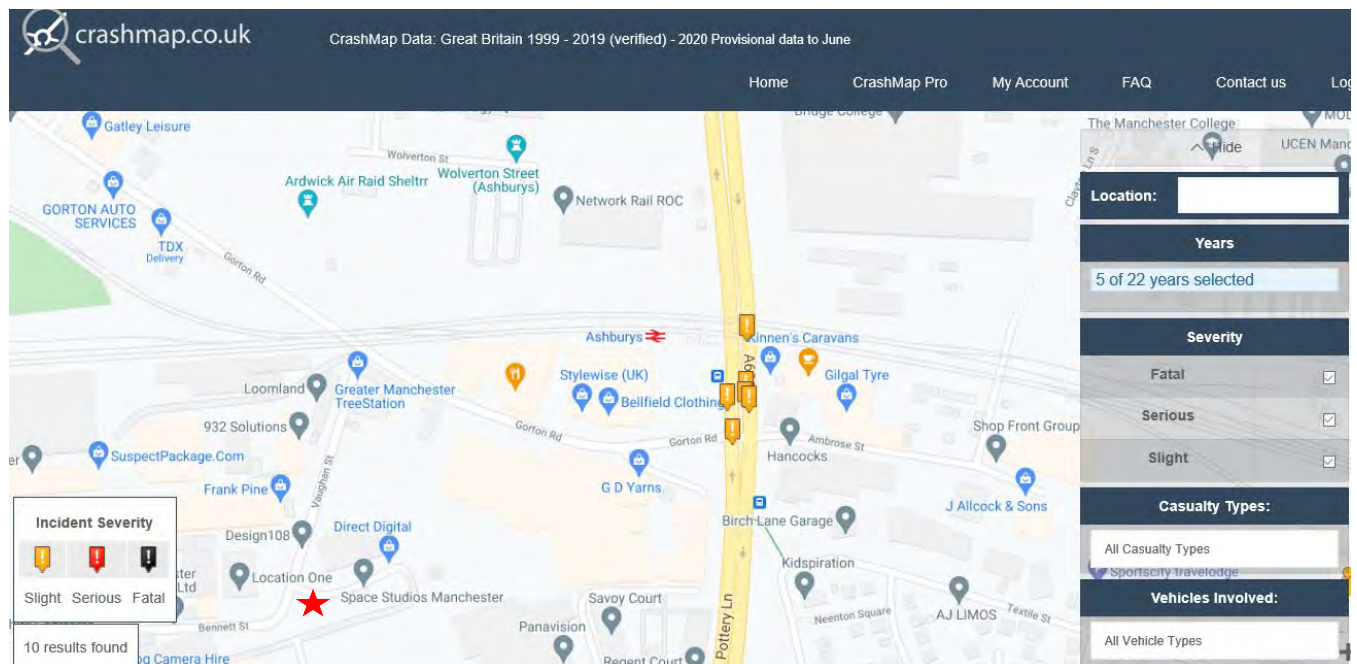


**Figure 3.1: Crashmap Accident Plan**

- 3.18 The Crashmap analysis indicates that no incidents have occurred at the Space Studios site access with Vaughan Street, or at the Vaughan Street/ Gorton Road junction in the last 5 years.
- 3.19 The data also reveals that a total of 5 incidents have occurred at the Gorton Road/ A6010 Pottery Lane junction in the last 5 years, all of which were classified as slight. All but one of these incidents occurred before March 2017. Considering the volume of traffic that uses the A6010 this is considered to be a low accident rate, and certainly does not give any indication that there are any underlying safety issues with the design or operation of the junction.
- 3.20 It is therefore concluded that there are no accident blackspots in the vicinity of the site.

## 4 Access by Sustainable Travel Modes

### Introduction

- 4.1 New proposals should attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current and emerging national and local planning policy.
- 4.2 The accessibility of the proposed development by the following modes of travel has therefore been considered:
- Accessibility on foot.
  - Accessibility by cycle.
  - Accessibility by bus.
  - Accessibility by rail.

### Accessibility on Foot

- 4.3 Pedestrian access to the site is afforded from the access off Vaughan Street, with the site access junction providing a pedestrian refuge, dropped kerbs and tactile paving. A street lit footway extends into the site, with pedestrian movements then supported by footways and zebra crossing type provisions which lead to building entrance points.
- 4.4 The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians without mobility impairment for some common facilities. The guidelines suggest that an acceptable walking distance for commuting/ school purposes is 800 metres, with the preferred maximum distance of 2 kilometres. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.
- 4.5 The more recent CIHT document 'Planning for Walking' (2015) affirms this by stating that 80% of journeys shorter than a mile (approximately 1.6 kilometres) are made wholly on foot.
- 4.6 An analysis of the pedestrian routes in the area has been completed to identify areas situated within 1 and 2 kilometre catchments; this is presented in **Plan 4**.
- 4.7 From **Plan 4** it can be seen that the 1 kilometre catchment covers the whole residential area of West Gorton, while the 2 kilometre catchment extends to include areas off Longsight, Ardwick, Belle Vue, Beswick and the east side of Manchester City Centre.
- 4.8 In the vicinity of the site pedestrian movements are supported by street lit footways which are provided on both sides of Vaughan Street, as well as along both sides of Bennett Street, thereby serving pedestrian connections to the residential areas to the west of the site. Dropped kerbs and tactile paving are also provided at junctions along Bennett Street.

- 4.9 To the north of the site street lit footways are also provided on both sides of Gorton Road. These lead to the junction with Pottery Lane where controlled pedestrian crossing facilities, including dropped kerbs, tactile paving, guard railing and pedestrian islands are provided on the northern and western arms. This infrastructure prevents the A6010 from becoming a barrier to pedestrian movements in this area.
- 4.10 In conclusion, the proposed development site is accessible by foot.

## Accessibility by Cycle

- 4.11 Cycling is becoming an increasingly popular mode of transport and is an effective mode for short trips. The Department for Transport's (DfT) Local Transport Note 2/08 Cycle Infrastructure Design (2008) states that, 'many utility cycle journeys are under 3 miles (5 km) although for commuters a trip distance of over 5 miles (8 km) is not uncommon'.
- 4.12 With this in mind, **Plan 5** displays a 5 kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour. Based upon the above guidance this catchment represents the lower threshold of the potential cycle catchment of the site.
- 4.13 As can be seen from **Plan 5** the 5 kilometre cycle catchment encompasses a large area of Manchester including the City Centre, Ardwick, Moss Side, Levenshulme, Openshaw, Droylsden and Reddish.
- 4.14 **Figure 4.1** below provides an extract of TfGM's on-line cycle map.

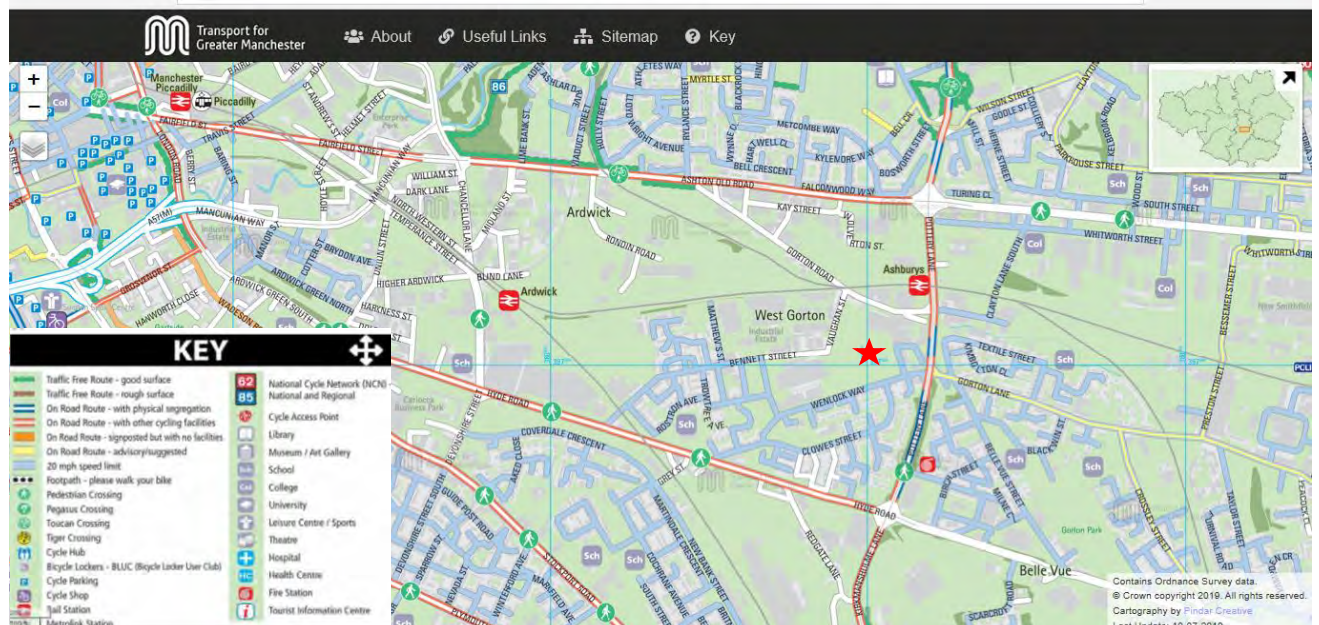


**Figure 4.1: TfGM Cycle Map**

- 4.15 The TfGM cycle map confirms that the network of residential streets to the south and west of the site are all classified as a 20mph zone. The low vehicle speeds and flat topography of this area are conducive with the creation of a cycle friendly environment. The cycle map also confirms that the Hyde Road, Old Ashton Road and Pottery Lane all provide on-road cycle infrastructure, which in some locations includes physical segregation. The latter of these roads provides a safe connection between the site and Ashburys Station.
- 4.16 To encourage trips by bicycle the development currently provides a total of 30 cycle parking spaces. These are being relocated to a new facility as part of the development proposals.
- 4.17 As such the site can be considered as being accessible by cycle.

### Accessibility by Bus

- 4.18 The IHT document 'Guidelines for Planning for Public Transport in Developments' (1999) suggests that the maximum walking distance to the nearest bus stop should not exceed 400 metres.
- 4.19 The No. 205 bus services operates in the vicinity of the site, with the closest bus stops located on Kniveton Road and Bennett Street for the east and westbound services respectively. Both stops provide a flagpost and timetable information and can be easily and safely reached via the pedestrian infrastructure available in the vicinity of the site.
- 4.20 Further stops are also provided on Wenlock Way, both of which also provide shelters and seating.
- 4.21 Additional services are also operated on the A57 Hyde Road (No. s 201, 202, 203 and X57 services) and Pottery Lane (No. 53 service). While these stops are located slightly beyond the site's 400 metre catchment, the high frequency of these services means that they are also considered a realistic opportunity for employees or visitors to the site.
- 4.22 **Table 4.1** provides a summary of the bus services and frequencies that operate in the vicinity of the site.

**Table 4.1: Local Bus Services**

| Service No. | Route                                                        | Frequency per Hour |         |         |         |     |     |
|-------------|--------------------------------------------------------------|--------------------|---------|---------|---------|-----|-----|
|             |                                                              | Monday - Friday    |         |         |         | Sat | Sun |
|             |                                                              | AM Peak            | Daytime | PM Peak | Evening |     |     |
| 205         | Manchester Piccadilly – Ardwick – West Gorton – Dane Bank    | 3                  | 3       | 3       | 2       | 2   | 1   |
| 201         | Manchester Piccadilly – Ardwick – Denton – Hyde - Hattersley | 6                  | 6       | 6       | 2       | 5   | 1   |

|     |                                                                    |   |   |   |   |   |   |
|-----|--------------------------------------------------------------------|---|---|---|---|---|---|
| 202 | Manchester Piccadilly – Ardwick – West Gorton – Dane Bank          | 2 | 2 | 2 | 2 | 2 | 1 |
| 203 | Manchester Piccadilly – Ardwick – Belle Vue – Reddish – Stockport  | 6 | 6 | 6 | 2 | 5 | 1 |
| 53  | Cheetham Hill – Belle Vue – Old Trafford – Salford Shopping Centre | 2 | 2 | 2 | 2 | 2 | 1 |

4.23 As can be seen from **Table 4.1**, during the busiest peak hours of the day there is a frequency of around 19 buses per hour in each direction operating on Wenlock Way and A57 Hyde Road in the vicinity of the site. Frequent services are also operated during weekday evenings and at weekends. The services offer connections to destinations including Manchester City Centre, Ardwick, Denton and Stockport.

4.24 The site is therefore well served by bus and as such can be considered as accessible by this mode.

### Accessibility by Rail

4.25 Ashburys Railway Station is situated approximately 660 metres from the proposed development site, and is therefore considered accessible from the site via both a dedicated walking trip and a shared cycle trip. The station can be safely reached from the development site via the existing infrastructure that is available.

4.26 Services from Ashburys Railway Station are operated by Northern Rail who also allow bicycle on their services.

4.27 **Table 4.2** illustrates some of the main services operated from Ashburys Railway Station along with their frequencies at peak and off-peak times.

**Table 4.2: Local Rail Services**

| Route                                                        | Frequency per Hour |         |         |         |     |     |
|--------------------------------------------------------------|--------------------|---------|---------|---------|-----|-----|
|                                                              | Monday - Friday    |         |         |         | Sat | Sun |
|                                                              | AM Peak            | Daytime | PM Peak | Evening |     |     |
| Hadfield – Glossop-Newton For Hyde- Ashburys- Mcr Piccadilly | 2                  | 2       | 2       | 2       | 2   | 2   |
| New Mills – Marple-Bredbury-Reddish-                         | 1                  | 1       | 0       | 1       | 1   | 1   |

|                                                                                    |   |   |   |   |   |   |
|------------------------------------------------------------------------------------|---|---|---|---|---|---|
| Ashburys- Mcr Piccadilly                                                           |   |   |   |   |   |   |
| Rose Hill Marple – Woodley- Hyde - Guide Bridge – Gorton- Ashburys- Mcr Piccadilly | 2 | 2 | 2 | 1 | 2 | 2 |

4.28 As **Table 4.2** illustrates, Ashburys Railway Station provides direct and frequent services to destinations including Hadfield, Glossop, Marple, Bredbury, Hyde, Woodley, Guide Bridge and New Mills. In addition all services visit Manchester Piccadilly Station, which is approximately a 4 minute journey, from when connections are possible to a wide range of local, regional and national destinations, along with Metrolink services.

4.29 The site can therefore be considered as being accessible by rail.

### Conclusion

4.30 An analysis has been completed that studies the accessibility of the site by walking, cycling and public transport and the conclusions are as follows:

- The site is accessible by foot with a network of pedestrian facilities surrounding the site which provide connections to the local residential and employment areas.
- The site is located within a cycle friendly environment, with quiet residential streets located close to the site, and on-road cycle infrastructure provided on Hyde Road, Old Ashton Road and Pottery Lane.
- There are numerous frequent bus services operated within the vicinity of the site, with local services available from Bennett Street/ Kniveton Road, and further services available on Hyde Road and Pottery Lane.
- The site is located approximately 660 metres from Ashburys Railway Station, from where services are operated to a number of local destinations, as well as to Manchester Piccadilly Station and Metrolink services.

4.31 In conclusion, the proposed development can be considered to be accessible for pedestrians, cyclists and public transport users.

## 5 Proposed Development

### Introduction

- 5.1 Section 5 of this report provides a detailed description of the development proposals.

### Proposed Development

- 5.2 The planning application proposes the “*Demolition of existing structure and construction of a new building to accommodate two no. acoustically treated stages for film and television production and adaptable workshop units (use class B8 and Class E) associated landscaping, parking and access arrangements*”.
- 5.3 The 7,002 sqm (GIA) building will comprise 2 large sounds stage buildings which will bookend a two-storey central element which will accommodate workshops at ground floor level and office space at second floor level.

### Access Proposals

- 5.4 Vehicle access to the development will be achieved from the existing Space Studios priority controlled junction with Vaughan Street. This is a secure access point which was constructed as part of the Phase 1 development on the site. Vehicles will then be able to route to either the east or west of the Phase 1 Drama Production Hub building to access the proposed areas of car parking.
- 5.5 The existing vehicle access points to the site from Wenlock Way and Kniveton Road will be closed as part of the planning application, with footways and kerb stones reinstated.
- 5.6 Pedestrian and cycle access to the development site will also be achieved via the Vaughan Street access. Footways will be provided around the perimeter of the proposed building to safely accommodate pedestrian movements to entrance points.

### Car Parking

- 5.7 The development will provide 137 car parking spaces on the site. This will comprise:
- Existing car parking spaces to be relocated – 16
  - New standard parking spaces – 100
  - New Accessible spaces – 7
  - New EV spaces – 14.
- 5.8 Of this provision, 18 standard spaces and 2 accessible spaces which are located directly adjacent to the proposed building will include a marked buffer zone to the rear of the spaces. This is intended to also safely accommodate parking by larger vehicles such as vans.

- 5.9 MCC's car parking standards are published in their 2012 – 2027 Core Strategy. For business park uses the Council's maximum parking standards are 1 space/ 35 sqm. For the proposed 7,002 sqm floor area this equates to a maximum parking allowance of 200 spaces, and therefore the proposed parking provision fully accords with this standard.
- 5.10 The Council's standards also require a minimum of 5% of the total car parking provided to be allocated as accessible spaces. Based upon the quantum of new spaces to be provided (121 spaces) this equates to a total of 6 spaces. The proposed quantum of accessible spaces is therefore in excess of the Council's minimum requirements.
- 5.11 Through pre-application discussions it has also been determined that the Council will require 10% of all new spaces to be equipped with charging infrastructure for electric vehicles. The proposed development will provide 14 EV spaces which is in excess of this requirement.
- 5.12 It is therefore concluded that the car parking proposals fully accord with the Council's adopted standards.

### **Cycle Parking**

- 5.13 The Council's cycle parking standards are also provided in the Core Strategy, and for business park developments are a minimum of 1 space/ 200 sqm. In the context of the proposed development this equates to a minimum requirement of 35 spaces.
- 5.14 In accordance with this requirement the development will provide 34 cycle parking stands, which equates to parking for 68 bicycles. These spaces will be located adjacent to the Phase 1 Drama Production Hub, and opposite the Phase 3 building.
- 5.15 The proposed provision is intended to accommodate the parking requirements of the proposed development (35 spaces), and also replace the 30 existing cycle parking spaces that are currently provided on the site. The rationalisation and improvement of cycle parking provision will help to enhance the attractiveness of cycle to the site for new and existing employees.

### **Servicing**

- 5.16 The planning applications for the Phase 1 and 2 developments confirmed that the site access junction, and internal road space leading to the Phase 1 Drama Production Hub are able to appropriately accommodate a 16.5 metre articulated vehicle. The analysis presented in this report has therefore focussed upon the route from the Phase 1 building to the application site, as well as turning movements within the application red lined boundary itself.
- 5.17 Servicing of the stage buildings is proposed from the east and west of the buildings, which allows vehicles to manoeuvre without impacting upon site traffic movements. A landscaping strips is proposed to shield this servicing activity from the residential properties located on Wenlock Way.
- 5.18 To understand service vehicle movements AutoTRACK assessments have been undertaken using the following vehicles:

- **Plan 6** – 16.5 metre articulated vehicle.
- **Plan 7** – 10 metre rigid vehicle.
- **Plan 8** – 8 metre box van.

- 5.19 The tracking assessments demonstrate that these vehicles are able to safely manoeuvre through the site, and that the stage buildings can be serviced in accordance with operator requirements.
- 5.20 As part of the Phase 2 planning application a site wide servicing strategy was prepared. The strategy looked at how service vehicles will be managed on site and also explains how vehicles would access the site from the surrounding highway network.
- 5.21 If it confirmed that servicing of the Phase 3 development will be undertaken in accordance with this servicing strategy.

### **Travel Plan**

- 5.22 To encourage employees and visitors to travel by non-car modes a Travel Plan will be adopted. A Framework of this document is provided in **Appendix B**.

## 6 Traffic Impact Assessment

### Introduction

6.1 Section 6 of this report considers the traffic impact of the proposed development.

### Existing Traffic Flows

- 6.2 As previously stated, when occupied the application site accommodated 10,281 sqm of Class E/ B8 floorspace. This comprised the 5,650 sqm Fujitsu Tower, a 2,900 sqm Research and Development facility, a 939 sqm Canteen and a 792 sqm Exec Block.
- 6.3 While these developments have recently been cleared, the highway network surrounding the site did historically accommodate this level of traffic flow. As such, it is considered a pertinent benchmark against which to consider the impact of the development proposals.
- 6.4 To understand the traffic generating potential of the former site uses the TRICS database has been interrogated for the 'Employment/ Office' range of sites. This assessment has been based upon the same parameters that were agreed with MCC's highway officers in relation to the Phase 2 Outerspace application.
- 6.5 The trip rates, and associated traffic generation are provided in **Table 6.1** below, with the TRICS outputs are contained within **Appendix C**.

**Table 6.1: Existing Site Traffic Flows (10,281 sqm)**

| Period                      | Trip Rates |       |         | Trips |     |         |
|-----------------------------|------------|-------|---------|-------|-----|---------|
|                             | Arr        | Dep   | Two Way | Arr   | Dep | Two Way |
| Weekday AM<br>(0800 – 0900) | 1.157      | 0.162 | 1.319   | 119   | 17  | 136     |
| Weekday PM<br>(1700 – 1800) | 0.148      | 1.065 | 1.213   | 15    | 109 | 125     |

6.6 As can be seen from **Table 6.1** the Class E /B8 use buildings which formerly occupied the site would be expected to generate in the order of 136 two-way trips during the weekday AM peak hour and 125 two-way trips during the weekday PM peak hour. These are traffic flows which the highway network surrounding the site has traditionally accommodated.

### Proposed Use Traffic Flows

6.7 The proposed development will have a gross floor area of 7,002 sqm. The planning application proposes that these uses will also have a Class E and use class B8 categorisation.

- 6.8 The aforementioned TRICS analysis has therefore been revisited to calculate the traffic generating potential of the proposed development, with the results of this assessment presented in **Table 6.2**.

**Table 6.2: Proposed Site Traffic Flows (7,002 sqm)**

| Period                      | Trip Rates |       |         | Trips |     |         |
|-----------------------------|------------|-------|---------|-------|-----|---------|
|                             | Arr        | Dep   | Two Way | Arr   | Dep | Two Way |
| Weekday AM<br>(0800 – 0900) | 1.157      | 0.162 | 1.319   | 81    | 11  | 92      |
| Weekday PM<br>(1700 – 1800) | 0.148      | 1.065 | 1.213   | 10    | 75  | 85      |

- 6.9 As can be seen from **Table 6.2**, based upon a Class E /B8 land use category the proposed development in theory has the potential to generate 92 two-way trips during the AM peak hour and 85 two-way trips during the PM peak hour.
- 6.10 This represents a reduction of 43 two-way trips during the AM peak hour, and 40 two-way trips during the PM peak hour, compared to the former uses on the site. As such the development would result in lower traffic flows on the highway network surrounding than were accommodated when the former site uses were operational.

### TV/Film Studio Traffic Flows

- 6.11 Although the proposed site will have a Class E and use class B8 categorisation, the development itself will predominantly comprise 2 large sound stage buildings, with residual office and workshop space. For this reason it is considered that the proposed development will not generate the level of trips that would normally be associated with a traditional Class E office use, with the numbers presented in **Table 6.2** likely to be a marked overestimation of the traffic generation of the proposals.
- 6.12 In order to provide a more realistic assessment of the developments potential traffic generation the TRICS database has been revisited, this time considering the ‘Miscellaneous’ land use category.
- 6.13 The 2016 Transport Statement prepared by Vectos in support of the Outerspace Phase 2 development provided a similar assessment using traffic flows derived from surveys at a TV/film studio in Surrey in 2011, 2013 and 2015. This development is more comparable to that proposed, and as such it is considered that traffic flows derived from this source offer a more accurate indication of the potential traffic generation of the proposed development. This approach has previously been accepted by highway officers.
- 6.14 It is noted that no new site surveys analogous to the proposed development have been included in the TRICs database since the 2016 assessment was undertaken, and for this reason **Table 6.3** references the same three surveys considered in Vectos’ 2016 Transport Statement. The table provides the surveyed AM and PM peak hour generations recorded in the three surveys and the average of this. This average has then been factored by 13% based upon the comparative floor areas of the Surrey development (52,574 sqm) and that proposed in this planning application (7,002 sqm).

**Table 6.3: Proposed Site Traffic Flows – Film Studio Site Analysis**

| Period                | AM        |          |           | PM       |           |           |
|-----------------------|-----------|----------|-----------|----------|-----------|-----------|
|                       | Arr       | Dep      | Two Way   | Arr      | Dep       | Two Way   |
| 2011                  | 194       | 71       | 265       | 44       | 243       | 287       |
| 2013                  | 181       | 55       | 236       | 42       | 228       | 270       |
| 2015                  | 156       | 25       | 181       | 111      | 186       | 297       |
| Average               | 177       | 50       | 227       | 66       | 219       | 285       |
| <b>Pro Rata (13%)</b> | <b>24</b> | <b>7</b> | <b>30</b> | <b>9</b> | <b>29</b> | <b>38</b> |

- 6.15 **Table 6.3** demonstrates that based upon a more analogous film studios type use the proposed development is forecast to generate a total of 30 two-way trips during the AM peak hour and 38 two-way trips during the PM peak hour.
- 6.16 This is clearly a significant reduction compared to the traffic flows that the site previously generated. However, even ignoring this historic generation, the volume of traffic forecast is so low that it will have no discernible impact upon the safe and efficient operation of the surrounding highway network, and certainly not an impact that could be considered as severe.

### Junction Capacity Assessment

- 6.17 During pre-application discussions it was requested that an analysis be undertaken to assess the impact of the proposed development on the operation of the Studios site access junction with Vaughan Street.
- 6.18 To inform this assessment a traffic count was undertaken at the Vaughan Street site access on the 20<sup>th</sup> of July 2021 between 0800 – 0900 and 1700 – 1800. The results of this assessment are presented in **Figure 1**. Background traffic growth factors derived from the TEMPro database for the Manchester 020 output area (E02001064) were then applied to the traffic passing the site to derive a 2026 future year scenario. These traffic flows are also presented in **Figure 1**.
- 6.19 To provide a very robust analysis the trip generations presented in **Table 6.2** have then been utilised, with turning movements at the Studio site access based upon the surveyed traffic proportions. It is, however, evident from the existing traffic flows surveyed at the Space Studios site in 2021 that the development flows presented in **Table 6.2** are an overestimation of the traffic generation of the proposed development, with the flows presented in **Table 6.3** far more representative of this type of development. The approach adopted is therefore very robust.
- 6.20 The development flows have then been added to the existing site traffic flows, and 2026 background traffic flows, to generate 2026 ‘With Development’ flows. These are also presented in **Figure 2**.

- 6.21 The Studio site access junction has then been assessed with the 2026 'With Development' traffic flows using the JUNCTIONS modelling package. This is the industry standard programme for assessing isolated priority controlled junctions. The results of this assessment are presented in **Table 6.4** below, with the full modelling output files provided in **Appendix D**.

**Table 6.4: Vaughan Street/ Space Studio Site Access JUNCTIONS Capacity Assessment**

| Arm              | AM   |       | PM   |       |
|------------------|------|-------|------|-------|
|                  | RFC  | Queue | RFC  | Queue |
| Site Access      | 0.06 | 0     | 0.23 | 0     |
| Vaughan Street S | 0.04 | 0     | 0.02 | 0     |

- 6.22 The results presented in **Table 6.4** demonstrate that even allowing for the application of very robust traffic flows the Space Studios site access junction with Vaughan Street is forecast to operate well within capacity following the proposed development.

### Summary

- 6.23 An analysis has been undertaken comparing the traffic generation of the proposed development against the development which formerly occupied the site, and whose traffic was accommodated by the surrounding highway network. This was undertaken based upon Class E and B8 land use types.
- 6.24 The analysis demonstrated that the proposed development is forecast to result in a reduction in AM and PM peak hour traffic flows compared with the former use. On this basis it was concluded that the development would result in lower traffic flows on the highway network surrounding the site than were historically accommodated.
- 6.25 A second assessment was then undertaken considering the traffic generation of a more analogous film studios type use. This echoed an approach previously accepted by the highway authority in the assessment of the Phase 2 Outerspace development.
- 6.26 From this more realistic assessment it was concluded that the proposed development would result in a significant reduction in traffic flows compared to the site's previous use.
- 6.27 It was further concluded that, even ignoring the site's historic traffic generation, the volume of traffic forecast in relation to the proposed development is so low that it will have no discernible impact upon the safe and efficient operation of the surrounding highway network, and certainly not an impact that could be considered as severe.
- 6.28 In recognition of pre-application comments a capacity assessment was undertaken of the Space Studios site access junction with Vaughan Street. This confirmed that the junction would continue to operate within capacity following the proposed development, even allowing for the application of very robust development traffic flows.

## 7 Summary and Conclusions

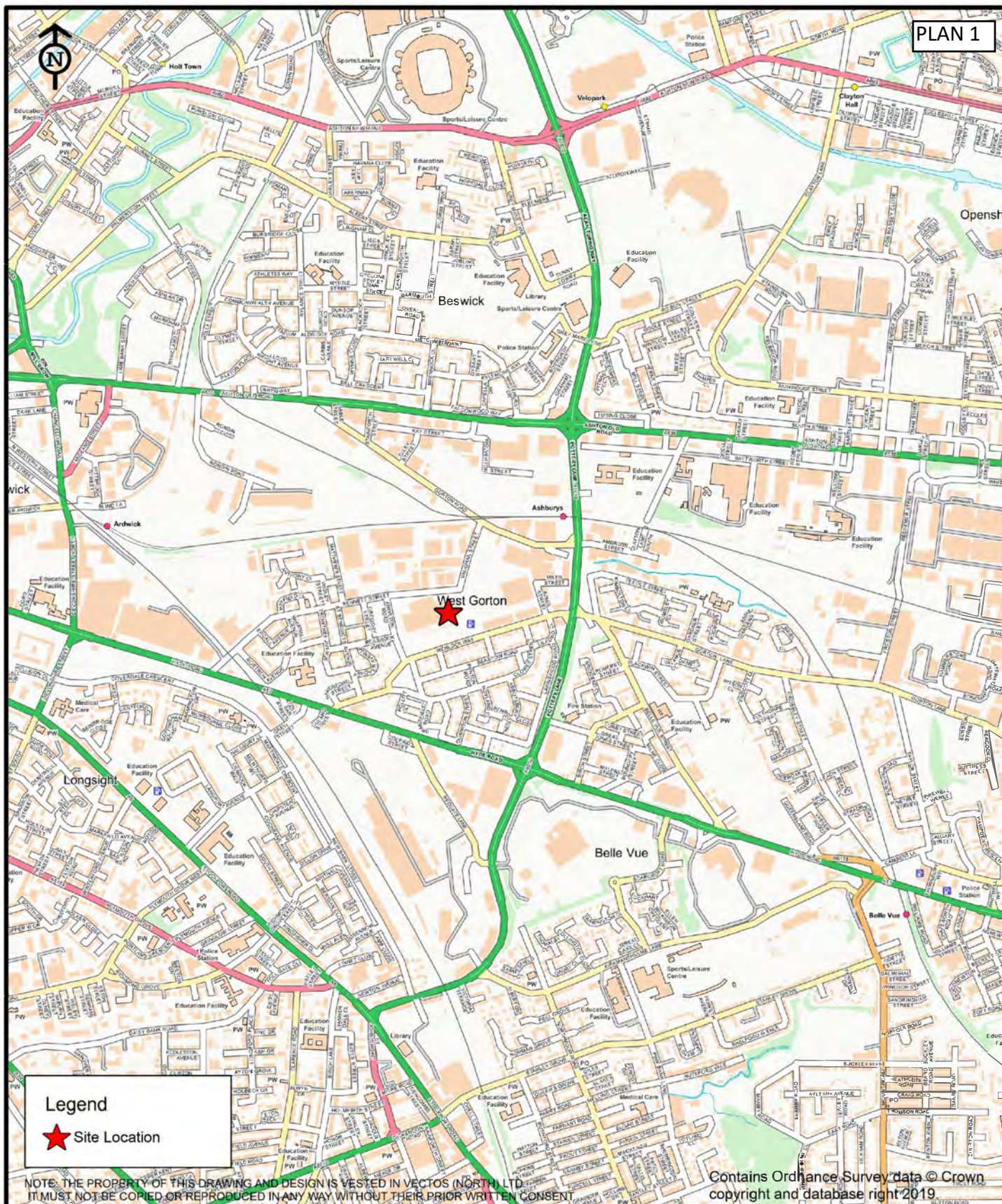
- 7.1 Vectos have been instructed by Manchester City Council to advise on proposals for Phase 3 of development at Space Studios in Gorton, Manchester.
- 7.2 The planning application proposes the demolition of existing structure and construction of a new 7,002 sqm (GIA) building to accommodate two no. acoustically treated stages for film and television production and adaptable workshop units (use class B8 and Class E) associated landscaping, parking and access arrangements.
- 7.3 The Transport Statement has been prepared following pre-application discussions with officers from MCC, and in accordance with the transport reports submitted in support of previous applications on the site. The report draws the following conclusions:
- The site is accessible by foot with a network of pedestrian facilities surrounding the site which provide connections to local residential and employment areas.
  - The site is located within a cycle friendly environment, with quiet residential streets located immediate to the site, and on-road cycle infrastructure provided on Hyde Road, Old Ashton Road and Pottery Lane.
  - To encourage trip by bicycle the development will provide 68 cycle parking spaces. This provision will replace the 30 existing spaces provided on the site, as well as providing 38 new spaces in conjunction with the proposed development which exceeds the Council's minimum requirements.
  - There are numerous frequent bus services operated within the vicinity of the site, with local services available from Bennett Street/ Kniveton Road, and further services available on Hyde Road and Pottery Lane.
  - The site is located approximately 660 metres from Ashburys Railway Station which will offer an excellent opportunity to access the site by rail, including convenient connections to Manchester Piccadilly station and Metrolink services.
  - The quantum of car parking proposed, including accessible and EV spaces, accords with MCC's adopted standards and pre-application comments;
  - Servicing by vehicles of up to 16.5 metres can be safely undertaken;
  - A traffic impact analysis has been undertaken. This firstly compared the traffic generation of the proposed development against the development which formerly occupied the site, and whose traffic was accommodated by the surrounding highway network. The analysis confirmed that the development would generate fewer trips than the previous use on the site.
  - A second assessment was then undertaken considering the traffic generation of a more analogous film studios type use. This echoed an approach previously accepted by the highway authority in the assessment of the Phase 2 Outerspace development.

- From this more realistic assessment it was concluded that the proposed development would result in a significant reduction in traffic flows compared to the site's previous use. Even ignoring the site's historic traffic generation, it was concluded that traffic generated by the development is so low that it will have no discernible impact upon the safe and efficient operation of the surrounding highway network, and certainly not an impact that could be considered as severe.
- In recognition of pre-application comments a capacity assessment was undertaken of the Space Studios site access junction with Vaughan Street. This confirmed that the junction would continue to operate within capacity following the proposed development, even allowing for the application of very robust development traffic flows.

### **Transport Statement Conclusions**

- 7.4 The development site is in a sustainable location, would not have a detrimental impact upon the operation or safety of the local highway network, provides an appropriate quantum of car parking, and can be safely serviced.
- 7.5 The National Planning Policy Framework states that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".
- 7.6 This report has demonstrated that the proposed development would have no impact upon highway safety and that the residual cumulative impacts of the proposed development would not be severe. Therefore, in accordance with NPPF guidance there are no reasons why the planning application should be refused on highway or transportation grounds.

# Plans



CLIENT:

Manchester City Council

PROJECT TITLE:

Space Studios Phase 3

DRAWING TITLE:

Site Location (Wider Context)

**vectos.**

Oxford Place, 61 Oxford Street, Manchester M1 6EQ  
t:0161 228 1008 e:manchester@vectos.co.uk

DRAWN:

TO

CHECKED:

RW

DATE

July 2021

SCALE:

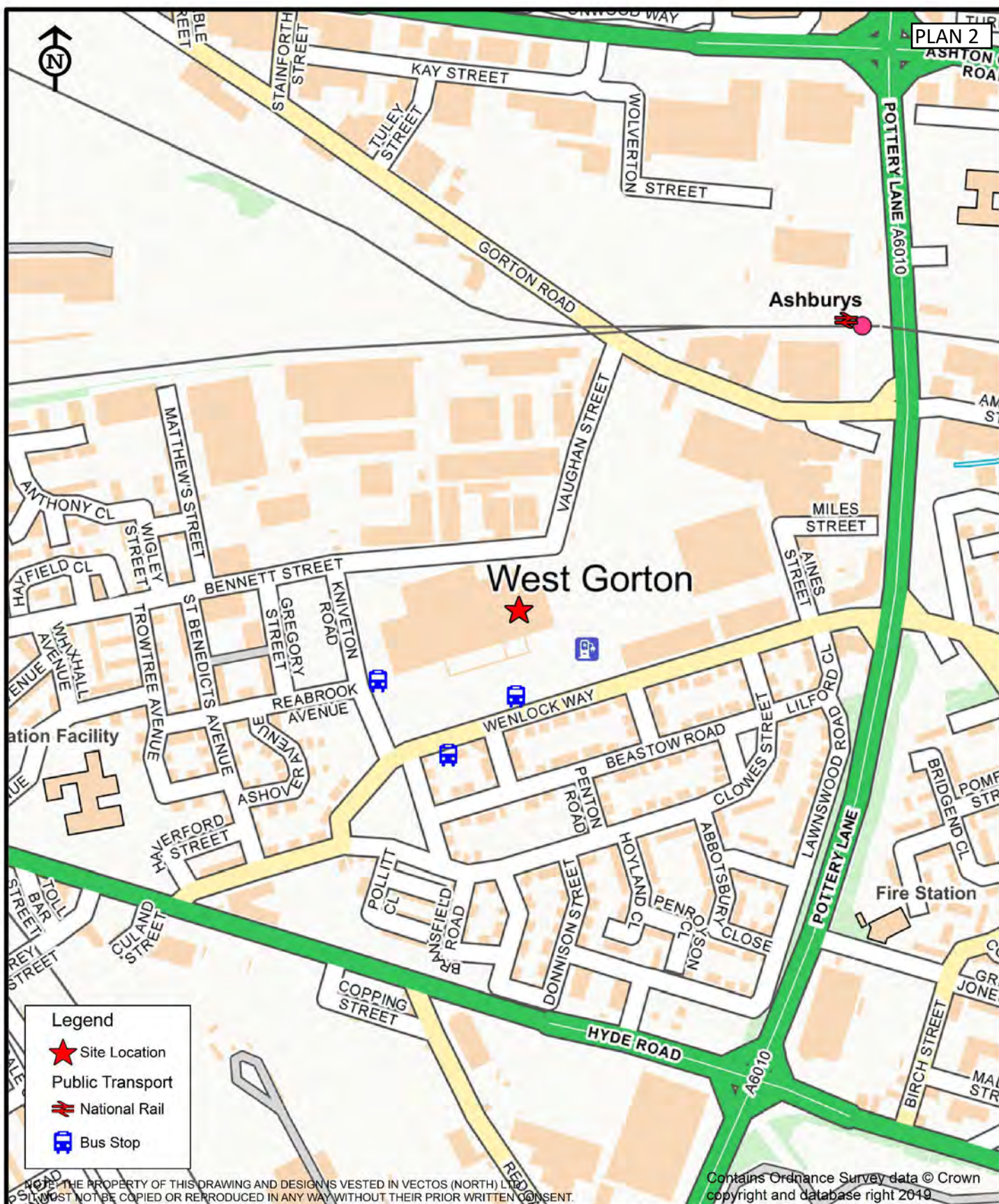
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DRAWING NO:

VN211998-G100

REVISION:

.



CLIENT:

Manchester City Council

PROJECT TITLE:

Space Studios Phase 3

DRAWING TITLE:

Site Location (Local Context)

**vectos.**

Oxford Place, 61 Oxford Street, Manchester M1 6EQ  
t:0161 228 1008 e:manchester@vectos.co.uk

DRAWN:

TO

CHECKED:

RW

DATE

July 2021

SCALE:

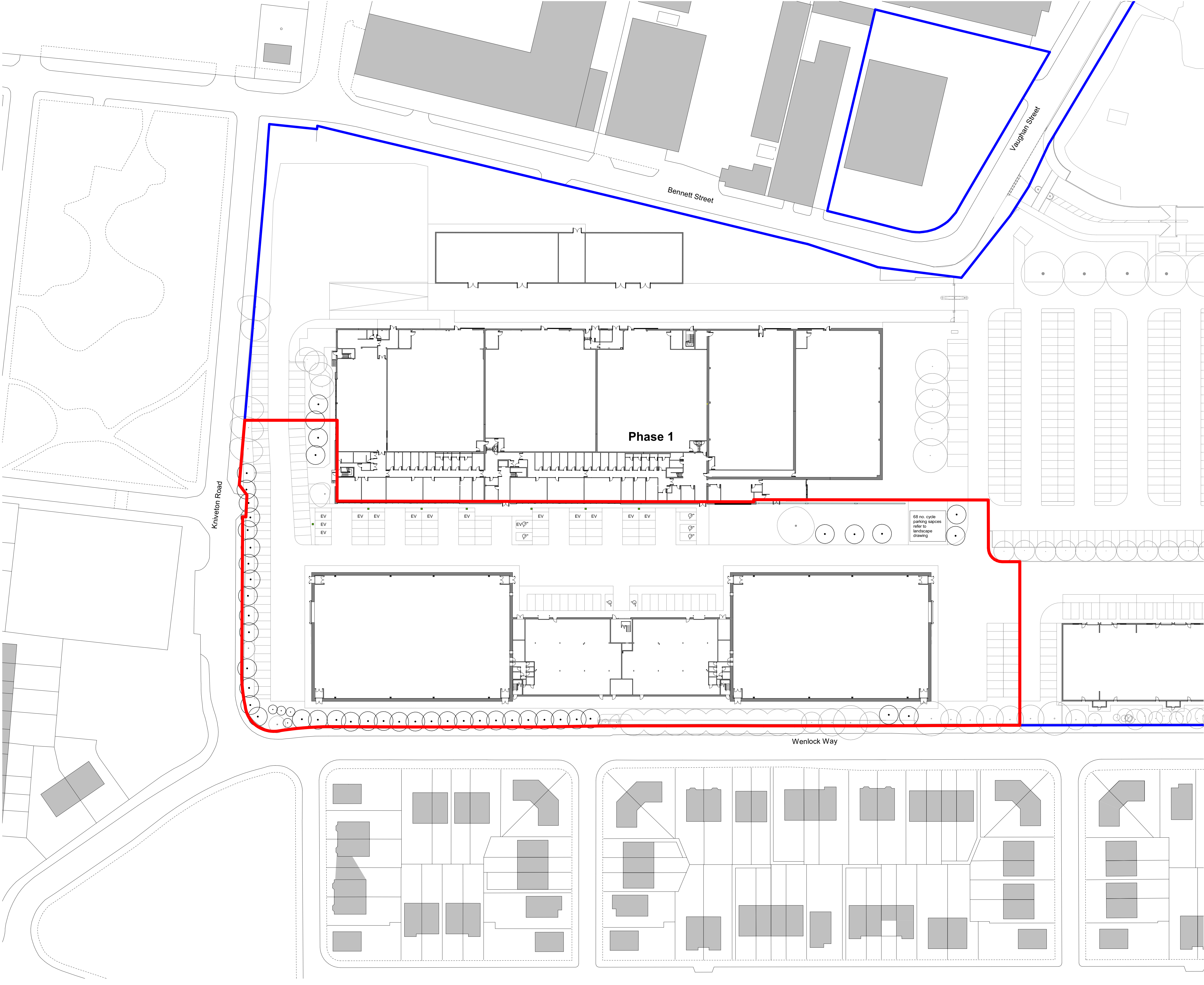
1:5,000 at A4

DRAWING NO:

VN211998-G101

REVISION:

.



The contractor is responsible for checking dimensions, tolerances and references. Any discrepancy to be verified with the Architect before proceeding with the works. Where an item is covered by drawings to different scales the larger scale drawing is to be worked to.

Do not scale drawing. Figured dimensions to be worked to in all cases.

Where products have been specified, PRP have reviewed applicable products available in the UK at the time of writing the specification, from which products named in the specification have been selected.

Where the contractor wishes to propose alternative products, representative samples and a full technical appraisal should be submitted by the contractor to the employer demonstrating that their proposed alternative has equal or better performance.

Any alternative products are subject to design team, building control, warranty provider and employer acceptance.

CDM REGULATIONS 2015. All current drawings and specifications for the project must be read in conjunction with the Designer's Hazard and Environment Assessment Record

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KEY

- Site Boundary
- Ownership Boundary
- EV Charging Point
- EV Parking Space

NOTES

- This drawing is based on topographical survey information provided by Survey Operations refer to drawing A0 21E170/002 dated July 2021.
- For proposed external levels refer to latest revision of Integra drawing SPC-INT-ZZ-00-DR-C-0601.
- For landscaping (hard and soft) refer to latest revision of Urban Green drawing UG\_893\_LAN\_GA\_DRW\_001.

|     |          |                      |     |     |
|-----|----------|----------------------|-----|-----|
| P03 | 05.11.21 | Updated for Planning | VP  | JH  |
| P02 | 06.07.21 | General Updates      | VP  | JH  |
| P01 | 17.06.21 | First Issue          | VP  | JH  |
| Rev | Date     | Description          | Dwn | Ckd |

SPACE STUDIOS MANCHESTER - AA7746

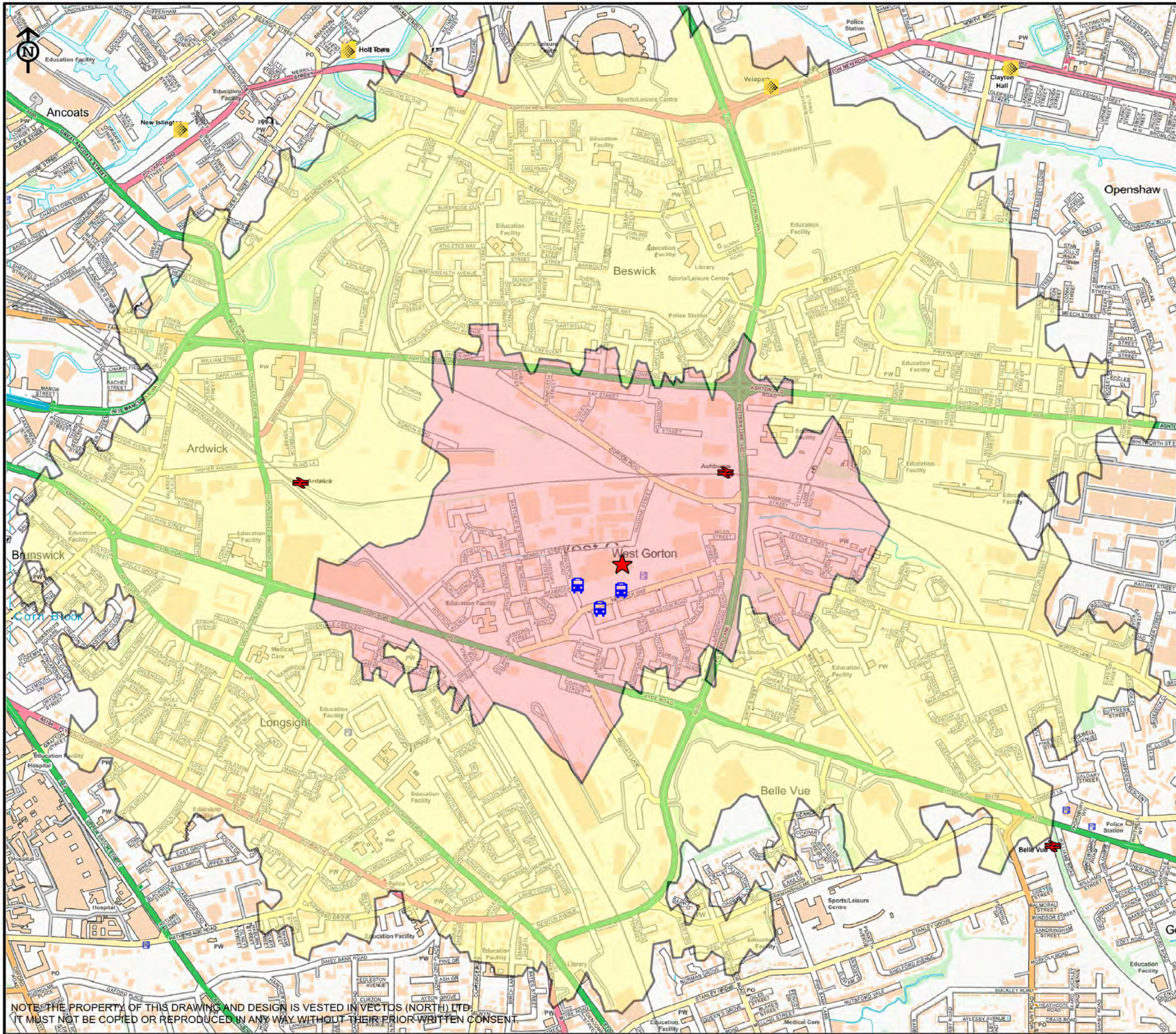
PROPOSED SITE PLAN - GROUND FLOOR LEVEL

|                            |        |      |       |      |      |        |
|----------------------------|--------|------|-------|------|------|--------|
| Project                    | Origin | Zone | Level | Type | Role | Number |
| SPC                        | PRP    | ZZZ  | GF    | DR   | A    | 002102 |
| Revision                   |        |      |       |      |      |        |
| P03                        |        |      |       |      |      |        |
| Status                     |        |      |       |      |      |        |
| S4 - FOR PLANNING APPROVAL |        |      |       |      |      |        |

Drawn VP    Checked JH    Date JUNE 2021    Scale @ A1 1:500

PRP

prp-co.uk  
Manchester  
0161 242 8950



## Legend

- ★ Site Location
- Public Transport**
- ✈ National Rail
- 🚌 Bus Stop

## Public Rights of Way

- Bridleway
- Byways open to all Traffic
- Footpath
- Restricted Byway

## Walking Catchment

- 0 - 1km
- 1km - 2km

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CLIENT:

**Manchester City Council**

PROJECT TITLE:

**Space Studios Phase 3**

DRAWING TITLE:

**Walking Catchment**

SCALE:

**N.T.S**

DRAWN:

TO

CHECKED:

RW

DATE:

July 2021

**vectos.**

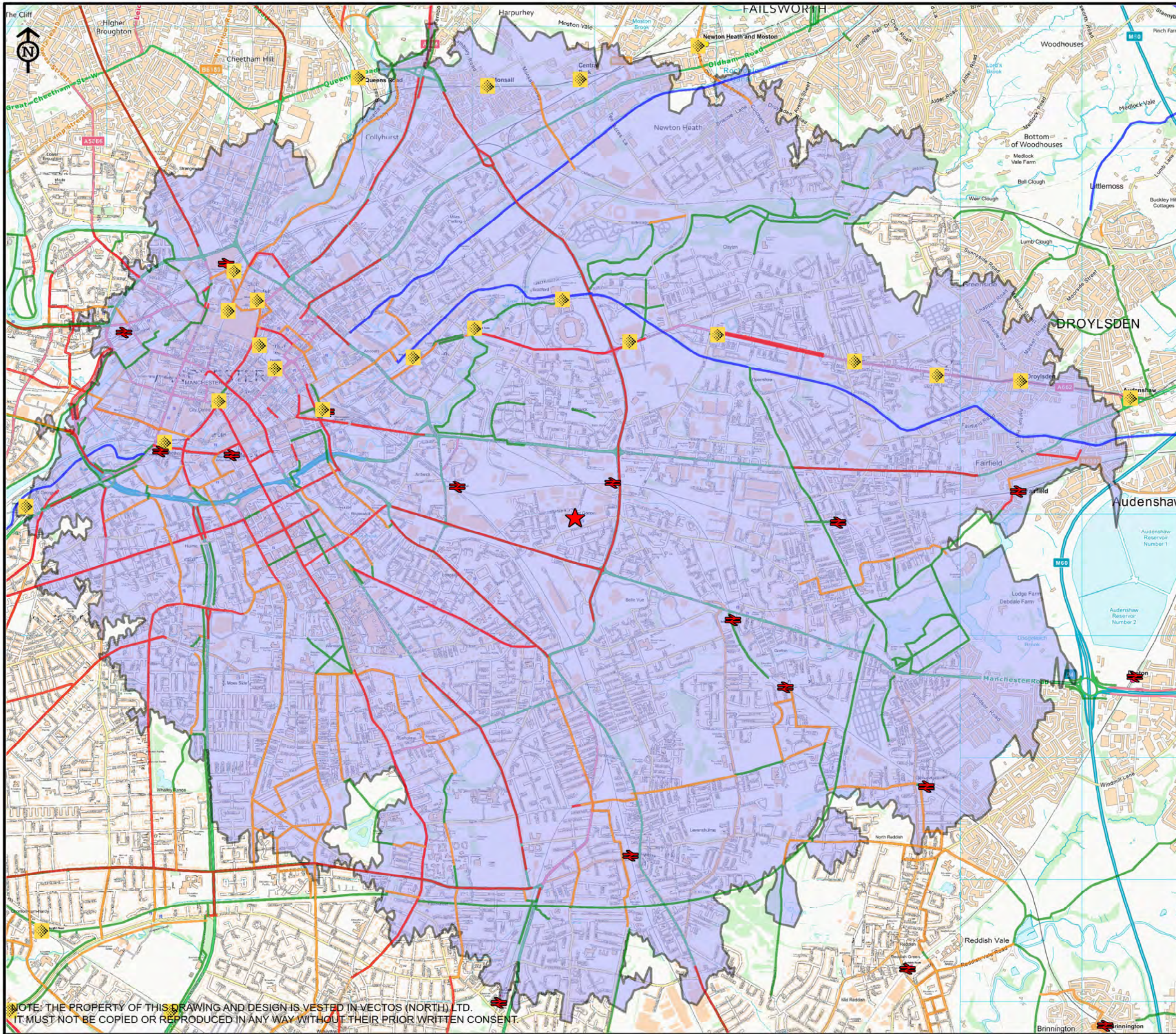
Oxford Place, 61 Oxford Street, Manchester M1 6EQ  
t:0161 228 1008 e:manchester@vectos.co.uk

DRAWING NO:

**VN211998-G102**

REVISION:

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### Legend

- ★ Site Location
- Public Transport
  - Metrolink
  - National Rail
- Cycle Routes
  - Signed Routes
  - On Road with Cycle Lanes
  - Off Road
  - Canal Tow Path
- Cycling Catchment
  - 0 -5km

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CLIENT:

Manchester City Council

PROJECT TITLE:

Space Studios Phase 3

DRAWING TITLE:

Cycling Catchment

SCALE:

N.T.S

DRAWN:

TO

CHECKED:

RW

DATE:

July 2021

**vectos.**

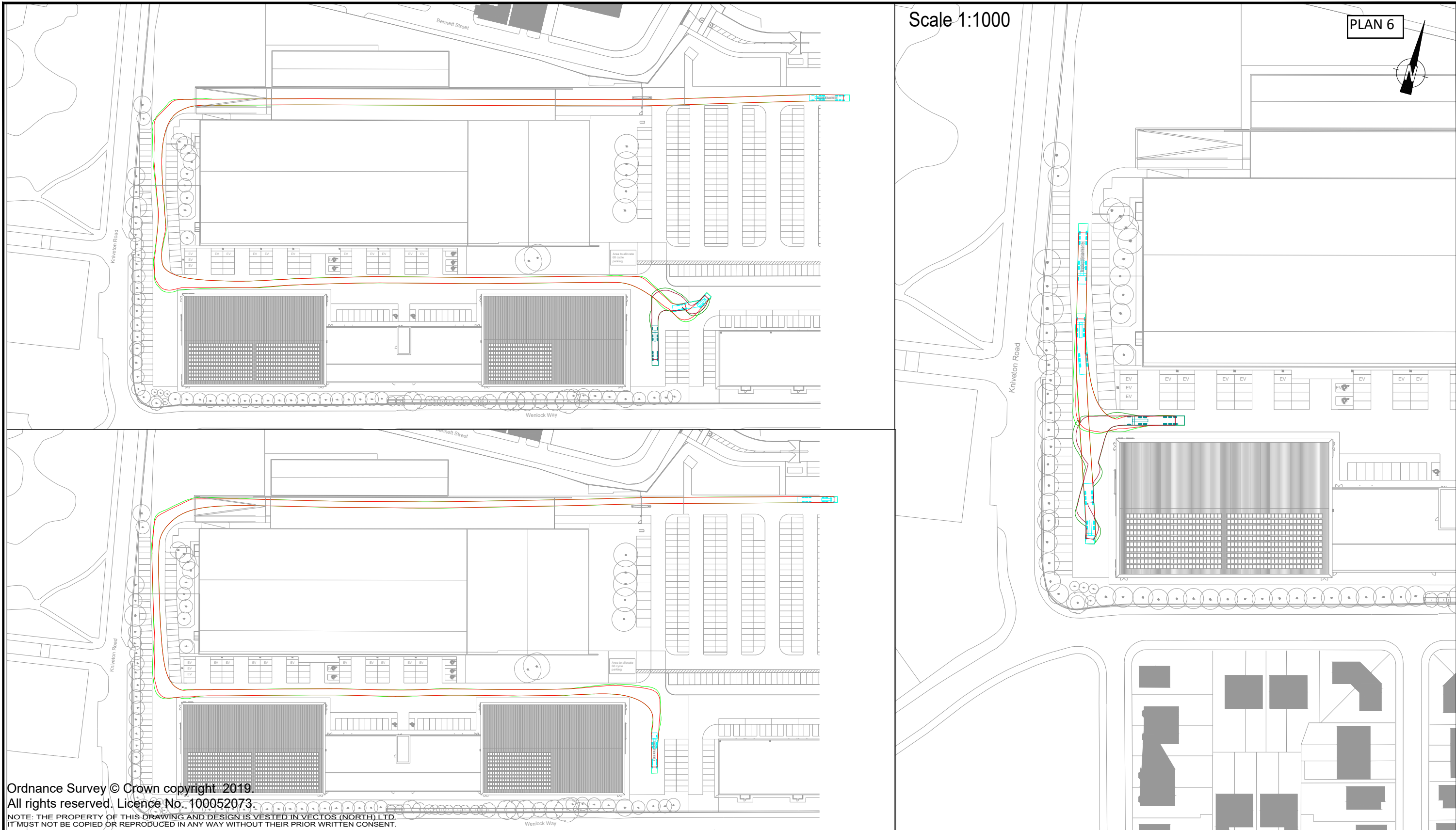
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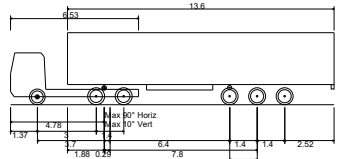


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| REV. | DETAILS                                              | DRAWN | CHECKED | DATE     |
|------|------------------------------------------------------|-------|---------|----------|
| A    | Site layout updated & amendments made to swept paths | WD    | RW      | 15.07.21 |
| B    | Site layout updated & amendments made to swept paths | EG    | RW      | 23.09.21 |
| C    | Site layout updated                                  | EG    | RW      | 03.11.21 |

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.



Max Legal Length (UK) Articulated Vehicle (16.5m)  
Overall Length 16.500m  
Overall Width 2.550m  
Overall Body Height 3.681m  
Min Body Ground Clearance 0.411m  
Max Track Width 2.500m  
Lock to lock time 6.00s  
Kerb to Kerb Turning Radius 6.530m

Space Studios Phase 3

Swept Path Analysis - Articulated HGV

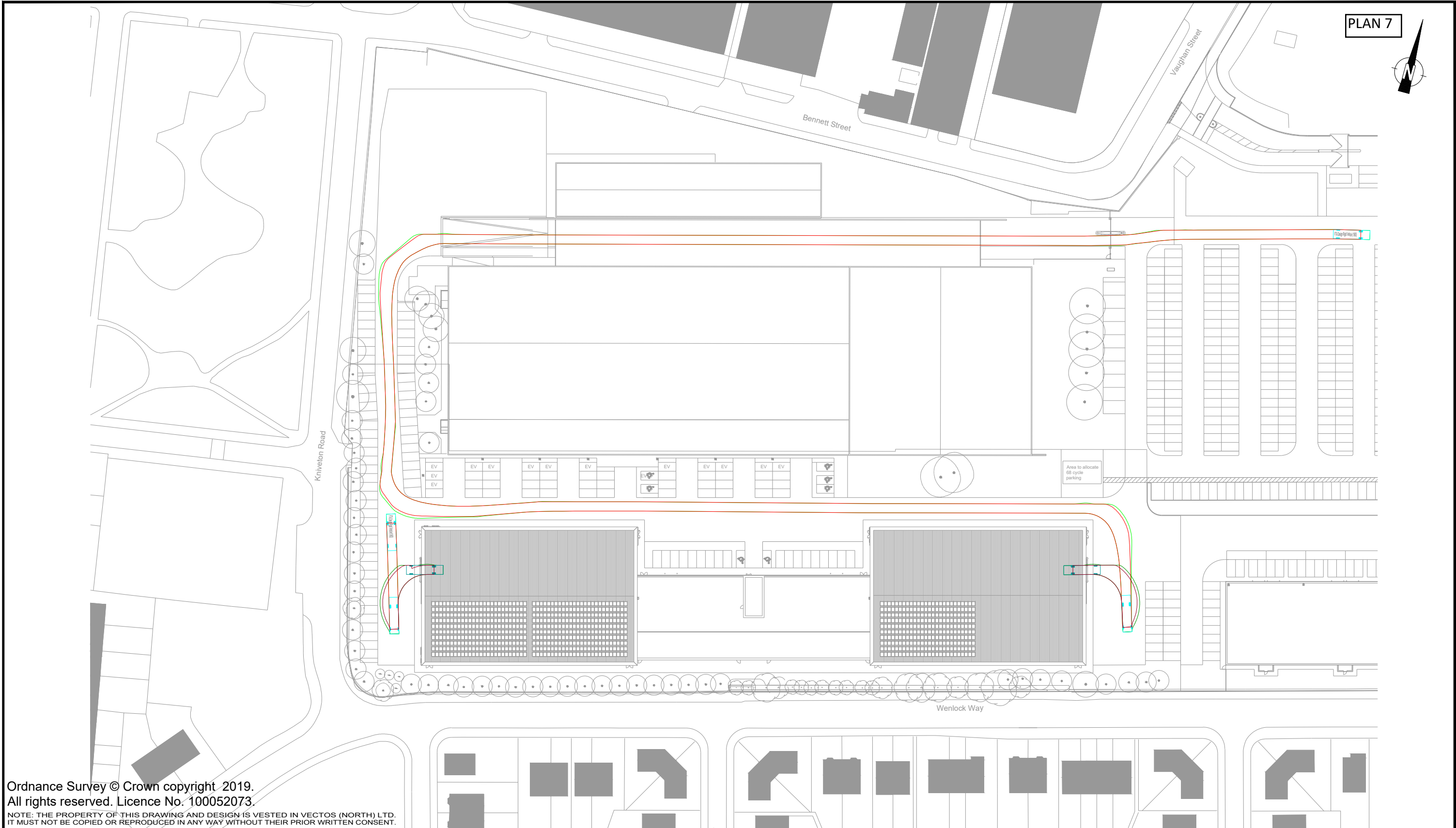
|        |          |          |                            |
|--------|----------|----------|----------------------------|
| DRAWN: | CHECKED: | DATE:    | SCALES:                    |
| EG     | RW       | 03.11.21 | 1:1500 at A3 unless stated |

Manchester City Council

**vectos.**

4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ  
0161 228 1008 e: manchester@vectos.co.uk

|                 |           |
|-----------------|-----------|
| DRAWING NUMBER: | REVISION: |
| VN211998-TR100  | C         |



| REV. | DETAILS                                              | DRAWN | CHECKED | DATE     |
|------|------------------------------------------------------|-------|---------|----------|
| A    | Site layout updated & amendments made to swept paths | WD    | RW      | 15.07.21 |
| B    | Site layout updated & amendments made to swept paths | EG    | RW      | 23.09.21 |
| C    | Site layout updated                                  | EG    | RW      | 03.11.21 |

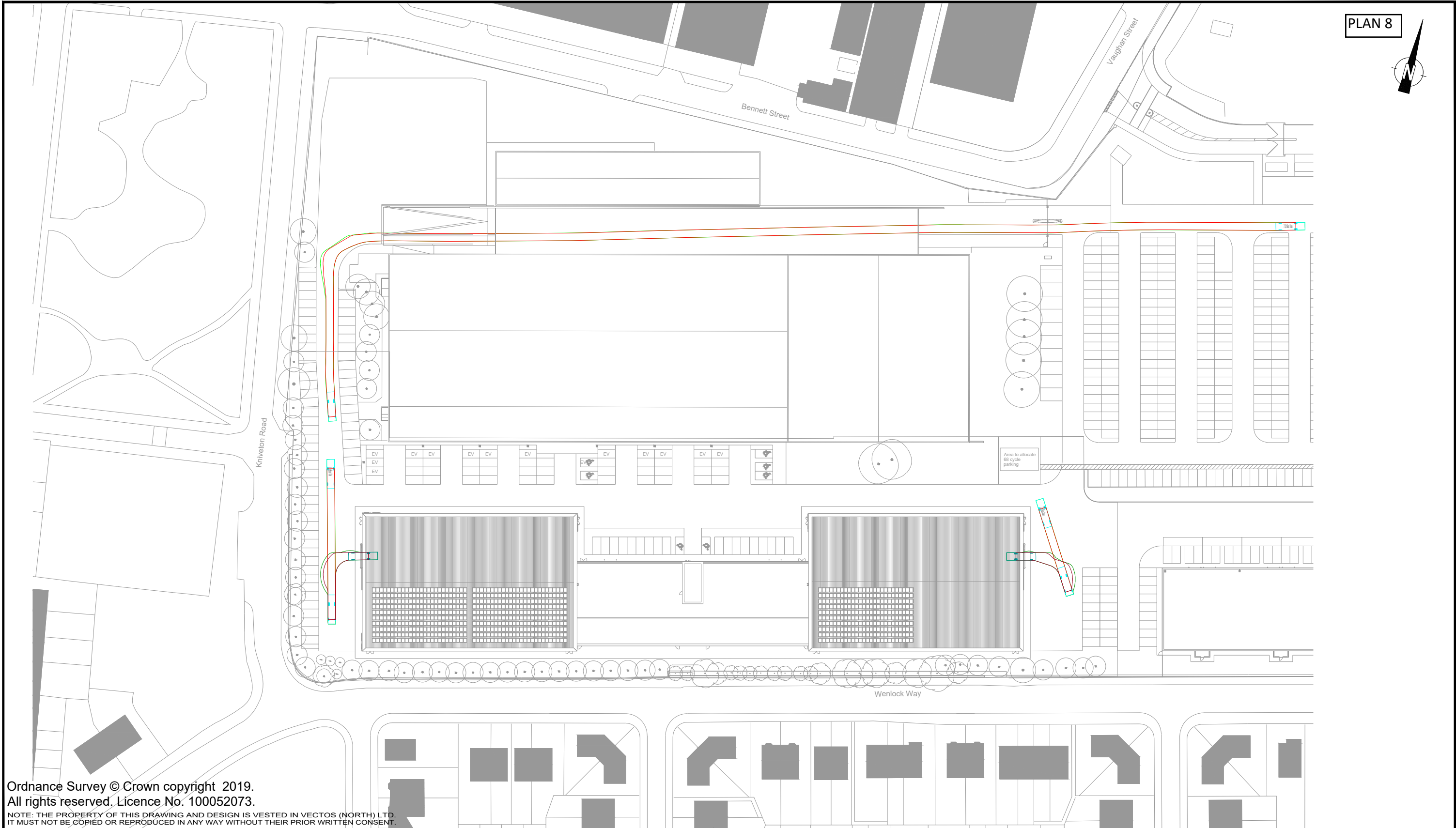
**Notes:**

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- White lining is indicative only.

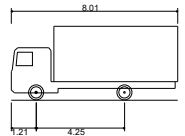
FTA Design Rigid Vehicle (1983)

|                             |         |
|-----------------------------|---------|
| Overall Length              | 10.000m |
| Overall Width               | 2.500m  |
| Overall Body Height         | 3.632m  |
| Min Body Ground Clearance   | 0.427m  |
| Track Width                 | 2.500m  |
| Lock to lock time           | 4.00s   |
| Kerb to Kerb Turning Radius | 12.000m |

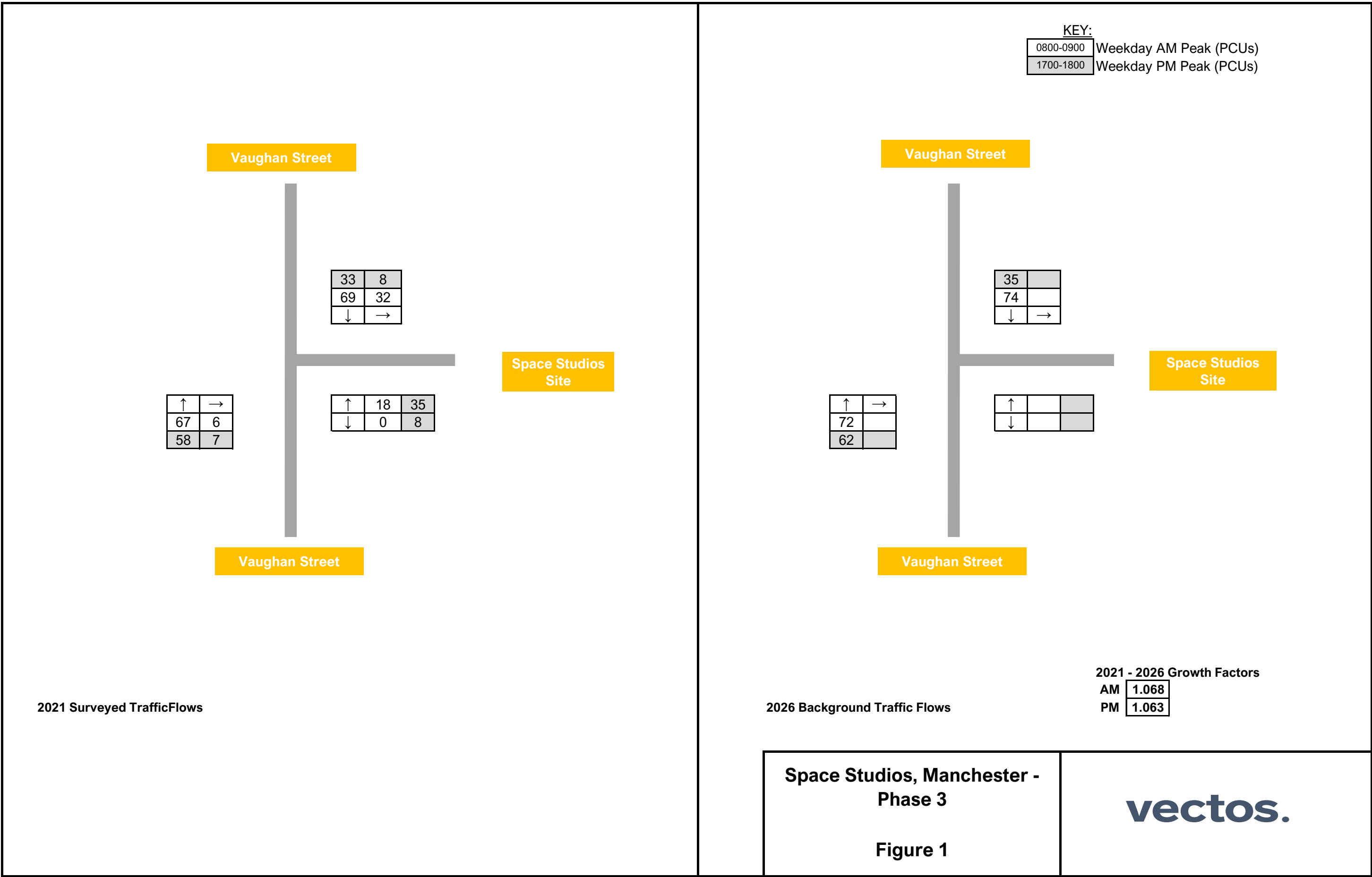
|                                                                                                          |  |             |  |                                |  |
|----------------------------------------------------------------------------------------------------------|--|-------------|--|--------------------------------|--|
| <b>Space Studios Phase 3</b>                                                                             |  |             |  | <b>Manchester City Council</b> |  |
| <b>Swept Path Analysis - 10m Rigid</b>                                                                   |  |             |  |                                |  |
| 4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ<br>0161 228 1008 e: manchester@vectos.co.uk |  |             |  | DRAWING NUMBER: VN211998-TR101 |  |
| DRAWN: EG                                                                                                |  | CHECKED: RW |  | DATE: 03.11.21                 |  |
| SCALES: 1:1000 at A3                                                                                     |  | REVISION: C |  |                                |  |



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| REV. | DETAILS                                              | DRAWN | CHECKED | DATE     | Notes:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Space Studios Phase 3         |             |                |                      | Manchester City Council                                                                                                                                                                                              |  |                                |             |
|------|------------------------------------------------------|-------|---------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------|----------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|-------------|
| A    | Site layout updated & amendments made to swept paths | WD    | RW      | 15.07.21 | <div>1. This is not a construction drawing and is intended for illustrative purposes only.</div> <div>2. White lining is indicative only.</div> <div><div>7.5t Box Van<br/>Overall Length 8.010m<br/>Overall Width 2.100m<br/>Overall Body Height 3.556m<br/>Min Body Ground Clearance 0.351m<br/>Track Width 2.064m<br/>Lock to lock time 4.00s<br/>Kerb to Kerb Turning Radius 7.400m</div></div> <td colspan="4">Swept Path Analysis - Box Van</td> <td colspan="2" rowspan="3"><div><div>4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ<br/>0161 228 1008 e: manchester@vectos.co.uk</div></div></td> | Swept Path Analysis - Box Van |             |                |                      | <div><div>4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ<br/>0161 228 1008 e: manchester@vectos.co.uk</div></div> |  |                                |             |
| B    | Site layout updated & amendments made to swept paths | EG    | RW      | 23.09.21 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DRAWN: EG                     | CHECKED: RW | DATE: 03.11.21 | SCALES: 1:1000 at A3 |                                                                                                                                                                                                                      |  | DRAWING NUMBER: VN211998-TR102 | REVISION: C |
| C    | Site layout updated                                  | EG    | RW      | 03.11.21 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                               |             |                |                      |                                                                                                                                                                                                                      |  |                                |             |

# Figures



Vaughan Street

|   |    |
|---|----|
|   | 5  |
|   | 68 |
| ↓ | →  |

Space Studios Site

|   |    |    |
|---|----|----|
| ↑ | 11 | 61 |
| ↓ | 0  | 14 |

|   |    |
|---|----|
| ↑ | →  |
|   | 13 |
|   | 5  |

Vaughan Street

Development Traffic Flows

|    |     |     |
|----|-----|-----|
|    | Arr | Dep |
| AM | 81  | 11  |
| PM | 10  | 75  |

|           |                        |
|-----------|------------------------|
| KEY:      |                        |
| 0800-0900 | Weekday AM Peak (PCUs) |
| 1700-1800 | Weekday PM Peak (PCUs) |

Vaughan Street

|    |     |
|----|-----|
| 35 | 13  |
| 74 | 100 |
| ↓  | →   |

Space Studios Site

|   |    |    |
|---|----|----|
| ↑ | 29 | 96 |
| ↓ | 0  | 22 |

Vaughan Street

2026 'With Development' Traffic Flows

Space Studios, Manchester -  
Phase 3

Figure 2

vectos.

# Appendices

# Appendix A

Pre-application Scoping Note and MCC Officer Comments

## Space Studios – Phase 3 Transport Scoping Note

---

VN211998

### Introduction

1. This Note outlines the scope of transportation work which it is proposed be undertaken to support a planning application for Phase 3 of development on the Space Studios site in Gorton, Manchester.

### Proposed Development

2. The proposals as they currently stand involve the development of 7,020sqm of floorspace which will be occupied by B1/B8 type land uses. This will comprise 2 large stage buildings and ancillary office / workshop space. The development will be located on land which was formerly occupied by circa 10,281sqm of floorspace, which was also B1/B8 in use.
3. The development will provide an additional 110 parking spaces on the site.
4. Vehicle access to the development will be achieved from the existing Space Studios junction with Vaughan Street.

### Transport Statement

5. Vectos prepared the Transport Statement (TS) to support the Space Studios Phase 2 development, and the scope of work undertaken to support the Phase 3 development will reflect this previously agreed approach.
6. As such, a TS prepared to support the planning application will provide the following information:
  - A review of baseline conditions, including the site location, surrounding highway network, and personal injury accident data at the Vaughan Street site access junction.
  - A review of proposals in the context of pertinent National Planning Policy guidance, notably Paragraph 109 of the Framework.
  - A review of the accessibility of the site by walking, cycling and public transport modes of travel. This will be supplemented by plans illustrating the site's 1 and 2 kilometre walking catchment, and 5 kilometre cycle catchment.
  - A description of the development proposals. This will include details of measures to encourage travel by sustainable modes, such as cycle parking. Cycle parking will be provided at a minimum ratio of 1 space/ 200sqm.
  - A traffic impact assessment. This will provide the following information:
    - An assessment of the potential traffic generation of the proposed development based upon the TRICS database for 'Employment/ Office' land use category. This would represent a robust worst case assessment.

- A comparative assessment of the traffic generation of the site when occupied by the former B1/B8 uses, again using the 'Employment/ Office' TRICS category. While these buildings have recently been removed the highway network surrounding the site will have traditionally accommodated this volume of traffic, and therefore this is a pertinent comparison when considering the impact of the development proposals.
- Although the site will have a B1/B8 land use in practice it will not operate as traditional office space. As such an additional assessment will also be provided which will consider a more realistic traffic generation based upon its intended use. This will be undertaken based upon the TV/film studio sites included in the TRICS 'Miscellaneous' land use category. This was the approach also adopted in the TS for the Phase 2 development.
- The traffic impact assessment will be undertaken for the weekday AM (0800-0900), inter (1400-1500) and PM (1600-1700) peak hours, as per the Phase 2 TS.
- A review of car parking. Car parking will be provided in accordance with Manchester City Council's maximum car parking standards for B1 business park developments of 1 space/ 35sqm as outlined in the Council's Core Strategy 2012 – 2027. Disabled parking will be provided at a ratio of a minimum of 5% of total parking provision (i.e. a minimum 6 spaces). We would welcome any advice regarding the Council's EV parking expectations. An AutoTRACK assessment will also be undertaken of any pertinent car parking spaces.
- A review of servicing arrangements. This will include an AutoTRACK assessment demonstrating how delivery vehicles will navigate through the site, and access necessary building entrance points. The AutoTRACK assessment will be undertaken using a 16.5m articulated vehicle, 10m rigid vehicle and 8m box van as appropriate.

## Framework Travel Plan

7. To support the planning application a Framework Employee Travel Plan will also be prepared. A Full Travel Plan has already been adopted for the Phase 1 development on the Space Studios site, and it is intended that the Phase 3 element will essentially fall within these original Travel Plans objectives, with the site managed as one overall development.
8. This Framework Travel Plan will provide the following information:
  - An introduction outlining the objectives of the Travel Plan process and how it will be managed.
  - A review of the opportunities for employees to access the site by sustainable means of travel.
  - A review of the management measures which will be adopted through the Travel Plan process to promote and encourage travel by sustainable means.
  - An explanation of how the success of the Travel Plan will be assessed and monitored. This will include a commitment to undertake surveys of Phase 3 employee travel patterns once the development is operational.
  - A summary of Travel Plan implementation timescales.
  - A description of useful travel websites.

# MEETING MINUTES

Meeting: Space Studios Pre-application meeting  
Location: MS Teams  
Date: 15<sup>th</sup> July 2021  
Time: 10:00  
Attendees: Sue Wills (SW)  
Rob Page (RP)  
Matt Cawley (MC)  
James Hackett (JH)  
Rachel White (RW)  
Annabel Partridge (AP)  
Apologies: Alistair Weir (AW)  
Ken Richards (KR)

## Sub Title

RW introduced the project team and outlined the agenda.

RP gave an overview of the proposals and the site history and the need for Phase 3.

RW stated that the proposals accord with the relevant planning policies for employment use- no need to address these in full detail. SW agreed and confirmed she is happy for this to be addressed in the planning submission.

JH provided an overview of the scheme and the main changes recognising that SW is aware of the site and proposals background.

JH confirmed instruction of Urban Green, Integra and Buro Happold.

JH referenced the neighbouring properties and the interactions with these.

JH confirmed the single point of entry will be retained. Vectos looking at access and servicing and this will be confirmed through the application process.

JH referenced edges along Wenlock Way and Kniveton Road and the need to landscape and ensure a private site. Highlighted the need to minimize overlooking from passersby and neighbours.

JH confirmed set back from Kniveton Road.

JH reiterated the height is driven by the need for the occupier.

Provision of PV to comply with EN6 and EN8- Buro Happold to address this.

JH gave an overview of the landscaping strategy- confirmed that this would be a continuation of the existing landscaping.

In terms of overlooking and privacy, SW recognises the need to ensure the site is appropriately screened.

SW asked for the swept paths to be identified and shown on the plans. JH confirmed that this would be in the Transport Assessment. SW stated that this should be a stand alone plan to

## MEETING MINUTES

avoid any questions from highways. Action- instruct Vectos to prepare stand alone swept path plan for submission.

SW recognised the need to remove the trees. Proposed. JH confirmed that this has been informed by an arb report. Suggest that this would need to be assessed by the arboricultural team. Need to confirm the status. SW requested a 2 for 1 replacement of trees. Action- Urban Green to address this point in their design and DAS chapter.

SW requested that the maintenance of the ongoing trees and landscaping should be submitted. Suggest a landscaping maintenance plan to be submitted. Action- Urban Green to prepare a landscape management plan.

JH outlined the proposed highways and parking arrangement. Stated that the net gain of parking is 110 spaces and 36 cycle parking spaces. SW questioned whether Vectos will be able to assess the proposed access route and whether this will be sufficient to accommodate this additional car activity. Action- Vectos to assess capacity of existing entrance off Bennett Street to confirm this can accommodate additional trips.

SW confirmed that the Biodiversity Net Gain will be a requirement; should be assessed. Action- instruct Urban Green to undertake this work.

JH explained the internal site layout. SW was comfortable with this and accepted the single aspect office spaces.

JH stated that the plant is pushed back. SW requested that this plant should be properly labelled and that this should be 5db noise level to ensure this avoids noise conditions. Action- ensure Hoare Lea reference this in the NIA.

JH explained the elevational treatments and confirmed that these are consistent with Phase 1 and 2.

JH explained the height of Phase 3 are set by the market. Confirmed the separation distances with Wenlock Way and also the stepping distances down to Wenlock Way.

JH explained the sun path analysis and confirmed that this has no impact on the properties on Wenlock Way.

JH referenced the previous building and the height of this. Showed images which included the previous buildings in situ.

SW appreciated the windows on Wenlock Way- felt these really add to the scheme. Questioned the cladding system and the need to add some visual interest on the Wenlock Way elevation. Questioned what is on the existing Phase 1 and 2 buildings. Action- PRP to review the design of the elevation and look to see if materiality can add interest to the fenestration.

SW raised questions on Local Employment Agreement- this needs to be considered. Action- NJL to review policies and incorporate into Planning Statement.

SW stated the Manchester City Council Carbon Zero- question whether any EV charging points are proposed. Noted that the requirement is 25% provision and that preferably infrastructure should be incorporated to enable additional electric vehicle charging points in future. Action- Vectos to review and advise, Buro Happold to incorporate into design.

SW asked whether any hard surfacing could be permeable. Action- Integra to review and advise.

## MEETING MINUTES

SW asked whether any of the shutters could be flush/set within the building so that these don't protrude ahead of the building.

SW queried the UU connections.

SW questioned the opening hours of the studios. RP confirmed that this is 24 hour.

RW confirmed the approach to Public Consultation.

SW stated that they would like to avoid conditions on construction management and also ground conditions. Action- team to review and instruct additional reports if necessary.

SW stated that materials ahead of determination could be assessed to avoid materials conditions.

SW stated the need to engage with ward members ahead of main public consultation going live. RP confirmed that this has been undertaken and the conversations with the West Gorton Residents' association are ongoing. RW gave more detail on the consultation approach. SW confirmed this was acceptable.

### Actions

- Vectos to prepare stand alone swept path/tracking plan for submission
- Urban Green to prepare landscape management plan for submission
- Urban Green to prepare Biodiversity Net Gain assessment
- Hoare Lea to review noise levels and confirm compliance
- PRP to review materials and shutter doors on elevations
- NJL to review policies/guidance on local employment provision. Confirm whether an offer will be made on this basis.
- Vectos to review and advise on ability to provide EV charging points.
- Integra to review the potential for hard surface to be permeable

# Appendix B

Framework Travel Plan

# Manchester City Council

Space Studios, Manchester - Phase 3

November 2021

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Framework Travel Plan

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## Report control

Document: Framework Travel Plan

Project: Space Studios, Manchester – Phase 3

Client: Manchester City Council

Job number: VN211998

File origin: N:\Vectos Job Data\2021\VN211998 Space Studios Phase 3\Docs\Reports\Framework Travel Plan.docx

## Document checking

Primary Author: Richard Whiting      Initialled: RW

Contributor: Tom O’ Grady      Initialled: TOG

Review by: Richard Whiting      Initialled: RW

| Issue | Date       | Status      | Checked for issue |
|-------|------------|-------------|-------------------|
| 1     | 08/11/2021 | First Draft | RW                |
| 2     | 12/11/2021 | FINAL       | RW                |
| 3     |            |             |                   |

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- Plan 1 – Proposed Site Layout

# 1 Introduction

## Introduction

- 1.1 Vectos have been instructed by Manchester City Council to advise on proposals for Phase 3 of development at Space Studios in Gorton, Manchester. The site lies within the jurisdiction of Manchester City Council (MCC).
- 1.2 This report provides a Framework Travel Plan for the development and should be read in conjunction with the November 2021 Transport Statement also prepared by Vectos.

## Site Location

- 1.3 The Space Studios site is located in the West Gorton area of Manchester, approximately 3.5 kilometres to the east the City Centre.
- 1.4 The application site is located within a mixed use area comprising industrial and employment uses to the north and residential areas to the east, south and west.

## Proposed Development

- 1.5 The planning application proposes the demolition of existing structure and construction of a new 7,002 sqm (GIA) building to accommodate two no. acoustically treated stages for film and television production and adaptable workshop units (use class B8 and Class E) associated landscaping, parking and access arrangements.
- 1.6 The development will provide 137 parking spaces on the site (121 new spaces, 16 relocated), along with 38 new cycle parking spaces.
- 1.7 Vehicle access to the development will achieved from the existing Space Studios priority controlled junction with Vaughan Street.
- 1.8 The proposed site layout is provided as **Plan 1**.

## The Travel Plan

- 1.9 The preparation and adoption of a Travel Plan is an important element of managing the demand for travel to all modern developments. The Department for Transport issued a guide on the preparation of such Travel Plans in a document entitled 'Good Practice Guidelines: Delivering Travel Plans through the Planning Process'.
- 1.10 It should be noted that this is a working document and is recognised as being the first stage in the Travel Plan process. This is primarily because as the development is yet to be occupied it is not desirable to simply list a series of policies to be implemented once it is operational. Instead, it is preferable to provide a more detailed Travel Plan that reflects the bespoke travel characteristics and needs of staff once this information is known.

- 1.11 The proposals form Phase 3 of development on the Space Studios site. Phase 1 saw the conversion of part of the site into a Drama Production Centre, while Phase 2 involved the conversion of the eastern part of the site to provide production space, bespoke accommodation and workshop buildings.
- 1.12 A Full Travel Plan for Phase 1 has been undertaken and implemented. It is anticipated that Phase 3 of the development will essentially fall within this original Travel Plan objectives and the site will be managed as one overall development.
- 1.13 A Full Travel Plan, or updated Phase 1 Travel Plan, will be submitted to MCC within 6 months of the development becoming operational.

### **Travel Plan Objectives**

- 1.14 The objective of the Travel Plan is to encourage the use of means of transport other than the private car and reduce single person car trips in the interests of supporting sustainable transport policies. This can be achieved by:
- Setting out a long term strategy to reduce the dependence of staff on single occupancy travel by private car;
  - Increasing the awareness of staff and visitors of the advantages and potential for travel by more environmentally friendly modes; and
  - Introducing a package of physical and management measures that will facilitate staff and visitor travel by modes of transport other than the private car.
- 1.15 Whilst aimed at both staff and visitors the Travel Plan's primary aim is to shape staff travel patterns. The travel choices of staff are easier to influence and provide more scope for change than those of visitors.

### **Management Measures**

- 1.16 The following management measures will be supported through the Travel Plan.
- Appointment of a Travel Plan Co-ordinator (or confirmation that the existing Co-ordinator will take responsibility for the Phase 3 development as well).
  - Ensuring travel awareness.
  - Ensuring the availability of travel information.
  - The establishment of a car sharing scheme.
  - The creation of a Cycle User Group.

### **Plan Administration**

- 1.17 The site operator will designate a Travel Plan Co-ordinator for the development. This may be the representative who is responsible for the existing site Travel Plan. This Co-ordinator will provide the point of contact with MCC.
- 1.18 When appointed the Travel Plan Co-ordinator's details will be provided to MCC. A full set of duties and responsibilities for the Co-ordinator role will then be agreed with the Council.
- 1.19 The Travel Plan Co-ordinator will be the first point of contact for staff and other outside organisations in all matters regarding travel. He/she will maintain an up-to-date file containing all correspondence to and from staff relating to the Travel Plan.

### **Budgetary Requirements**

- 1.20 The developer commits to providing sufficient budget to enable the role of the Travel Plan Co-ordinator to be appropriately filled, and the Travel Plan to be successfully implemented.

## 2 Access by Sustainable Travel Modes

### Introduction

- 2.1 New proposals should attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current and emerging national and local planning policy.
- 2.2 The accessibility of the proposed development by the following modes of travel has therefore been considered:
- Accessibility on foot.
  - Accessibility by cycle.
  - Accessibility by bus.
  - Accessibility by rail.

### Accessibility on Foot

- 2.3 Pedestrian access to the site is afforded from the access off Vaughan Street, with the site access junction providing a pedestrian refuge, dropped kerbs and tactile paving. A street lit footway extends into the site, with pedestrian movements then supported by footways and zebra crossing type provisions which lead to building entrance points.
- 2.4 The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians without mobility impairment for some common facilities. The guidelines suggest that an acceptable walking distance for commuting/ school purposes is 800 metres, with the preferred maximum distance of 2 kilometres. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.
- 2.5 The more recent CIHT document 'Planning for Walking' (2015) affirms this by stating that 80% of journeys shorter than a mile (approximately 1.6 kilometres) are made wholly on foot.
- 2.6 An analysis of the pedestrian routes in the area has been completed to identify areas situated within 1 and 2 kilometre catchments; this is presented in **Figure 2.1**.

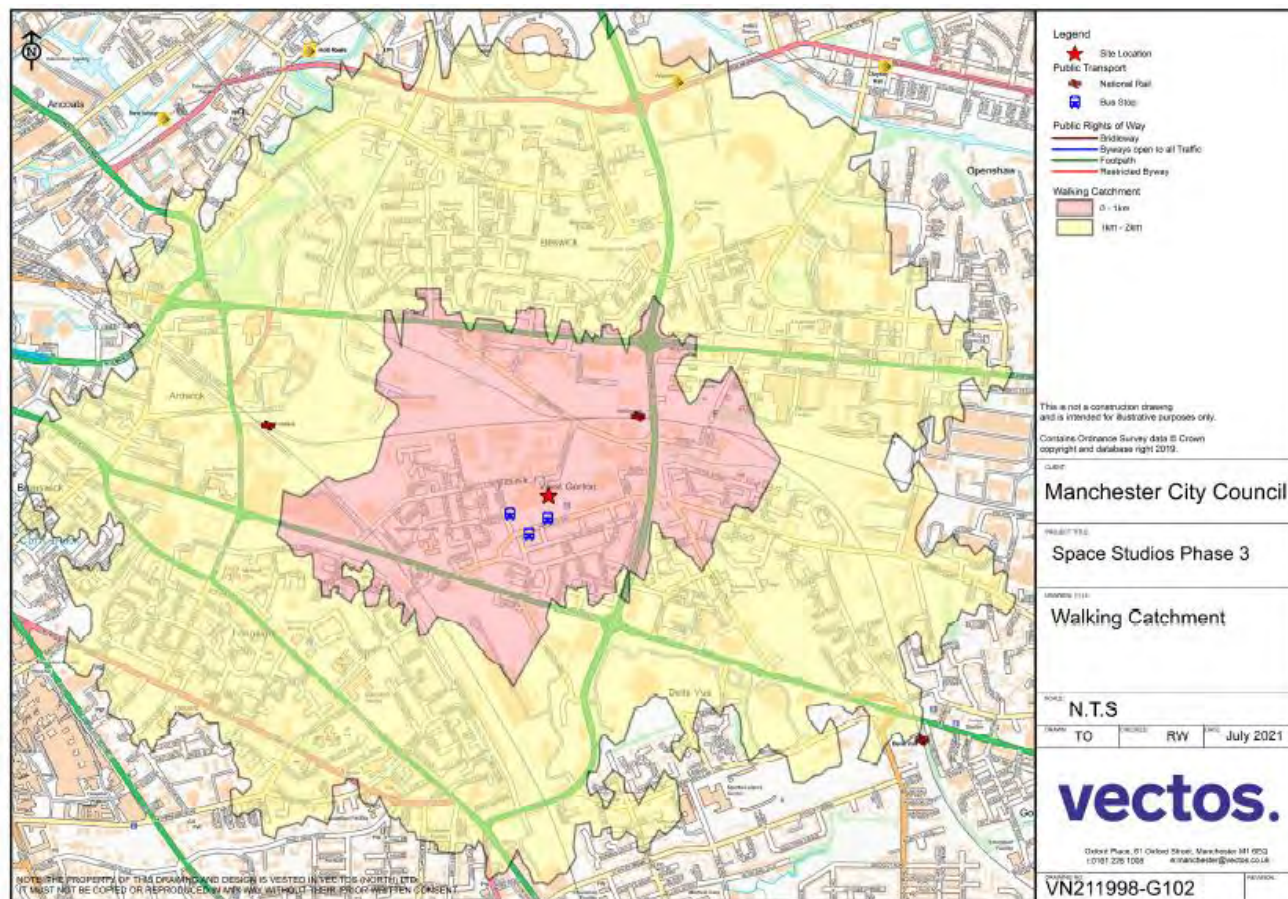


**Figure 2.1: Pedestrian Catchment Plan**

- 2.7 From **Figure 2.1** it can be seen that the 1 kilometre catchment covers the whole residential area of West Gorton, while the 2 kilometre catchment extends to include areas off Longsight, Ardwick, Belle Vue, Beswick and the east side of Manchester City Centre.
- 2.8 In the vicinity of the site pedestrian movements are supported by street lit footways which are provided on both sides of Vaughan Street, as well as along both sides of Bennett Street, thereby serving pedestrian connections to the residential areas to the west of the site. Dropped kerbs and tactile paving are also provided at junctions along Bennett Street.
- 2.9 To the north of the site street lit footways are also provided on both sides of Gorton Road. These lead to the junction with Pottery Lane where controlled pedestrian crossing facilities, including dropped kerbs, tactile paving, guard railing and pedestrian islands are provided on the northern and western arms. This infrastructure prevents the A6010 from becoming a barrier to pedestrian movements in this area.
- 2.10 In conclusion, the proposed development site is accessible by foot.

## Accessibility by Cycle

- 2.11 Cycling is becoming an increasingly popular mode of transport and is an effective mode for short trips. The Department for Transport's (DfT) Local Transport Note 2/08 Cycle Infrastructure Design (2008) states that, 'many utility cycle journeys are under 3 miles (5 km) although for commuters a trip distance of over 5 miles (8 km) is not uncommon'.
- 2.12 With this in mind, **Figure 2.2** displays a 5 kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour. Based upon the above guidance this catchment represents the lower threshold of the potential cycle catchment of the site.

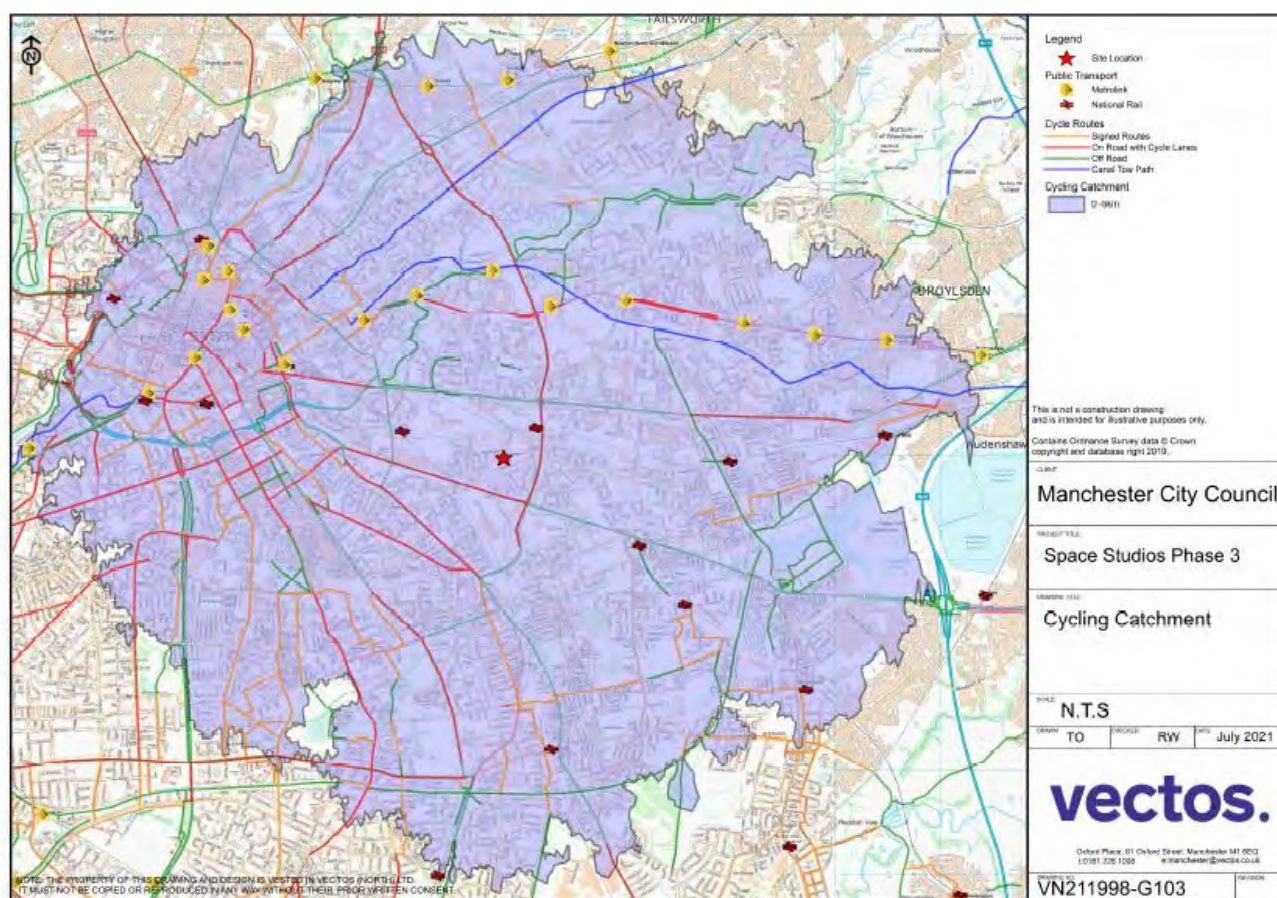


**Figure 2.2: Cycle Catchment Plan**

- 2.13 As can be seen from **Figure 2.2** the 5 kilometre cycle catchment encompasses a large area of Manchester including the City Centre, Ardwick, Moss Side, Levenshulme, Openshaw, Droylsden and Reddish.
- 2.14 **Figure 2.3** below provides an extract of TfGM's on-line cycle map.

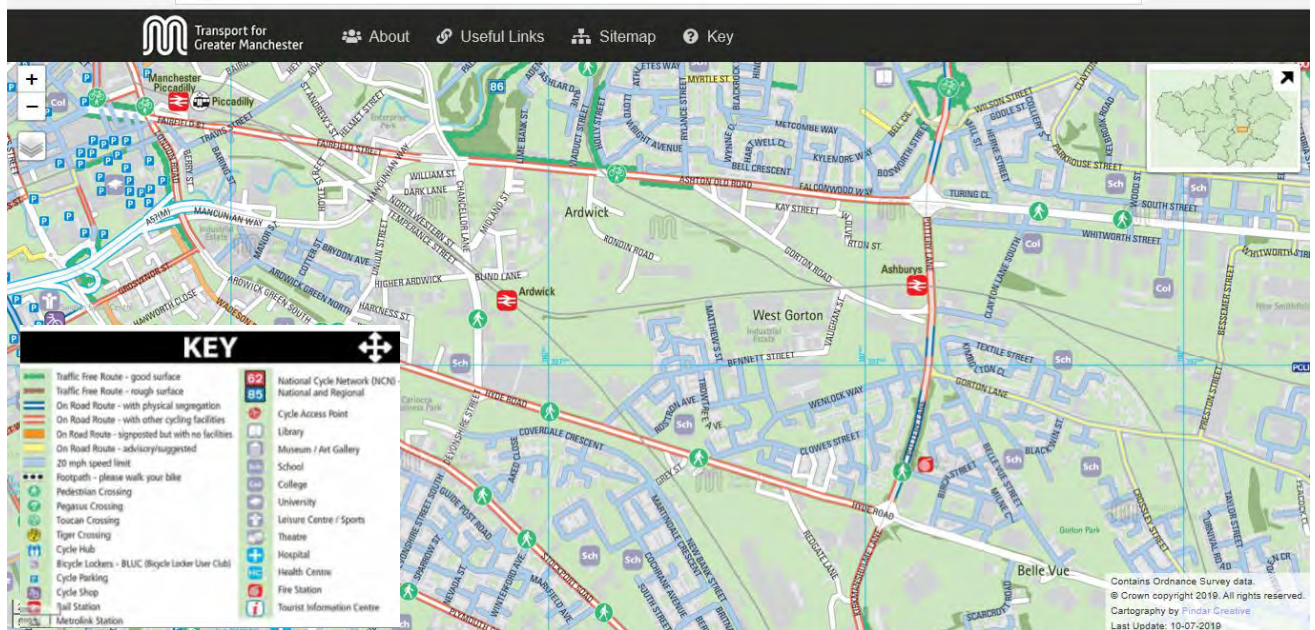


**Figure 2.3: TfGM Cycle Map**

- 2.15 The TfGM cycle map confirms that the network of residential streets to the south and west of the site are all classified as a 20mph zone. The low vehicle speeds and flat topography of this area are conducive with the creation of a cycle friendly environment. The cycle map also confirms that the Hyde Road, Old Ashton Road and Pottery Lane all provide on-road cycle infrastructure, which is some locations includes physical segregation. The latter of these roads provides a safe connection between the site and Ashburys Station.
- 2.16 As part of the proposed development scheme 38 cycle parking spaces will be provided. This is in excess of MCC's minimum cycle parking standards which require 1 space per 200 sqm, equating to a minimum provision of 35 cycle spaces. The proposed cycle parking will be provided between the proposed development and the Block 1 building. This area will also accommodate a further 30 cycle parking spaces which will be relocated from elsewhere on the site.
- 2.17 As such the site can be considered as being accessible by cycle.

### Accessibility by Bus

- 2.18 The IHT document 'Guidelines for Planning for Public Transport in Developments' (1999) suggests that the maximum walking distance to the nearest bus stop should not exceed 400 metres.
- 2.19 The No. 205 bus services operates in the vicinity of the site, with the closest bus stops located on Kniveton Road and Bennett Street for the east and westbound services respectively. Both stops provide a flagpost and timetable information and can be easily and safely reached via the pedestrian infrastructure available in the vicinity of the site.
- 2.20 Further stops are also provided on Wenlock Way, both of which also provide shelters and seating.

- 2.21 Additional services are also operated on the A57 Hyde Road (No. s 201, 202, 203 and X57 services) and Pottery Lane (No. 53 service). While these stops are located slightly beyond the site's 400 metre catchment, the high frequency of these services means that they are also considered a realistic opportunity for employees or visitors to the site.
- 2.22 **Table 2.1** provides a summary of the bus services and frequencies that operate in the vicinity of the site.

**Table 2.1: Local Bus Services**

| Service No. | Route                                                              | Frequency per Hour |         |         |         |     |     |
|-------------|--------------------------------------------------------------------|--------------------|---------|---------|---------|-----|-----|
|             |                                                                    | Monday - Friday    |         |         |         | Sat | Sun |
|             |                                                                    | AM Peak            | Daytime | PM Peak | Evening |     |     |
| 205         | Manchester Piccadilly – Ardwick – West Gorton – Dane Bank          | 3                  | 3       | 3       | 2       | 2   | 1   |
| 201         | Manchester Piccadilly – Ardwick – Denton – Hyde - Hattersley       | 6                  | 6       | 6       | 2       | 5   | 1   |
| 202         | Manchester Piccadilly – Ardwick – West Gorton – Dane Bank          | 2                  | 2       | 2       | 2       | 2   | 1   |
| 203         | Manchester Piccadilly – Ardwick – Belle Vue – Reddish - Stockport  | 6                  | 6       | 6       | 2       | 5   | 1   |
| 53          | Cheetham Hill – Belle Vue – Old Trafford - Salford Shopping Centre | 2                  | 2       | 2       | 2       | 2   | 1   |

- 2.23 As can be seen from **Table 2.1**, during the busiest peak hours of the day there is a frequency of around 16 buses per hour in each direction along Wenlock Way and A57 Hyde Road which operate within the vicinity of the site. During the evening peak there will be a frequency of 12 buses per hour, there are also a limited night services operating on Friday and Saturday. Frequent services also operate during the weekend.
- 2.24 It can be concluded that the site is currently well served by bus and can be considered as accessible by bus.

## Accessibility by Rail

- 2.25 Ashburys Railway Station is situated approximately 660 metres from the proposed development site, and is therefore considered accessible from the site via both a dedicated walking trip and a shared cycle trip. The station can be safely reached from the development site via the existing infrastructure that is available.
- 2.26 Services from Ashburys Railway Station are operated by Northern Rail who also allow bicycle on their services.
- 2.27 **Table 2.2** illustrates some of the main services operated from Ashburys Railway Station along with their frequencies at peak and off-peak times.

**Table 2.2: Local Rail Services**

| Route                                                                                          | Frequency per Hour |         |         |         |     |     |
|------------------------------------------------------------------------------------------------|--------------------|---------|---------|---------|-----|-----|
|                                                                                                | Monday - Friday    |         |         |         | Sat | Sun |
|                                                                                                | AM Peak            | Daytime | PM Peak | Evening |     |     |
| Hadfield – Glossop-<br>Newton For Hyde-<br>Ashburys- Mcr<br>Piccadilly                         | 2                  | 2       | 2       | 2       | 2   | 2   |
| New Mills – Marple-<br>Bredbury-Reddish-<br>Ashburys- Mcr<br>Piccadilly                        | 1                  | 1       | 0       | 1       | 1   | 1   |
| Rose Hill Marple –<br>Woodley- Hyde -<br>Guide Bridge –<br>Gorton- Ashburys-<br>Mcr Piccadilly | 2                  | 2       | 2       | 1       | 2   | 2   |

- 2.28 As **Table 2.2** illustrates, Ashburys Railway Station provides direct and frequent services to destinations including Hadfield, Glossop, Marple, Bredbury, Hyde, Woodley, Guide Bridge and New Mills. In addition all services visit Manchester Piccadilly Station, which is approximately a 4 minute train ride, from when connections are possible to a wide range of local, regional and national destinations, along with Metrolink services.
- 2.29 The site can therefore be considered as being accessible by rail.

## Conclusion

- 2.30 An analysis has been completed that studies the accessibility of the site by walking, cycling and public transport and the conclusions are as follows:
- The site is accessible by foot with a network of pedestrian facilities surrounding the site which provide connections to the local residential and employment areas.

- The site is located within a cycle friendly environment, with quiet residential streets located close to the site, and on-road cycle infrastructure provided on Hyde Road, Old Ashton Road and Pottery Lane.
- There are numerous frequent bus services operated within the vicinity of the site, with local services available from Bennett Street/ Kniveton Road, and further services available on Hyde Road and Pottery Lane.
- The site is located approximately 660 metres from Ashburys Railway Station, from where services are operated to a number of local destinations, as well as to Manchester Piccadilly Station and Metrolink services.

2.31 In conclusion, the proposed development can be considered to be accessible for pedestrians, cyclists and public transport users.

### 3 Management Measures

#### Introduction

3.1 The following measures could be delivered through the Travel Plan by the Travel Plan Co-ordinator:

- Appointment of a Travel Plan Co-ordinator.
- Travel awareness.
- Baseline Data.
- Personal Journey Plans.
- Car sharing scheme.
- Season Ticket/Bicycle Loan.
- Cycle User Group.
- Cycle Training.
- Engage with TfGM Cycling Team.
- New Staff “Welcome Pack”.

#### Travel Plan Co-ordinator

3.2 The Travel Plan Co-ordinator will be appointed by the developer prior to the building becoming occupied and details will be provided to MCC. The Co-ordinator may be the same person responsible for the Phase 1 Travel Plan.

3.3 The main responsibilities of the Travel Plan Coordinator are to:

- Conduct the Travel Plan Survey and work with MCC in regard to regularly monitoring and reviewing the Travel Plan.
- Ensure that staff are aware of travel plan initiatives such as promoting and managing schemes such as car parking, car sharing, the bicycle user group and key events.
- To keep the Travel Plan up to date and in line with achieving its targets.

#### Travel Awareness

3.4 Staff will be made aware of the existence of the Travel Plan and a copy will be made available to MCC.

3.5 Visitors will be informed of opportunities to travel to the site by sustainable means at the time their visit is arranged, and promotional material and public transport information leaflets can be made

available to visitors when at the site. While on a first visit this may not help to promote non-car use, but will be a useful mechanism to encourage habitual visitors to use an alternative mode of travel.

### **Baseline Data**

- 3.6 In order to establish the existing travel patterns of staff, a travel survey will be undertaken within the first three months of the use of the development and will form the basis of the final Travel Plan document. This will survey, amongst other issues, include staff travel patterns to and from work and business travel trips undertaken during the course of the day.
- 3.7 The availability of this data will assist in more accurately defining travel requirements and the specific measures to be implemented to maximise the success of the Plan.

### **Personal Journey Plans**

- 3.8 In order to encourage the adoption of sustainable travel habits by employees on the site, Personal Journey Plans (PJPs) will be provided. A PJP will outline an individual's journey from home to work using public transport to help build confidence for those using public transport for the first time or undertaking a new journey.

### **Car Sharing Scheme**

- 3.9 The Travel Plan Co-ordinator will promote the use of car sharing scheme and staff will be encouraged to join the Car Share Schemes such as [www.carsharegm.com](http://www.carsharegm.com).
- 3.10 Regular leaflets will be distributed to staff to allow potential car sharers to register an interest. The Travel Plan Co-ordinator will be required to maintain a database of staff who register an interest in car sharing and will be required to facilitate success of the scheme. In order to promote car sharing, priority parking spaces will be provided for members of the car sharing scheme.

### **Season Ticket/Bicycle Loan**

- 3.11 The developer will consider the opportunity to offer members of staff the opportunity to take an interest-free loan in order to purchase an annual ticket for use on public transport. This is then deducted from the monthly salary. By purchasing a public transport ticket in this way, staff member save money and it encourages them to travel to and from work on public transport and not by a private car.
- 3.12 The Cycle to Work scheme This is a similar initiative to the season ticket loan. A staff member is encouraged to take an interest-free bicycle loan, which is deducted from the salary, in order to purchase a bicycle which would be used to commute to and from work.

### **Cycle User Group**

- 3.13 The Travel Plan Co-ordinator will establish contacts with the MCC cycling officers.

### **Cycle Training**

- 3.14 Cycle training has been available in Manchester since 2009 and has been a successful scheme. The Travel Plan Co-ordinator should promote the free cycle training to all staff and through the bicycle user group that is available with either local cycle training organisation Bike Right! or Transport for Greater Manchester cycling team.

### **Engage with Transport for Greater Manchester's Cycling Team**

- 3.15 Transport for Greater Manchester manage and deliver the project that consists of a range of cycling support initiatives including cycle maintenance, cycle storage grants, led rides and assistance in setting up a bicycle user group. The Travel Plan Co-ordinator should make contact to promote cycling for staff.

### **New Staff 'Welcome Pack'**

- 3.16 A 'Welcome Pack' will be provided to staff starting work at the site. The pack will include information contained within the Accessibility section of this Travel Plan.
- 3.17 The 'Welcome Pack' will include details on the intentions of the Travel Plan and why it has been produced, as well as contacts for the Travel Plan Co-ordinator. The packs will include current information on walking and cycling routes in the area and information on how to access real-time public transport service information.
- 3.18 As an on-going part of the monitoring process the 'Welcome Pack' will be reviewed and updated annually for the life of the Travel Plan.

## 4 Travel Plan Implementation

### Introduction

4.1 **Table 4.1** below provides a framework and guidance as to timescales for the Travel Plan.

**Table 4.1: Travel Plan Timescales**

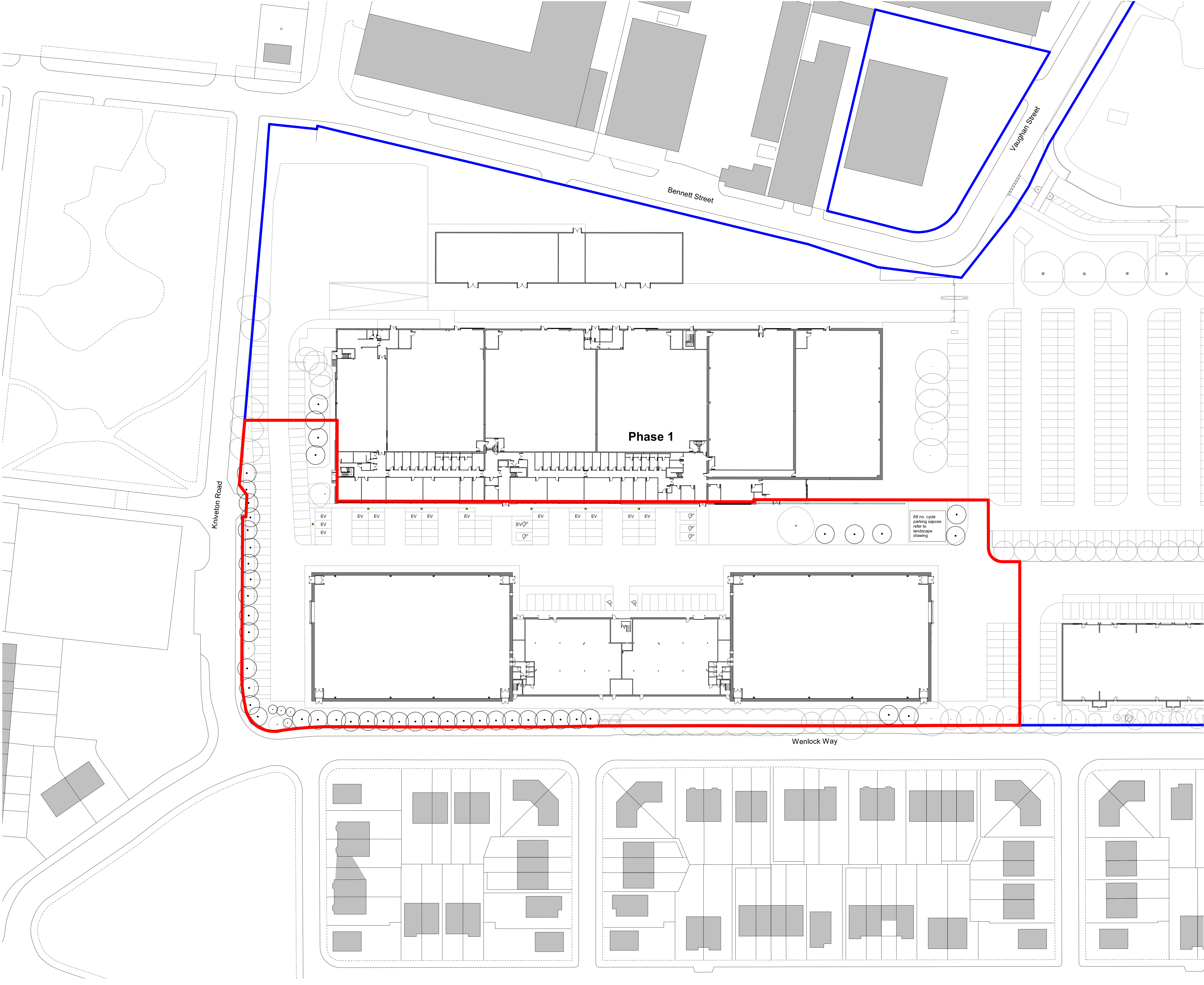
|                           |                                                                                                                                                                                                                                                                                                                   |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Before occupation.</b> | <p>Travel Plan Co-ordinator to be appointed or Phase 1 Co-ordinator to expand responsibilities to include Phase 3. Details to be provided to MCC.</p> <p>Provide sustainable travel infrastructure, such as cycle parking.</p> <p>Prepare Staff Welcome Pack.</p>                                                 |
| <b>0-3 Months</b>         | <p>Issue Staff Welcome Pack to all new employees.</p> <p>Undertake staff travel surveys.</p>                                                                                                                                                                                                                      |
| <b>0-6 Months</b>         | <p>Establish modal user groups (such as car share clubs, bike user clubs, taxi share clubs) Sign up to the MCC's Car Sharing Scheme.</p> <p>Submission of Full Travel Plan (or updated Phase 1 Travel Plan) to MCC.</p>                                                                                           |
| <b>12+ Months</b>         | <p>Undertake travel surveys annually on anniversary of first survey.</p> <p>Annual Progress Report to be prepared and submitted to MCC within 1 month of adoption of Travel Plan.</p> <p>Review information provided in Staff Welcome Pack.</p> <p>Review sustainable travel infrastructure provided on site.</p> |

### Plan Monitoring and Assessment

- 4.2 The Travel Plan Co-ordinator will be responsible for on-going monitoring and regular staff travel surveys. These will assess the travel habits of staff to the site and thus enable the success of the Travel Plan to be monitored.
- 4.3 The timescales for Travel Plan reviews and repeat travel surveys will ultimately be agreed with MCC and included within the Final Travel Plan.

- 4.4 However, it is provisionally proposed that travel surveys will be completed annually over a 5 year period to provide on-going information on the success of the Travel Plan. Each survey will be summarised in an Annual Progress Report which will present results and progress. Any problems will be identified and specific actions noted and carried forward to the next annual report.
- 4.5 The monitoring and assessment of the Travel Plan will include the submission of Annual Progress Reports detailing the results of the travel surveys with regards to targets, budgets, general effectiveness and current initiatives. The Annual Progress Report is to be submitted to MCC no later than one month following the anniversary of the approval of the Travel Plan for a 5 year period.
- 4.6 Any amendments to the Travel Plan which are identified through the Annual Progress Report will be agreed between the occupier and MCC.

# Plans



The contractor is responsible for checking dimensions, tolerances and references. Any discrepancy to be verified with the Architect before proceeding with the works. Where an item is covered by drawings to different scales the larger scale drawing is to be worked to.

Do not scale drawing. Figured dimensions to be worked to in all cases.

Where products have been specified, PRP have reviewed applicable products available in the UK at the time of writing the specification, from which products named in the specification have been selected.

Where the contractor wishes to propose alternative products, representative samples and a full technical appraisal should be submitted by the contractor to the employer demonstrating that their proposed alternative has equal or better performance.

Any alternative products are subject to design team, building control, warranty provider and employer acceptance.

CDM REGULATIONS 2015. All current drawings and specifications for the project must be read in conjunction with the Designer's Hazard and Environment Assessment Record

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KEY

- Site Boundary
- Ownership Boundary
- EV Charging Point
- EV Parking Space

NOTES

- This drawing is based on topographical survey information provided by Survey Operations refer to drawing A0 21E170/002 dated July 2021.
- For proposed external levels refer to latest revision of Integra drawing SPC-INT-ZZ-00-DR-C-0601.
- For landscaping (hard and soft) refer to latest revision of Urban Green drawing UG\_893\_LAN\_GA\_DRW\_001.

|     |          |                      |     |     |
|-----|----------|----------------------|-----|-----|
| P03 | 05.11.21 | Updated for Planning | VP  | JH  |
| P02 | 06.07.21 | General Updates      | VP  | JH  |
| P01 | 17.06.21 | First Issue          | VP  | JH  |
| Rev | Date     | Description          | Dwn | Ckd |

SPACE STUDIOS MANCHESTER - AA7746

PROPOSED SITE PLAN - GROUND FLOOR LEVEL

| Project                    | Origin | Zone  | Level | Type | Role | Number |
|----------------------------|--------|-------|-------|------|------|--------|
| SPC -                      | PRP -  | ZZZ - | GF -  | DR - | A -  | 002102 |
| Revision                   |        |       |       |      |      |        |
| P03                        |        |       |       |      |      |        |
| Status                     |        |       |       |      |      |        |
| S4 - FOR PLANNING APPROVAL |        |       |       |      |      |        |

Drawn VP    Checked JH    Date JUNE 2021    Scale @ A1 1:500

PRP

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Manchester  
0161 242 8950

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---

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**Vectos (North) Limited**  
**Oxford Place**  
**61 Oxford Street**  
**Manchester M1 6EQ.**  
**Company no. 07794057**

# Appendix C

TRICS Output Files

Calculation Reference: AUDIT-715001-210714-0715

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT  
Category : A - OFFICE  
TOTAL VEHICLES

Selected regions and areas:

|    |                     |        |
|----|---------------------|--------|
| 02 | SOUTH EAST          |        |
|    | HC HAMPSHIRE        | 1 days |
|    | HF HERTFORDSHIRE    | 1 days |
|    | SO SLOUGH           | 1 days |
| 04 | EAST ANGLIA         |        |
|    | CA CAMBRIDGESHIRE   | 1 days |
|    | NF NORFOLK          | 1 days |
|    | SF SUFFOLK          | 1 days |
| 05 | EAST MIDLANDS       |        |
|    | NR NORTHAMPTONSHIRE | 1 days |
| 06 | WEST MIDLANDS       |        |
|    | WO WORCESTERSHIRE   | 1 days |
| 08 | NORTH WEST          |        |
|    | MS MERSEYSIDE       | 1 days |
| 09 | NORTH               |        |
|    | TW TYNE & WEAR      | 1 days |

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

Primary 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: Gross floor area  
Actual Range: 4040 to 11250 (units: sqm)  
Range Selected by User: 4000 to 16000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 22/10/20

*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   | 3 days |
| Wednesday | 1 days |
| Thursday  | 3 days |
| Friday    | 2 days |

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

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 10 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 undertaken using machines.*

Selected Locations:

|                                    |   |
|------------------------------------|---|
| Edge of Town Centre                | 5 |
| Suburban Area (PPS6 Out of Centre) | 2 |
| Edge of Town                       | 3 |

*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:

|                  |   |
|------------------|---|
| Industrial Zone  | 1 |
| Commercial Zone  | 4 |
| Residential Zone | 2 |
| Built-Up Zone    | 2 |
| 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,*

## Secondary Filtering selection:

Use Class:

Not Known

10 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®.*

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,001 to 5,000   | 1 days |
| 5,001 to 10,000  | 2 days |
| 10,001 to 15,000 | 1 days |
| 15,001 to 20,000 | 1 days |
| 25,001 to 50,000 | 5 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 25,001 to 50,000   | 1 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 5 days |
| 250,001 to 500,000 | 1 days |
| 500,001 or More    | 2 days |

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

Car ownership within 5 miles:

|            |        |
|------------|--------|
| 0.6 to 1.0 | 5 days |
| 1.1 to 1.5 | 4 days |
| 1.6 to 2.0 | 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  | 9 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:

|                 |         |
|-----------------|---------|
| No PTAL Present | 10 days |
|-----------------|---------|

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

|                       |     |                                                                                                    |
|-----------------------|-----|----------------------------------------------------------------------------------------------------|
| Covid-19 Restrictions | Yes | At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions |
|-----------------------|-----|----------------------------------------------------------------------------------------------------|

LIST OF SITES relevant to selection parameters

|   |                                                                                  |                      |           |                     |
|---|----------------------------------------------------------------------------------|----------------------|-----------|---------------------|
| 1 | CA-02-A-06<br>LYNCH WOOD<br>PETERBOROUGH                                         | OFFICES              |           | CAMBRIDGESHIRE      |
|   | Edge of Town<br>Commercial Zone<br>Total Gross floor area:                       |                      | 4040 sqm  |                     |
|   | Survey date:                                                                     | WEDNESDAY            | 19/10/16  | Survey Type: MANUAL |
| 2 | HC-02-A-12<br>NORTHERN ROAD<br>PORTSMOUTH<br>COSHAM                              | HMRC                 |           | HAMPSHIRE           |
|   | Suburban Area (PPS6 Out of Centre)<br>No Sub Category<br>Total Gross floor area: |                      | 10100 sqm |                     |
|   | Survey date:                                                                     | MONDAY               | 23/11/15  | Survey Type: MANUAL |
| 3 | HF-02-A-04<br>STATION WAY<br>ST ALBANS                                           | OFFICES              |           | HERTFORDSHIRE       |
|   | Edge of Town Centre<br>Residential Zone<br>Total Gross floor area:               |                      | 5000 sqm  |                     |
|   | Survey date:                                                                     | THURSDAY             | 02/10/14  | Survey Type: MANUAL |
| 4 | MS-02-A-02<br>MOUNT PLEASANT<br>LIVERPOOL                                        | SCIENCE PARK OFFICES |           | MERSEYSIDE          |
|   | Edge of Town Centre<br>Built-Up Zone<br>Total Gross floor area:                  |                      | 11250 sqm |                     |
|   | Survey date:                                                                     | TUESDAY              | 13/11/18  | Survey Type: MANUAL |
| 5 | NF-02-A-03<br>NORTH QUAY<br>GREAT YARMOUTH                                       | OFFICES              |           | NORFOLK             |
|   | Edge of Town Centre<br>Commercial Zone<br>Total Gross floor area:                |                      | 5500 sqm  |                     |
|   | Survey date:                                                                     | TUESDAY              | 12/09/17  | Survey Type: MANUAL |
| 6 | NR-02-A-01<br>THE LAKES<br>NORTHAMPTON                                           | OFFICES              |           | NORTHAMPTONSHIRE    |
|   | Edge of Town<br>Commercial Zone<br>Total Gross floor area:                       |                      | 9225 sqm  |                     |
|   | Survey date:                                                                     | THURSDAY             | 22/10/20  | Survey Type: MANUAL |
| 7 | SF-02-A-02<br>BATH STREET<br>IPSWICH                                             | OFFICES              |           | SUFFOLK             |
|   | Edge of Town Centre<br>Commercial Zone<br>Total Gross floor area:                |                      | 6505 sqm  |                     |
|   | Survey date:                                                                     | FRIDAY               | 19/07/13  | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |                                    |                            |                     |
|----|------------------------------------|----------------------------|---------------------|
| 8  | SO-02-A-02                         | COUNCIL OFFICES            | SLOUGH              |
|    | BATH ROAD                          |                            |                     |
|    | SLOUGH                             |                            |                     |
|    | Edge of Town Centre                |                            |                     |
|    | Built-Up Zone                      |                            |                     |
|    | Total Gross floor area:            | 5050 sqm                   |                     |
|    | Survey date: THURSDAY              | 27/02/14                   | Survey Type: MANUAL |
| 9  | TW-02-A-08                         | HOUSING ASSOCIATION OFFICE | TYNE & WEAR         |
|    | BENTON PARK ROAD                   |                            |                     |
|    | NEWCASTLE UPON TYNE                |                            |                     |
|    | Longbenton                         |                            |                     |
|    | Suburban Area (PPS6 Out of Centre) |                            |                     |
|    | Residential Zone                   |                            |                     |
|    | Total Gross floor area:            | 4800 sqm                   |                     |
|    | Survey date: FRIDAY                | 19/10/18                   | Survey Type: MANUAL |
| 10 | WO-02-A-03                         | IT SERVICES                | WORCESTERSHIRE      |
|    | STOURPORT ROAD                     |                            |                     |
|    | KIDDERMINSTER                      |                            |                     |
|    | Edge of Town                       |                            |                     |
|    | Industrial Zone                    |                            |                     |
|    | Total Gross floor area:            | 5945 sqm                   |                     |
|    | Survey date: TUESDAY               | 13/10/20                   | Survey Type: MANUAL |

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

| Time Range    | ARRIVALS |          |           | DEPARTURES |          |           | TOTALS   |          |           |
|---------------|----------|----------|-----------|------------|----------|-----------|----------|----------|-----------|
|               | No. Days | Ave. GFA | Trip Rate | No. Days   | Ave. GFA | Trip Rate | No. Days | Ave. GFA | 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 | 1        | 10100    | 1.109     | 1          | 10100    | 0.168     | 1        | 10100    | 1.277     |
| 07:00 - 08:00 | 9        | 6830     | 0.630     | 9          | 6830     | 0.070     | 9        | 6830     | 0.700     |
| 08:00 - 09:00 | 10       | 6742     | 1.157     | 10         | 6742     | 0.162     | 10       | 6742     | 1.319     |
| 09:00 - 10:00 | 10       | 6742     | 0.828     | 10         | 6742     | 0.218     | 10       | 6742     | 1.046     |
| 10:00 - 11:00 | 10       | 6742     | 0.249     | 10         | 6742     | 0.163     | 10       | 6742     | 0.412     |
| 11:00 - 12:00 | 10       | 6742     | 0.181     | 10         | 6742     | 0.184     | 10       | 6742     | 0.365     |
| 12:00 - 13:00 | 10       | 6742     | 0.254     | 10         | 6742     | 0.377     | 10       | 6742     | 0.631     |
| 13:00 - 14:00 | 10       | 6742     | 0.338     | 10         | 6742     | 0.307     | 10       | 6742     | 0.645     |
| 14:00 - 15:00 | 10       | 6742     | 0.215     | 10         | 6742     | 0.313     | 10       | 6742     | 0.528     |
| 15:00 - 16:00 | 10       | 6742     | 0.166     | 10         | 6742     | 0.458     | 10       | 6742     | 0.624     |
| 16:00 - 17:00 | 10       | 6742     | 0.141     | 10         | 6742     | 0.761     | 10       | 6742     | 0.902     |
| 17:00 - 18:00 | 10       | 6742     | 0.148     | 10         | 6742     | 1.065     | 10       | 6742     | 1.213     |
| 18:00 - 19:00 | 10       | 6742     | 0.052     | 10         | 6742     | 0.331     | 10       | 6742     | 0.383     |
| 19:00 - 20:00 |          |          |           |            |          |           |          |          |           |
| 20:00 - 21:00 |          |          |           |            |          |           |          |          |           |
| 21:00 - 22:00 |          |          |           |            |          |           |          |          |           |
| 22:00 - 23:00 |          |          |           |            |          |           |          |          |           |
| 23:00 - 24:00 |          |          |           |            |          |           |          |          |           |
| Total Rates:  |          | 5.468    |           |            | 4.577    |           |          | 10.045   |           |

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.

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#### Parameter summary

|                                               |                           |
|-----------------------------------------------|---------------------------|
| Trip rate parameter range selected:           | 4040 - 11250 (units: sqm) |
| Survey date range:                            | 01/01/13 - 22/10/20       |
| Number of weekdays (Monday-Friday):           | 10                        |
| Number of Saturdays:                          | 0                         |
| Number of Sundays:                            | 0                         |
| Surveys automatically removed from selection: | 0                         |
| Surveys manually removed from selection:      | 0                         |

*This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.*

# Appendix D

JUNCTIONS Modelling Output Files

| Junctions 8                                                                                                                                                                 |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |  |  |  |  |  |  |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2021                                                                                                      |  |  |  |  |  |  |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |  |  |  |  |  |  |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |  |  |  |  |

Filename: Vaughan Street-Site Access.arc8

Path: N:\Vectos Job Data\2021\VN211998 Space Studios Phase 3\Picady

Report generation date: 09/11/2021 09:33:56

» (Default Analysis Set) - 2026 with dev, AM

» (Default Analysis Set) - 2026 with dev, PM

## Summary of junction performance

|                    | AM          |           |      |     | PM          |           |      |     |
|--------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                    | Queue (PCU) | Delay (s) | RFC  | LOS | Queue (PCU) | Delay (s) | RFC  | LOS |
| A1 - 2026 with dev |             |           |      |     |             |           |      |     |
| Stream B-AC        | 0.07        | 7.59      | 0.06 | A   | 0.30        | 8.47      | 0.23 | A   |
| Stream C-AB        | 0.05        | 5.74      | 0.04 | A   | 0.03        | 5.49      | 0.02 | A   |
| Stream C-A         | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B         | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C         | -           | -         | -    | -   | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2026 with dev, AM " model duration: 08:00 - 09:30

"D2 - 2026 with dev, PM" model duration: 17:00 - 18:30

Run using Junctions 8.0.6.541 at 09/11/2021 09:33:55

## File summary

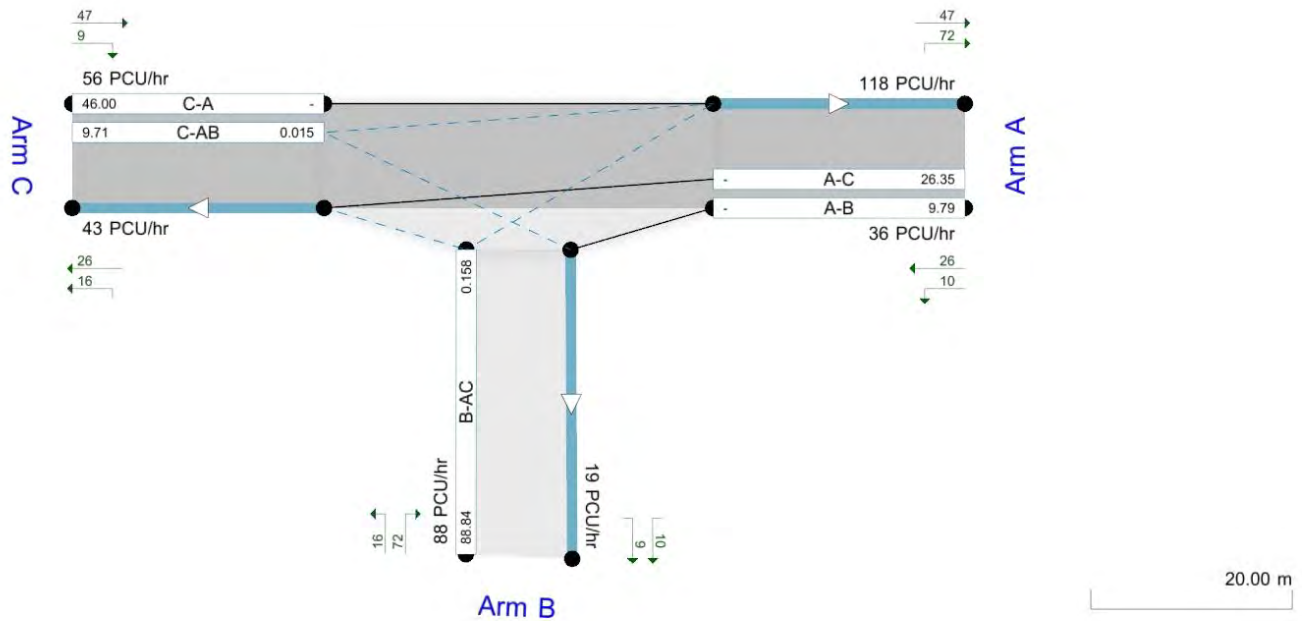
|             |                      |
|-------------|----------------------|
| Title       | (untitled)           |
| Location    |                      |
| Site Number |                      |
| Date        | 09/11/2021           |
| Version     |                      |
| Status      | (new file)           |
| Identifier  |                      |
| Client      |                      |
| Jobnumber   |                      |
| Enumerator  | manchester.modelling |
| Description |                      |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | PCU                 | PCU                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (PCU/hr).  
Streams (upstreams) show Total Demand (PCU/hr). Streams (downstreams) show RFC (s).  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1". Demand Set "D1 - 2026 with dev, AM"

The junction diagram reflects the last run of ARCADY.

## (Default Analysis Set) - 2026 with dev, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name              | Scenario Name | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|-------------------|---------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2026 with dev, AM | 2026 with dev | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 6.81               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | (untitled) |             | Major    |
| B   | B   | (untitled) |             | Minor    |
| C   | C   | (untitled) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.20                     |                            | 0.00                                |                    | 2.20                     | 120.00                        | ✓       | 0.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 4.38           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 33                     | 0                       |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 555.706            | 0.096         | 0.242         | 0.153         | 0.346         |
| 1        | B-C    | 710.141            | 0.103         | 0.261         | -             | -             |
| 1        | C-B    | 643.457            | 0.236         | 0.236         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 174.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 29.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 91.00                        | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (PCU/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (PCU/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | A   | 131.00                            | 131.00                              |                                  |                                        |
| 08:00-08:15  | B   | 21.83                             | 21.83                               |                                  |                                        |
| 08:00-08:15  | C   | 68.51                             | 68.51                               |                                  |                                        |
| 08:15-08:30  | A   | 156.42                            | 156.42                              |                                  |                                        |
| 08:15-08:30  | B   | 26.07                             | 26.07                               |                                  |                                        |
| 08:15-08:30  | C   | 81.81                             | 81.81                               |                                  |                                        |
| 08:30-08:45  | A   | 191.58                            | 191.58                              |                                  |                                        |
| 08:30-08:45  | B   | 31.93                             | 31.93                               |                                  |                                        |
| 08:30-08:45  | C   | 100.19                            | 100.19                              |                                  |                                        |
| 08:45-09:00  | A   | 191.58                            | 191.58                              |                                  |                                        |
| 08:45-09:00  | B   | 31.93                             | 31.93                               |                                  |                                        |
| 08:45-09:00  | C   | 100.19                            | 100.19                              |                                  |                                        |
| 09:00-09:15  | A   | 156.42                            | 156.42                              |                                  |                                        |
| 09:00-09:15  | B   | 26.07                             | 26.07                               |                                  |                                        |
| 09:00-09:15  | C   | 81.81                             | 81.81                               |                                  |                                        |
| 09:15-09:30  | A   | 131.00                            | 131.00                              |                                  |                                        |
| 09:15-09:30  | B   | 21.83                             | 21.83                               |                                  |                                        |
| 09:15-09:30  | C   | 68.51                             | 68.51                               |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

|      | To |        |         |        |
|------|----|--------|---------|--------|
|      |    | A      | B       | C      |
| From | A  | 0.000  | 100.000 | 74.000 |
|      | B  | 29.000 | 0.000   | 0.000  |
|      | C  | 72.000 | 19.000  | 0.000  |

## Turning Proportions (PCU) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.57 | 0.43 |
|      | B  | 1.00 | 0.00 | 0.00 |
|      | C  | 0.79 | 0.21 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.000 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.000 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 0.0 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 0.0 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-AC   | 0.06    | 7.59          | 0.07            | A       |
| C-AB   | 0.04    | 5.74          | 0.05            | A       |
| C-A    | -       | -             | -               | -       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 21.83                 | 21.66               | 0.00                       | 521.75            | 0.042 | 0.04            | 7.197     | A   |
| C-AB   | 15.59                 | 15.48               | 0.00                       | 648.23            | 0.024 | 0.03            | 5.689     | A   |
| C-A    | 52.92                 | 52.92               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 75.29                 | 75.29               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 55.71                 | 55.71               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 26.07                 | 26.03               | 0.00                       | 515.12            | 0.051 | 0.05            | 7.360     | A   |
| C-AB   | 18.96                 | 18.93               | 0.00                       | 649.37            | 0.029 | 0.04            | 5.709     | A   |
| C-A    | 62.85                 | 62.85               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 89.90                 | 89.90               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 66.52                 | 66.52               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 31.93                 | 31.87               | 0.00                       | 506.00            | 0.063 | 0.07            | 7.592     | A   |
| C-AB   | 23.79                 | 23.75               | 0.00                       | 651.03            | 0.037 | 0.05            | 5.738     | A   |
| C-A    | 76.41                 | 76.41               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 110.10                | 110.10              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 81.48                 | 81.48               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 31.93                 | 31.93               | 0.00                       | 505.99            | 0.063 | 0.07            | 7.592     | A   |
| C-AB   | 23.79                 | 23.79               | 0.00                       | 651.03            | 0.037 | 0.05            | 5.741     | A   |
| C-A    | 76.40                 | 76.40               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 110.10                | 110.10              | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 81.48                 | 81.48               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (09:00-09:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 26.07                 | 26.12               | 0.00                       | 515.10            | 0.051 | 0.05            | 7.365     | A   |
| C-AB   | 18.96                 | 19.00               | 0.00                       | 649.37            | 0.029 | 0.04            | 5.711     | A   |
| C-A    | 62.84                 | 62.84               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 89.90                 | 89.90               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 66.52                 | 66.52               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (09:15-09:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 21.83                 | 21.87               | 0.00                       | 521.70            | 0.042 | 0.04            | 7.202     | A   |
| C-AB   | 15.61                 | 15.64               | 0.00                       | 648.24            | 0.024 | 0.03            | 5.690     | A   |
| C-A    | 52.90                 | 52.90               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 75.29                 | 75.29               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 55.71                 | 55.71               | 0.00                       | -                 | -     | -               | -         | -   |

# (Default Analysis Set) - 2026 with dev, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name                   | Roundabout Capacity Model | Description | Locked | Network Flow Scaling Factor (%) | Reason For Scaling Factors |
|------------------------|---------------------------|-------------|--------|---------------------------------|----------------------------|
| (Default Analysis Set) | N/A                       |             |        | 100.000                         |                            |

## Demand Set Details

| Name              | Scenario Name | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Single Time Segment Only | Locked |
|-------------------|---------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|--------------------------|--------|
| 2026 with dev, PM | 2026 with dev | PM               |             | ONE HOUR             | 17:00                    | 18:30                     | 90                             | 15                        |                          |        |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------|
| 1        | (untitled) | T-Junction    | Two-way              | A,B,C     | 8.17               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | (untitled) |             | Major    |
| B   | B   | (untitled) |             | Minor    |
| C   | C   | (untitled) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.20                     |                            | 0.00                                |                    | 2.20                     | 120.00                        | ✓       | 0.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 4.38           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 33                     | 0                       |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (PCU/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 555.706            | 0.096         | 0.242         | 0.153         | 0.346         |
| 1        | B-C    | 710.141            | 0.103         | 0.261         | -             | -             |
| 1        | C-B    | 643.457            | 0.236         | 0.236         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (PCU/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 48.00                        | 100.000                 |
| B   | ONE HOUR     | ✓                  | 118.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 74.00                        | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (PCU/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (PCU/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 17:00-17:15  | A   | 36.14                             | 36.14                               |                                  |                                        |
| 17:00-17:15  | B   | 88.84                             | 88.84                               |                                  |                                        |
| 17:00-17:15  | C   | 55.71                             | 55.71                               |                                  |                                        |
| 17:15-17:30  | A   | 43.15                             | 43.15                               |                                  |                                        |
| 17:15-17:30  | B   | 106.08                            | 106.08                              |                                  |                                        |
| 17:15-17:30  | C   | 66.52                             | 66.52                               |                                  |                                        |
| 17:30-17:45  | A   | 52.85                             | 52.85                               |                                  |                                        |
| 17:30-17:45  | B   | 129.92                            | 129.92                              |                                  |                                        |
| 17:30-17:45  | C   | 81.48                             | 81.48                               |                                  |                                        |
| 17:45-18:00  | A   | 52.85                             | 52.85                               |                                  |                                        |
| 17:45-18:00  | B   | 129.92                            | 129.92                              |                                  |                                        |
| 17:45-18:00  | C   | 81.48                             | 81.48                               |                                  |                                        |
| 18:00-18:15  | A   | 43.15                             | 43.15                               |                                  |                                        |
| 18:00-18:15  | B   | 106.08                            | 106.08                              |                                  |                                        |
| 18:00-18:15  | C   | 66.52                             | 66.52                               |                                  |                                        |
| 18:15-18:30  | A   | 36.14                             | 36.14                               |                                  |                                        |
| 18:15-18:30  | B   | 88.84                             | 88.84                               |                                  |                                        |
| 18:15-18:30  | C   | 55.71                             | 55.71                               |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

|  | To |        |        |        |
|--|----|--------|--------|--------|
|  |    | A      | B      | C      |
|  | A  | 0.000  | 13.000 | 35.000 |
|  | B  | 96.000 | 0.000  | 22.000 |
|  | C  | 62.000 | 12.000 | 0.000  |

## Turning Proportions (PCU) - Junction 1 (for whole period)

|  | To |      |      |      |
|--|----|------|------|------|
|  |    | A    | B    | C    |
|  | A  | 0.00 | 0.27 | 0.73 |
|  | B  | 0.81 | 0.00 | 0.19 |
|  | C  | 0.84 | 0.16 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.000 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.000 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 0.0 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 0.0 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS |
|--------|---------|---------------|-----------------|---------|
| B-AC   | 0.23    | 8.47          | 0.30            | A       |
| C-AB   | 0.02    | 5.49          | 0.03            | A       |
| C-A    | -       | -             | -               | -       |
| A-B    | -       | -             | -               | -       |
| A-C    | -       | -             | -               | -       |

## Main Results for each time segment

### Main results: (17:00-17:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 88.84                 | 88.09               | 0.00                       | 562.65            | 0.158 | 0.19            | 7.576     | A   |
| C-AB   | 9.71                  | 9.64                | 0.00                       | 665.11            | 0.015 | 0.02            | 5.492     | A   |
| C-A    | 46.00                 | 46.00               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 9.79                  | 9.79                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 26.35                 | 26.35               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 106.08                | 105.90              | 0.00                       | 559.41            | 0.190 | 0.23            | 7.934     | A   |
| C-AB   | 11.76                 | 11.75               | 0.00                       | 669.36            | 0.018 | 0.02            | 5.473     | A   |
| C-A    | 54.76                 | 54.76               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 11.69                 | 11.69               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 31.46                 | 31.46               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 129.92                | 129.64              | 0.00                       | 554.95            | 0.234 | 0.30            | 8.459     | A   |
| C-AB   | 14.68                 | 14.66               | 0.00                       | 675.25            | 0.022 | 0.03            | 5.449     | A   |
| C-A    | 66.79                 | 66.79               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 14.31                 | 14.31               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 38.54                 | 38.54               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 129.92                | 129.91              | 0.00                       | 554.94            | 0.234 | 0.30            | 8.469     | A   |
| C-AB   | 14.69                 | 14.69               | 0.00                       | 675.25            | 0.022 | 0.03            | 5.451     | A   |
| C-A    | 66.79                 | 66.79               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 14.31                 | 14.31               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 38.54                 | 38.54               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (18:00-18:15)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 106.08                | 106.35              | 0.00                       | 559.40            | 0.190 | 0.24            | 7.950     | A   |
| C-AB   | 11.76                 | 11.79               | 0.00                       | 669.36            | 0.018 | 0.02            | 5.476     | A   |
| C-A    | 54.76                 | 54.76               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 11.69                 | 11.69               | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 31.46                 | 31.46               | 0.00                       | -                 | -     | -               | -         | -   |

### Main results: (18:15-18:30)

| Stream | Total Demand (PCU/hr) | Entry Flow (PCU/hr) | Pedestrian Demand (Ped/hr) | Capacity (PCU/hr) | RFC   | End Queue (PCU) | Delay (s) | LOS |
|--------|-----------------------|---------------------|----------------------------|-------------------|-------|-----------------|-----------|-----|
| B-AC   | 88.84                 | 89.03               | 0.00                       | 562.62            | 0.158 | 0.19            | 7.603     | A   |
| C-AB   | 9.71                  | 9.73                | 0.00                       | 665.11            | 0.015 | 0.02            | 5.494     | A   |
| C-A    | 46.00                 | 46.00               | 0.00                       | -                 | -     | -               | -         | -   |
| A-B    | 9.79                  | 9.79                | 0.00                       | -                 | -     | -               | -         | -   |
| A-C    | 26.35                 | 26.35               | 0.00                       | -                 | -     | -               | -         | -   |

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