

Manchester City Council

**FACTORY, ST JOHNS
MANCHESTER**

**PUBLIC REALM WORKS AND
PROHIBITION OF DRIVING ORDER**

Transport Statement

VN60596

March 2020

3rd Floor Oxford Place, 61 Oxford Street, Manchester M1 6EQ

Tel: 0161 228 1008 www.vectos.co.uk

Company no. 07794057

Registered address: Vectos North Limited, 3rd Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

REPORT CONTROL

Document: Transport Statement

Project: Factory, St Johns, Manchester, Public Realm Works & PoD

Client: Manchester City Council

Job Number: VN60596

File Origin: N:\Vectos Job Data\2016\VN60596 The Factory\Public Realm 2019\TS\Factory Public Realm PoD TS V3 09.03.20.docx

Document Checking:

Primary Author	Tom Reader	Initialled:	TR
-----------------------	------------	--------------------	----

Contributor	Gareth Davis	Initialled:	GD
--------------------	--------------	--------------------	----

Review By	Gareth Davis	Initialled:	GD
------------------	--------------	--------------------	----

Issue	Date	Status	Checked for Issue
1	23.01.20	V1	GD
2	09.03.20	V2	GD
3	12.03.20	V3	GD

CONTENTS

1	INTRODUCTION	1
1.1	Introduction.....	1
1.2	Site Context	1
1.3	Site Description.....	1
2	POLICY CONTEXT	3
2.1	National Planning Policy Framework	3
2.2	Manchester Core Strategy.....	3
2.3	Greater Manchester Transport Strategy 2040	4
2.4	Revised City Centre Transport Strategy (Oct 2019)	5
3	DEVELOPMENT PROPOSALS FOR ST JOHNS & FACTORY	6
3.1	St John's Strategic Regeneration Framework.....	6
3.2	Manchester Marriott, Victoria & Albert Hotel	7
3.3	Factory.....	8
4	EXISTING/BASELINE CONDITIONS	9
4.1	Site Location	9
4.2	Parking	10
4.3	Water Street	11
4.4	Traffic Speeds and Delay	12
4.5	Review of Personal Injury Accident Data	14
4.6	St Johns Development Trips	15
4.7	Base Traffic Model	16
5	FACTORY ACCESS STRATEGY	18
5.2	Factory Trips	18
5.3	Parking Provision	18
5.4	Pedestrian Movement	20
5.5	Access for Disabled Users.....	20
5.6	Coach Access.....	20
5.7	Public Transport Access.....	21
5.8	Cycle Facilities.....	21
5.9	Turning Facilities.....	21
5.10	Taxi Facilities	22
5.11	Service Access.....	22
5.12	Security Features	22
5.13	Signage.....	23

6	PROHIBITION OF DRIVING ORDER.....	24
6.1	Introduction.....	24
7	HIGHWAY ASSESSMENT.....	26
7.1	Introduction.....	26
7.2	Changes in Flow on Water Street	26
7.3	Changes in Flow on Liverpool Road	26
7.4	Changes in Flow on Quay Street	26
7.5	Changes in Flow on Lower Byrom Street	27
7.6	Traffic Signals Operation on Quay Street.....	27
7.7	Highway Operation During Events.....	29
7.8	Summary	30
7.9	Conclusion	31

PLANS

Dwg MF- OMA- XX- GF- DR- A- 10_100

Dwg MF- OMA- XX- L1- DR- A- 10_120

Dwg VN60596-127A

Dwg VN70930-TR131

Dwg VN70930-125

Dwg VN70930-124

FIGURES

Figures are included within the main text of the Transport Assessment

APPENDICES

Appendix A TfGM Validation Report for City Centre PARAMICS Model

Appendix B Linsig Junction Model Outputs

1 INTRODUCTION

1.1 Introduction

- 1.1.1 Manchester City Council has commissioned Vectos North to prepare a Transport Statement to support the discharge of a planning condition for the Public Realm Works for Factory and a Prohibition of Driving Order (PoD) for Water Street which helps facilitate that public realm strategy. Factory will be a landmark arts development where the widest range of art forms would be made and presented. Factory was supported by a Transport Assessment and this report builds on that work identifying matters that are pertinent to the PoD and should be read in conjunction with that report.

1.2 Site Context

- 1.2.1 Factory forms part of the St. John's Masterplan area in Manchester City Centre. St. John's comprises the former ITV Quay Street estate to the south west of the city and is the subject of long-term regeneration proposals that involve both conversion of existing buildings and redevelopment of other plots to create a new neighbourhood of the City.
- 1.2.2 The redevelopment of the site is supported by the St. John's Masterplan and Strategic Regeneration Framework (SRF), which were formally adopted by Manchester City Council's Executive Committee in February 2015. An update to the SRF was endorsed by Manchester City Council's Executive Committee in January 2017.

1.3 Site Description

- 1.3.1 Factory is currently being constructed within the south-western part of the St. John's Masterplan, on a site broadly bounded by the River Irwell a former surface car parking (currently Construction Cabins) to the west, Grape Street and the Bonded Warehouse to the east, the Museum of Science and Industry (MSI) complex, including the 1830 Warehouse (Grade I Listed) to the south. Water Street runs through the Factory construction site and has been closed to traffic due to utility works, the Ordsall Chord railway works and now Factory since 2015.
- 1.3.2 The area around the Site is defined by a mix of leisure, commercial and residential uses including Spinningfields to the north, the Great Northern Warehouse and Deansgate to the east and MSI to the south. It is also situated 750m from the Deansgate / Castlefield Metrolink stop and a range of bus and Freebus services.

- 1.3.3 Nearby listed buildings include the 1830 Warehouse (Grade I Listed), as well as the former Liverpool Road Station Master's House (Grade I Listed) and the Railway Bridge over the River Irwell (Grade I Listed) to the south, the MSI Warehouse to the east (Grade II Listed).
- 1.3.4 The site is located with the Castlefield Conservation area and approximately 500m to the west of the St John Street Conservation Area.
- 1.3.5 Water Street is an adopted highway that currently runs underneath Factory linking New Quay Street with Liverpool Road. It is currently temporarily closed for construction works). It is proposed that underneath Factory Water Street will be subject to a Prohibition of Driving Order PoD that will prevent general traffic from passing through. This will be complemented by other orders preventing vehicles accessing Water Street 'Except for Access' and to prevent parking within spaces that would be used for turning.
- 1.3.6 The Public Realm and Highway strategy arises due to safety, security and amenity reasons which will be described in more detail later.
- 1.3.7 After this Introduction the structure of this Transport Statement presents the following chapters:
- Chapter 2** Describes the Policy Background providing context for the proposals and the Councils own aspirations for highways and traffic operation in the city;
 - Chapter 3** The development proposals for Factory and St Johns;
 - Chapter 4** Existing Baseline Conditions;
 - Chapter 5** Factory Access Strategy;
 - Chapter 6** The Prohibition of Driving order (PoD) proposals;
 - Chapter 7** Presents the summary and conclusions of the assessment.

2 POLICY CONTEXT

2.1 National Planning Policy Framework

- 2.1.1 The main source of national policy regarding the transport planning aspects of development can be found in the Department of Communities and Local Government (DCLG) 'National Planning Policy Framework' (March 2012).
- 2.1.2 The document sets out the national Government's planning policies for England and how these are expected to be applied by local authorities. The underlying objectives of the NPPF are to contribute toward achieving sustainable development. The NPPF identifies that development should be sustainable in terms of economic, social and environmental sustainability.
- 2.1.3 The NPPF states that twelve core land-use planning principles should underpin the development of local plans and also in making planning decisions. The transport-related principle states that planning should 'actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are, or can be made, sustainable.'
- 2.1.4 The NPPF also states that development should only be prevented or refused on transport grounds where the residual impacts of development are severe

2.2 Manchester Core Strategy

- 2.2.1 Manchester's Core Strategy was adopted on 11 July 2012 and is the key document in the Manchester Local Plan. It sets the out the long term strategic policies for Manchester's future development and forms the framework that planning applications will be assessed against. The relevant policies that influence transport are described below.
- Policy T1 Sustainable Transport aims to deliver a sustainable high quality and integrated transport system to encourage a modal shift away from the car.
 - Policy T2 Accessible Areas of Opportunity & Need states that the council will actively manage the pattern of development to ensure that new development is located to ensure good access to the City's main economic drivers and is easily accessible by walking, cycling and public transport.
 - Policy T2 also states that 'Within the City Centre, developments provide a level of car parking which reflects the highly accessible nature of the location, as well as the realistic requirements of the users of the development.'

- Policy DM1 Development Management states that all development should be fully accessible to disabled people and access to new development should be accessible to sustainable transport modes.

2.2.2 These policies may be supported by supplementary planning documents which give more detail to policies in the Core Strategy.

2.2.3 Manchester adopted its 'Guide to Development in Manchester SPD and Planning Guidance' (April 2007), 'Providing for Housing Choice SPD and Planning Guidance' (September 2008). The Guide to Development in Manchester is effectively a hybrid document acting as both a Supplementary Planning Document and planning guidance. The document sets out the City Council's stance on a wide range of issues. It provides guidance on Urban Design, Accessibility, Environmental Standards, Street Hierarchy and Parking. The development aims to conform to that guidance.

2.2.4 The National and Local Policy context as well as the Development Framework will form the basis of the Transport and Access Strategy for the Site.

2.3 Greater Manchester Transport Strategy 2040

2.3.1 The Greater Manchester Local Transport Plan (LTP) is moving on from LTP3 and there are two Draft Consultation Documents that aim to set the future transport strategy. The first document is the **Greater Manchester Transport Strategy 2040** which sets out the Vision for transport in Manchester over that period and the second document is the **Delivery Plan 1: 2016/17-2021/22**.

2.3.2 The vision is 'for Greater Manchester to have 'World class connections that support long-term, sustainable economic growth and access to opportunity for all'. The Transport Vision aims to:

- Supporting Sustainable Economic growth
- Protecting Our Environment
- Improving Quality of Life for All
- Developing an Innovative City Region

2.3.3 **The 2040 Vision** is supported by policies and proposals for improving the transport network in the medium term up to 2025 structured around Spatial Themes. A common theme is the need to tackle congestion on our transport networks and minimise the negative impacts of traffic on our communities.

2.3.4 **The Delivery Plan 1: 2016/17-2021/22** sets out schemes and measures that are aimed to be brought forward up to 2021. It also sets out the funding availability and will provide annual updates on progress against key performance indicators.

2.3.5 The development proposals aspire to conform to the vision and goals as set out within the 2040 Vision Document by ensuring that the site is accessible by a variety of sustainable transport modes. To deliver a quality development that enhances the environment.

2.4 **Revised City Centre Transport Strategy (Oct 2019)**

2.4.1 A revised City Centre transport Strategy (CCTS) has been proposed to in order to take account of the ongoing and future predicted growth of the city centre; changes in the policy context since the previous strategy was published in 2010, including the adoption of the 2040 Strategy; the ambition to be a zero carbon city by 2038 at the latest; and the outcomes of the City Centre Transport Strategy Conversation that took place in the autumn of 2018.

2.4.2 The vision for the revised CCTS is, therefore, for “a well-connected city centre at the heart of the North, offering our residents, employees and visitors a great place to work, live and visit”.

2.4.3 The central aim is to set an ambitious goal for 90% of all trips to the city centre to be made on foot, by cycle or using public transport by 2040 in the morning peak. For travel within the city centre, there is an aspiration that walking will become an even more important mode of travel. To achieve this, based on predicted levels of growth, the plan is for:

- almost a doubling of Rail and Metrolink trips in the morning peak;
- a 50% increase in bus trips into the city centre in the morning peak;
- more than doubling the number of people walking and cycling into the city in the morning peak; and
- a reduction in car trips.

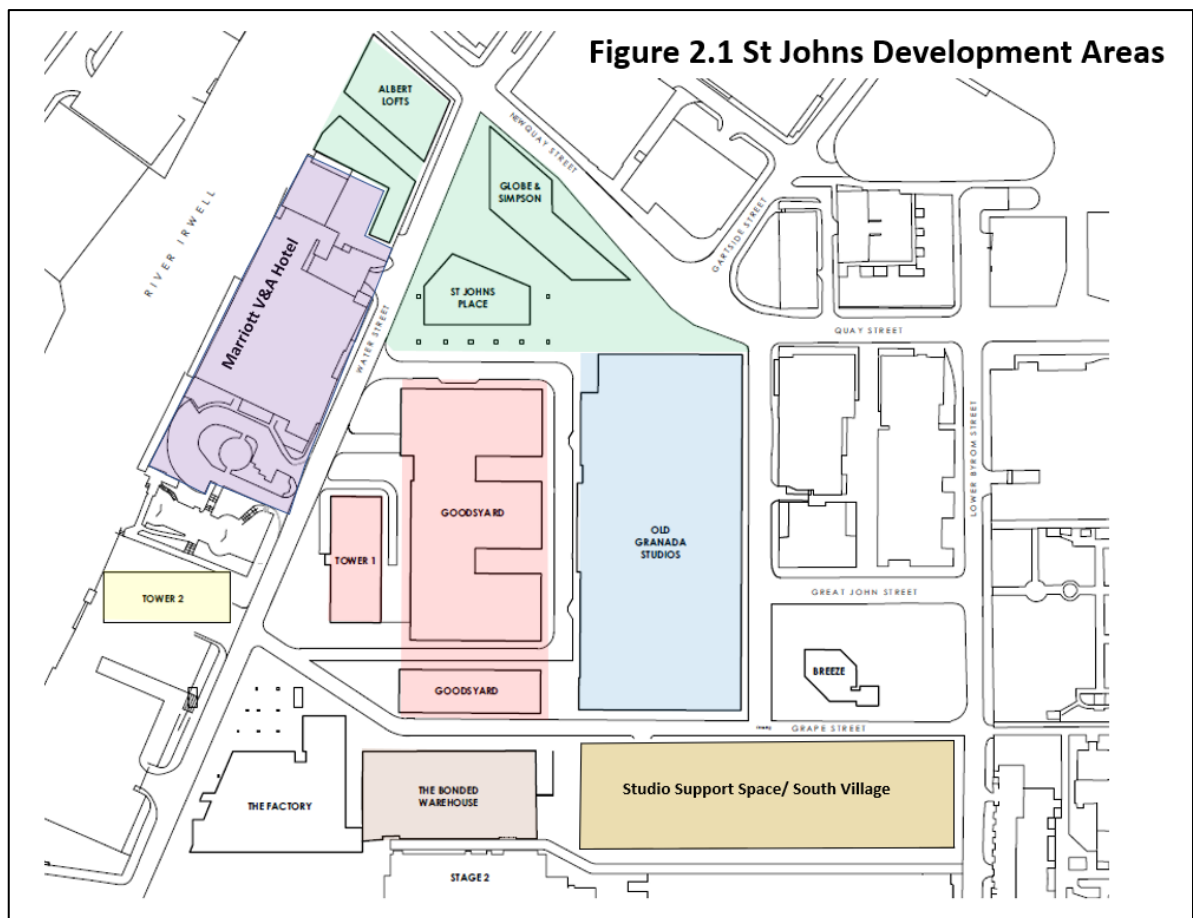
2.4.4 This strategy significantly changes the public transport provision and the environment for pedestrians and cyclists alongside technical innovations. The Factory development complements this strategy by developing a quality pedestrian and cycle environment and attracting visitors to manchester by sustainable transport modes.

3 DEVELOPMENT PROPOSALS FOR ST JOHNS & FACTORY

3.1 St John's Strategic Regeneration Framework

3.1.1 The St John's Masterplan and the Strategic Regeneration Framework (SRF) for the site was adopted by MCC in February 2015 and an updated SRF was endorsed by the Council in January 2017. The vision for the site is to create a new mixed use, sustainable city centre neighbourhood which is accessible, has a distinctive sense of place, and offers life and activity 24 hours of the day, 7 days a week and 365 days of the year. At the heart of the strategy is the delivery of a mix of uses focused on employment, residential and leisure, together with complementary ground floor retail activity which will provide amenities for visitors to, and occupiers of, this district, as well as to local residents and other city centre users in adjoining districts.

3.1.2 St Johns includes a number of distinct areas are described in **Figure 2.1** and summarised below:



Bonded Warehouse has been reconfigured as an 'enterprise hub for small to medium sized businesses. Over six levels the aim is for the lower levels of cafes, shops and restaurants fusing together with the creative studios/event spaces, and co-working spaces above.

Old Granada Studios (OGS) incorporates a 200 bed Hotel bars and restaurants in the renovated Granada House Building on Atherton Street, the reused Granada Studios, a New Build offering workspace and unique workspace containers at the entrance to the 'M1 Arcade' for small creative businesses.

St Johns Place at the North of the Masterplan incorporates Globe & Simpson, a media/technology office building of 65,000 sq ft of workspace over nine floors, along with Albert Lofts and St Johns Place Tower. These last two buildings are expected to come forward focussed on office/commercial developments rather than previously approved residential/hotel development.

Manchester Good Yard (MGY) at the heart of St Johns will provide office space for Booking.com plus ground floor restaurants and retail opportunities. South of MGY is No. 1 Grape Street with planning approval for an office development with ancillary restaurants/retail. MGY will provide parking for between c. 345-354 parking spaces including a link to Globe & Simpson basement parking and potentially in the future to St Johns Place Basement parking.

South Village has planning permission for 65 bespoke apartments but with the demand for studio space the former Coronation Street has been reused to support studio activities.

Breeze Studios is a currently used as Studio space with no development plans.

Stage 2 is occupied by the Crystal Maze and there are no development plans at present.

3.2 Manchester Marriott, Victoria & Albert Hotel

- 3.2.1 In addition to the St Johns plots there are also included the 129 room/19 suites Victoria & Albert Marriott Hotel located off Water Street. This Hotel offers some on-site parking at a cost, together with an off-site valet parking service.

3.3 Factory

3.3.1 Factory is being constructed to the south of the St Johns core site which will facilitate the development of a new flexible arts space to be used for a range of activities hosting a wide variety of events of all cultural forms as well as corporate events. The layout of Factory is shown in **Dwg MF- OMA- XX- GF- DR- A- 10_100** for the Ground floor level and **MF- OMA- XX- L1- DR- A- 10_120** for the first floor Viaduct Level. This includes a flexible Warehouse space where the widest range of art forms would be made and presented and a more traditional Theatre space. The maximum capacity of these spaces are as follows:

- Warehouse – 5,000 standing.
- Theatre – 2,090 standing and 1,520 seated.

3.3.2 It is expected that on most occasions part of Factory will be engaged in preparing for an event while the other part will be hosting an event. This means that for most of the time Factory is not operating at full capacity although there is scope for that. It is also expected that the public space around Factory will be used regularly if not daily to host cultural events in support of the productions held within the building.

3.3.3 Factory expects to attract in excess of 500,000 paying attendees per year. With larger events expected to attract people from further national and international locations and stay overnight either in local hotels or elsewhere in the City.

3.3.4 Factory would also employ around 125 permanent staff, plus 15 apprentices, plus the engagement of temporary staff to facilitate events. There is no general parking associated with Factory but there will be 10 Disabled parking spaces located on Water Street to the south of the building.

3.3.5 The Factory development is supported by a Transport Statement that describes the accessibility of the site and forecasts the trips and considers the highway implications of development.

4 EXISTING/BASELINE CONDITIONS

4.1 Site Location

- 4.1.1 The core site of St Johns including Factory was previously occupied by ITV Granada Studios. That land use included several surface car parks including the Water Street Car Park (258 spaces) and 262 spaces within the Granada site as shown in **Figure 4.1** below. In addition, Granada also used the 645 space car parks to the south on sites C&D (since sold on).

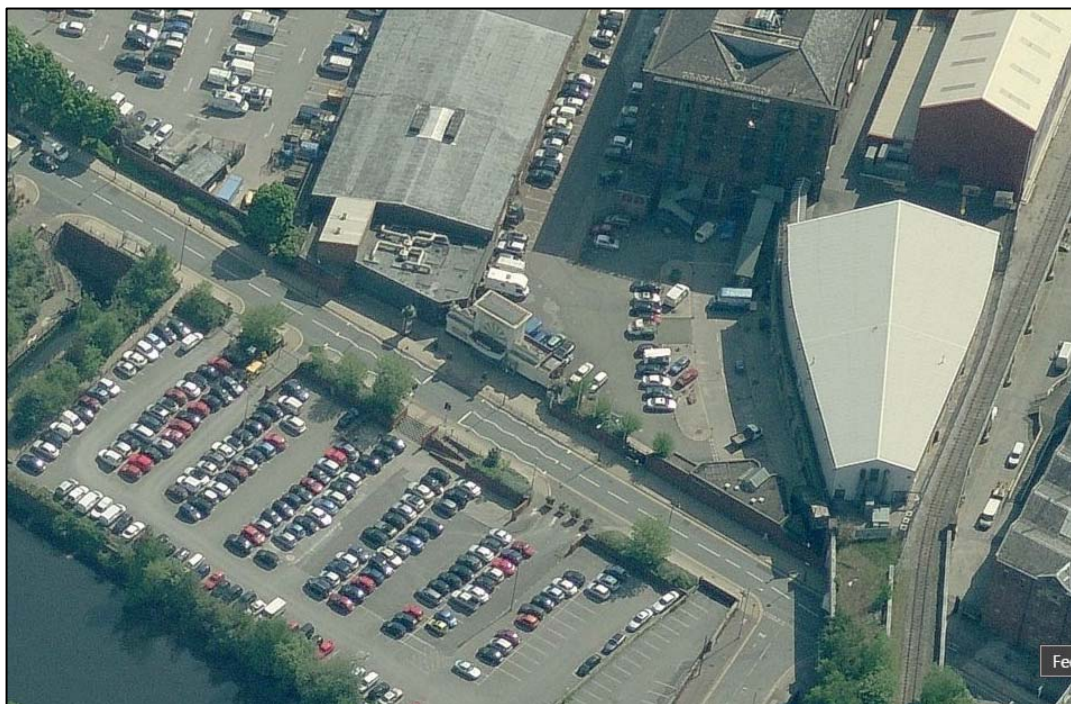


Figure 4.1 Aerial View of Site While Operating as ITV Studios

4.2 Parking

4.2.1 There are considerable amounts of off-site public parking spaces available within in the area and there are more than 4000 spaces of public parking available within a 10 minute walk of the site and over 5500 spaces within a 15 minute walk as given in **Table 4.1** below:

Car Parking Spaces within a 10 Minute Walk of St Johns/Factory	
Spinningfields NCP	680
New Bailey, Salford NCP	620
Stanley Street	635
Great Northern 1&2 NCP	1248
Bridge Street NCP	73
Deansgate Euro Car Parks	40
Bridgewater Street	70
Manchester Central NCP	700
Total	4066
Additional Car Parking Spaces within a 15 Minute Walk of Factory	
Chapel Wharf	208
King Street	554
Deansgate (Blackfriars Street)	340
Blackfriars	200
M&S	155
Cleminson Street	70
Wilton Space	140
Stone Street	12
Bridgewater Hall	288
Park Avenue	112
Silvercroft Street	83
Total	5530

Table 4.1 Car parking Spaces within a 10 & 15 minute walk of Factory

4.3 Water Street

4.3.1 For the last 5 years, Water Street has been closed to through traffic initially due to United Utility works, then the Ordsall Chord bridge works after which it briefly re-opened and then closed again around two years ago for the Factory construction works.

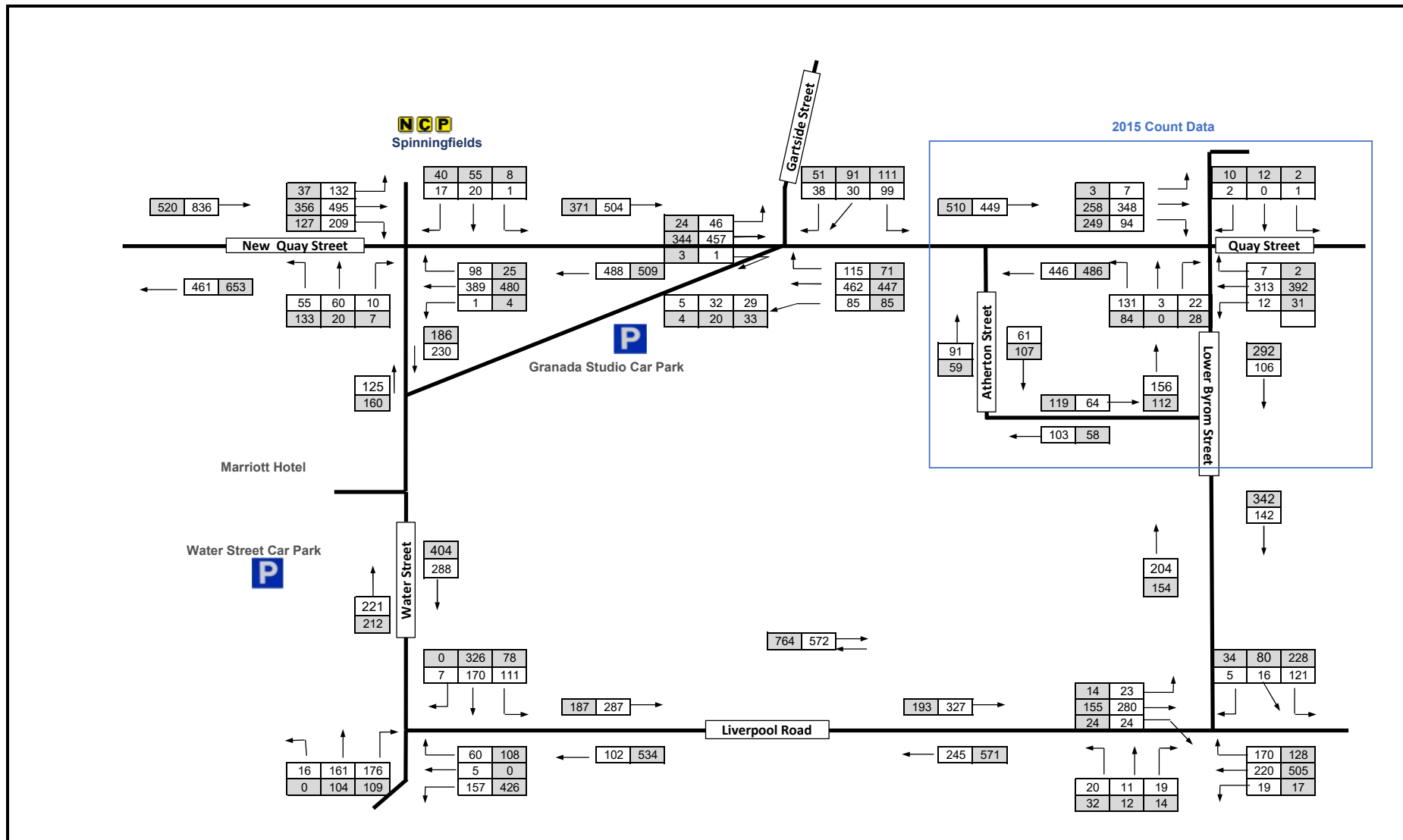
4.3.2 Before the closures, Water Street carried modest levels of traffic. Surveys in 2011 and 2015 when Water Street was open are given in **Figure 4.2** and the two-way flows are summarised below in **Table 4.2**.

	Two Way Flows (Vehicles)	
	AM	PM
Water Street (North)	355	346
Water Street (Approaching Liverpool Rd)	509	616
Liverpool Road	572	764
New Quay Street (West of Water St)	1297	1191
New Quay Street (East of Water St)	990	900
Lower Byrom Street (North of Gt John St)	297	397
Lower Byrom Street (South of Gt John St)	346	496
Atherton Street	152	166

Table 4.2 2011 /2015 Surveyed Traffic Flows (Water Street Open)

4.3.3 These show Water Street carrying two-way traffic flows of around 350 vehicles in both peak periods. To the south of Water Street approaching Liverpool Road the volumes are higher up to 600 vehicles in the PM peak, probably reflecting the former car parks located in that area. It can be seen that Quay Street is the busiest road in the area carrying nearly 1300 vehicles (two-way) in the AM peak. Liverpool Road carried a more modest 570 vehicles in the AM Peak and around 760 vehicles (two-way) in the PM peak.

4.3.4 On Lower Byrom Street, the two-way traffic flows traffic volumes tended to be greater on the southern section where there were around 350 vehicles using that route in the AM peak and around 500 vehicles in the PM Peak.



4.4 Traffic Speeds and Delay

- 4.4.1 The traffic speeds across the network are regularly surveyed by TfGM and the 2018 traffic speeds on the network are summarised in the congestion maps as described in **Figures 4.3** and **4.4** for the respective AM and PM peak periods. These images reflect the congestion in the area arising from the Regent Road Improvement works which has led to considerable delays on the Ring Road and Regent Road and adjacent roads. south of Factory. That is now complete and aims to provide 30% additional capacity through that junction.

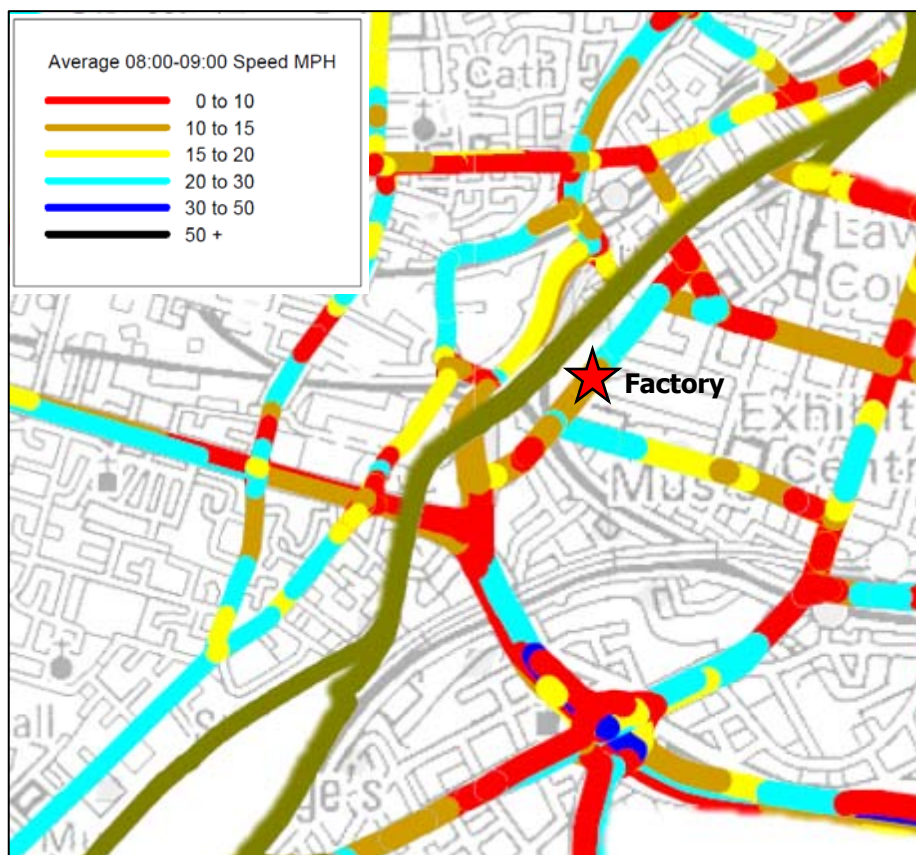


Figure 4.3 AM Peak Average Traffic Speeds

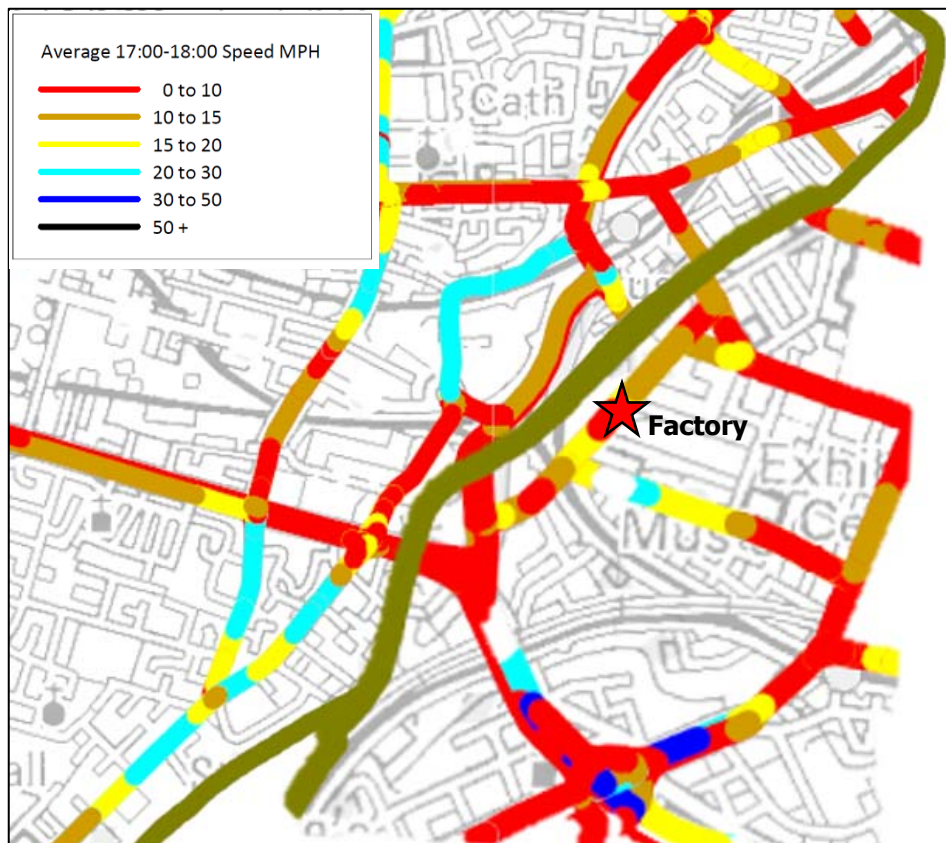


Figure 4.4 PM Peak Traffic Speeds

- 4.4.2 Previously there have been significant traffic delays experienced on the network due to works at Regent Road/Trinity Way junction and also the Trinity Way/New Quay Street junction. The most congested peak inside the Inner Relief Road is the PM peak for traffic leaving Manchester. This results in long queues on Quay Street as it approaches Trinity Way and also on Water Street, again looking to join Trinity Way.
- 4.4.3 In the morning peak period, the traffic is busy for City bound flows but delays are not as evident as in the PM peak.
- 4.4.4 In the local area it is observed that there are queues on Quay Street in the PM Peak periods with less queuing in the AM Peak period. The extent of queuing can be very much influenced by conditions in the local area such as due to roadworks or congestion on Mancunian Way such as when there is an evening kick off at Manchester City.

4.5 Review of Personal Injury Accident Data

4.5.1 The previous assessment of road traffic accidents in the area to support the Factory planning application concluded that there were few accidents in the immediate area which would indicate an accident blackspot. The latest accident data over the last three years has been examined and presented in **Figure 4.5** below.

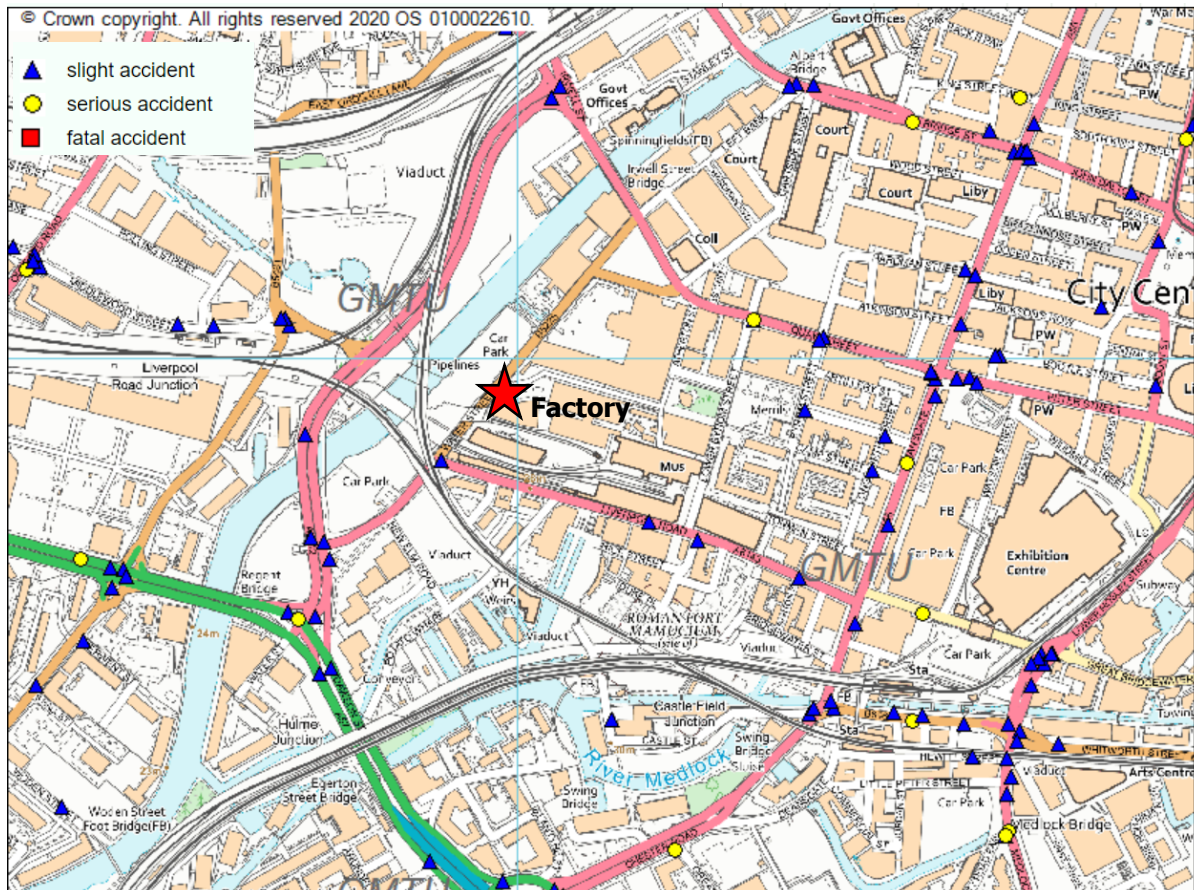


Figure 4.5 Recent 3 Year Traffic Accident Plot (source gmtu.gov.uk)

4.5.2 It can be seen that there was one slight accident at the junction of Liverpool Road and Water Street and three more slight accidents on Liverpool Road. One serious accident was recorded at the junction of Quay Street with Lower Byrom Street, two further accidents on Quay Street with Byrom Street and one at the junction of Byrom Street and St John Street. Elsewhere there are clusters of accidents at the junctions of major roads such as at Trinity Way/Regent Road and at Deansgate junctions with Quay Street, Whitworth Street and Bridge Street. There were no fatal accidents in the area in this time period.

4.5.3 In summary, the review of accident data reveals no evidence of underlying highway safety issues. It is therefore concluded that there are no existing accident blackspots on the highway network in the vicinity of the site.

4.6 St Johns Development Trips

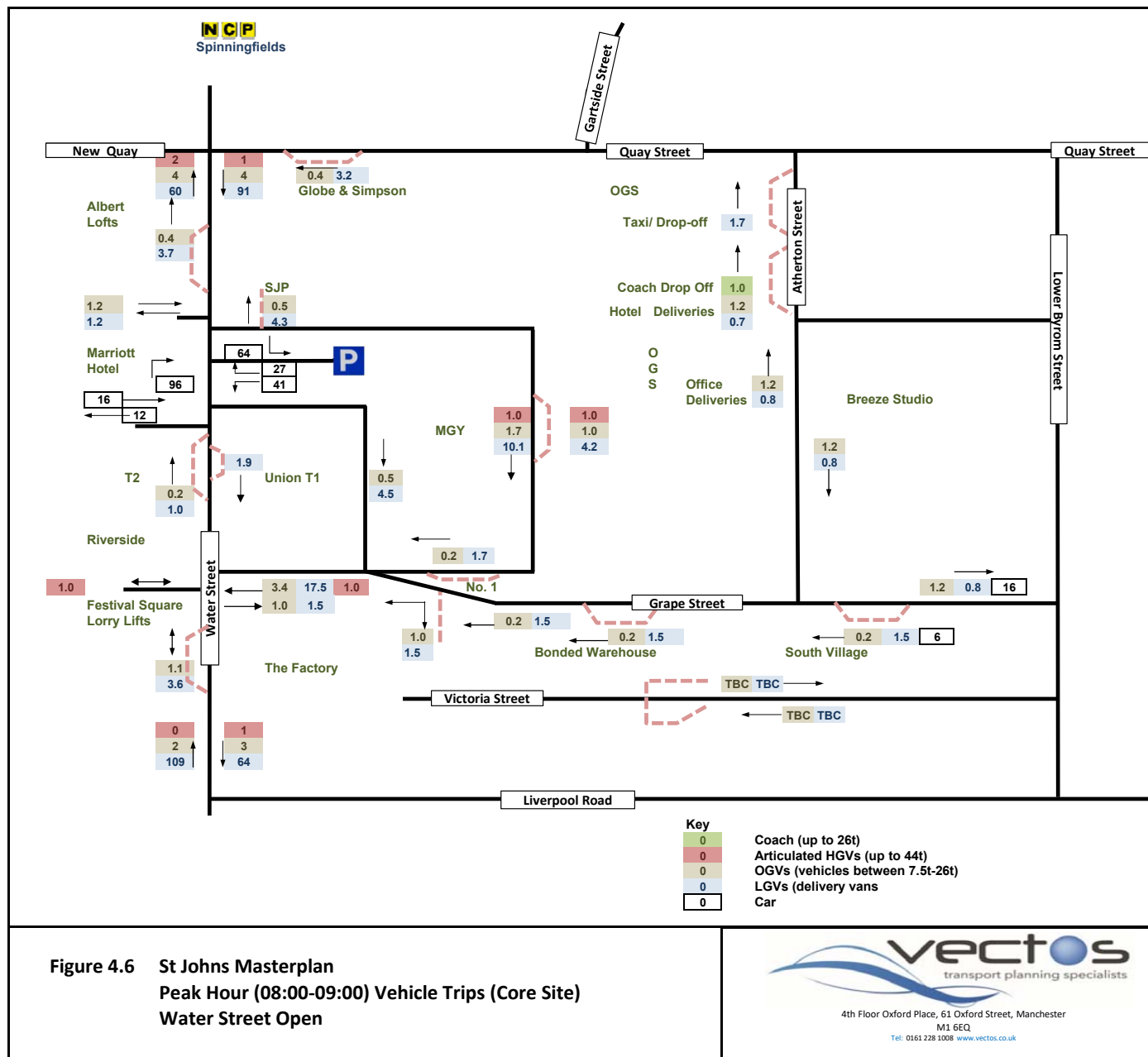
4.6.1 The St Johns development is now progressing with construction and traffic forecasts have been made to support each of the development planning applications. Since planning approval, some of those developments are expected to change the nature of the land use, and to reflect this, the traffic demands have been amended as the development and planning process progresses. We therefore present in **Figures 4.6** and **4.7** the up to date AM and PM peak hour traffic demands for St Johns and Factory assuming Water Street is open.

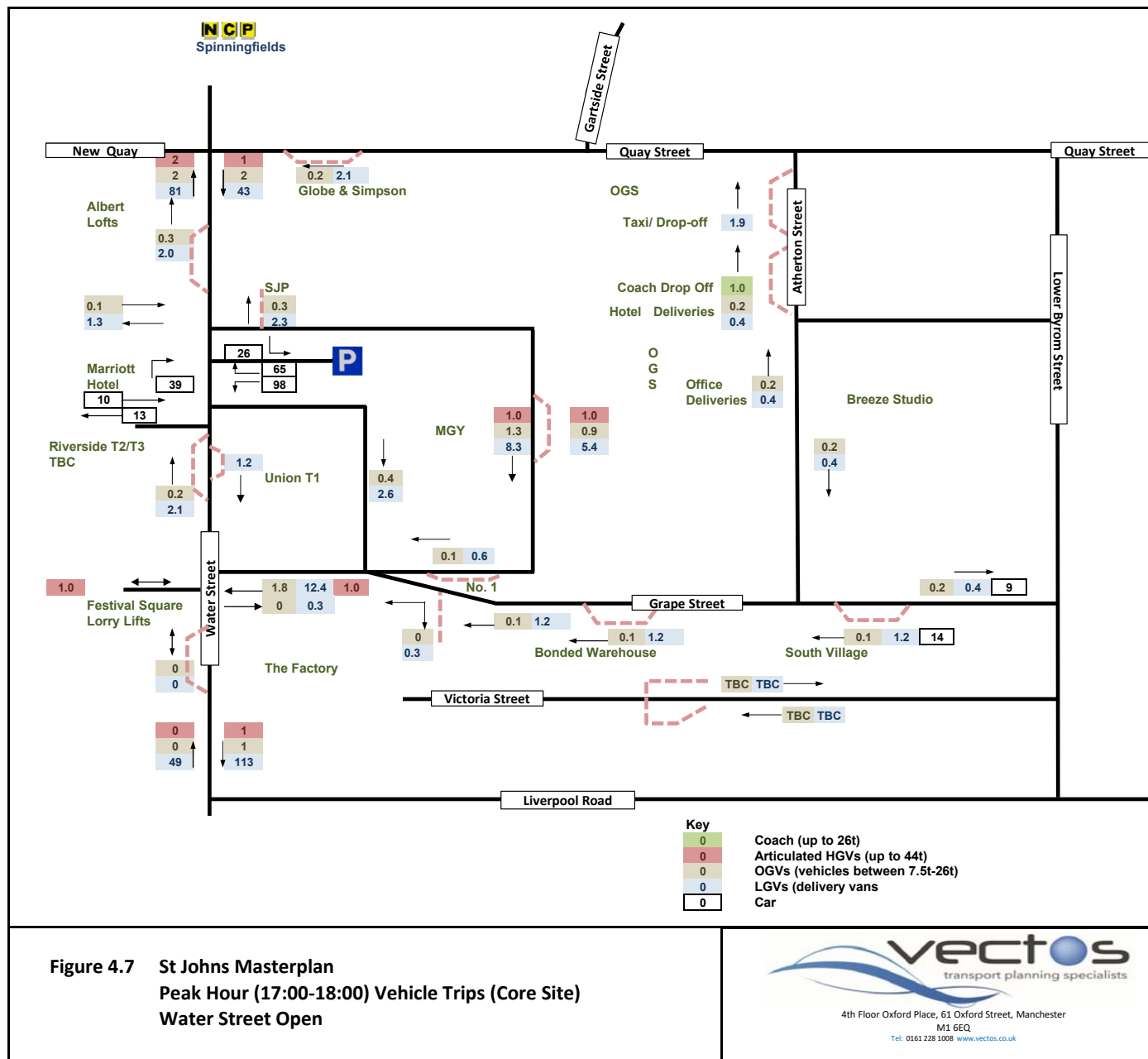
4.6.2 As some of the service vehicle movements are low in number, we have included these figures to one decimal point indicating that there is a proportional chance of a vehicle accessing the site at that time.

4.6.3 It can be seen that the main traffic flows are cars accessing the MGY Car Park. The flows are based on the trip generation forecasts used in the original Transport Assessments which have then been adjusted to the maximum car park size. The majority of spaces are assumed to be allocated for office based uses with a smaller amount allocated hotel guests and key staff of other occupiers of St Johns. Based on a previous trip distribution it is assumed that 40% of those trips arrive from the north and 60% from the south.

4.6.4 The volumes of cars arriving in the traditional peak hour is only a proportion of the overall car park capacity. This is because more people have flexible working arrangements particularly the key workers who are allocated a parking space and not everyone will be in on any particular day. Surveys show that the main office arrivals occur from 0700 to 10:00 and in this location, with the variety and type of occupiers means that demands are spread across the day.

4.6.5 Access by service vehicles to MGY retail units, OGS and No 1 Grape Street is a one-way clockwise circulation route via North Street, Studio Way and egressing via Festival Square from South Street. On entering North Street, vehicles need to pass through a set of Automatic Bollards which offer a security control point under the management of MQL. The management will be able to direct the timing of service activity away from periods of high pedestrian activity. Vehicles would be directed to travel at walking pace. The control features at the Bollards will include CCTV, intercom and ANPR capability. This route could include movement of large articulated HGVs that may deliver to the Old Granada Studios.





4.6.6 There is also a similar clockwise service route between Tower 1 (T1) and MGY to serve those buildings which will also be controlled by Automatic Bollards.

4.6.7 Vehicles need to pass through a set of Automatic Bollards on South Access Road before they enter Festival Square. There is scope should there be an event on in the Square for vehicles to be directed northwards on the T1/MGY Service Road in a reverse anticlockwise direction.

4.7 Base Traffic Model

4.7.1 The implications of St Johns traffic including Factory on the local highway operation has been tested by TfGM using their PARAMICS City Centre traffic model. The City Centre is to go through some transport interventions to restrict car traffic movements through the city and this model is the best way of assessing the implications of the Prohibition of Driving Order along with the changes happening in the City Centre.

4.7.2 This model includes the likely transport interventions coming forward:

- Deansgate closed from Bridge St to Blackfriars;
- New Bailey closed;
- Changes to Chapel St East;
- Gyratory around Bridge St / Blackfriars;
- New Bailey St bus gate;
- Albert Square closure;
- Regent Road works complete;

4.7.3 In addition, the baseline model includes the closure of Quay Street between Gartside Street and Water Street which has been stopped up and will create a new Public Square at St Johns Place.

4.7.4 The model includes the following committed developments:

- Deansgate Square on City Road East;
- Circle Square on Oxford Road;
- Trinity Islands on Water Street;
- First Street South;
- St. Michaels, Jackson's Row;
- Ramada Hotel site on Deansgate (north);
- Great Northern Warehouse, Peter Street/ Deansgate.

- 4.7.5 The model is what TfGM use to test future development and transport scenarios for the city centre. It is a PARAMICS model that covers the City Centre including Inner Relief Road, Regent Road and Liverpool Road out to the M602 as well as the Oxford Road corridor as described in **Figure 4.8**.

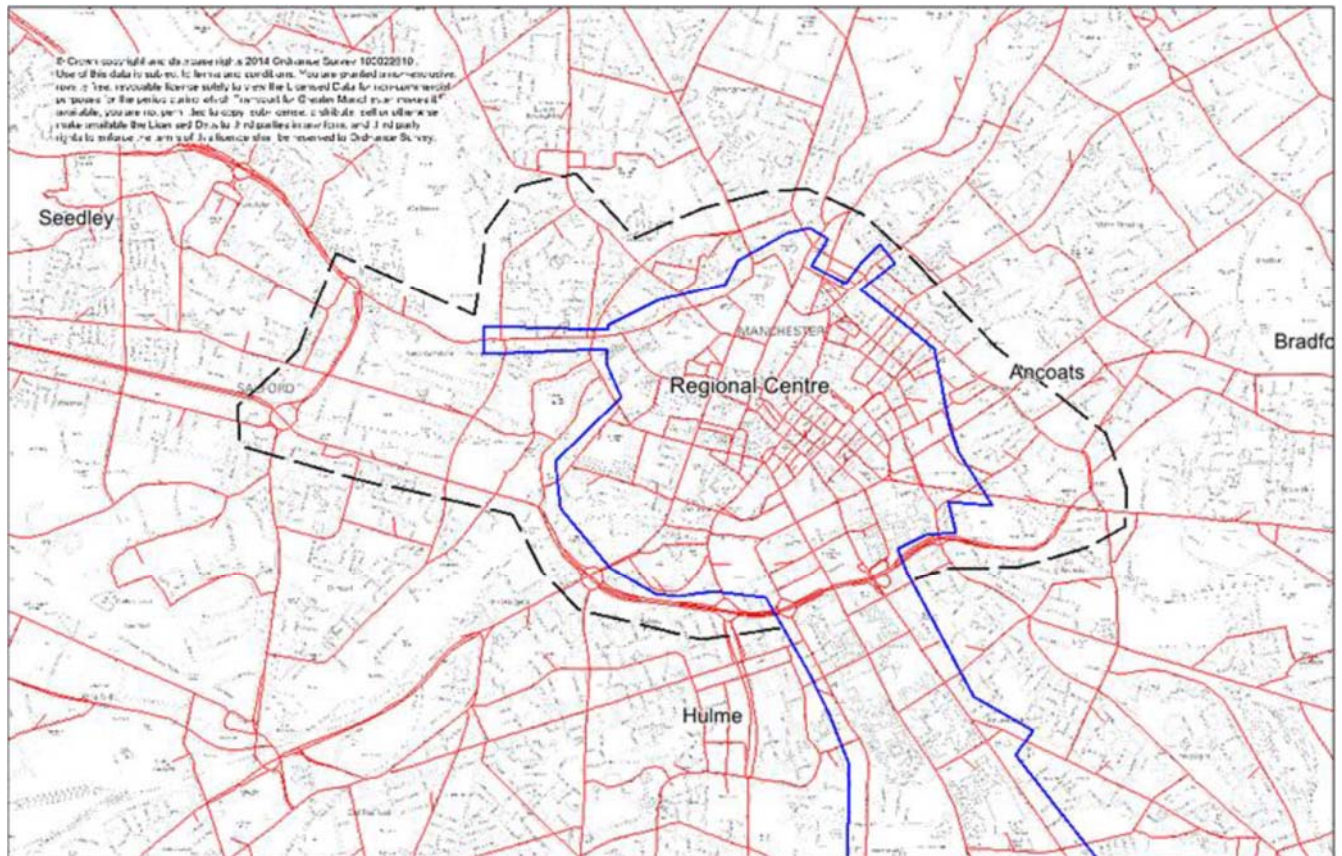


Figure 4.8 TfGM PARAMICS Traffic Model Extent

- 4.7.6 It is validated to a 2017 baseline and the Validation Report is given in **Appendix A**.
- 4.7.7 The St Johns trips as identified in **Figures 4.6** and **4.7** have been provided to TfGM to incorporate into the City Centre traffic model. Specifically, the trips have been incorporated into the zone connecting onto Water Street so that they can test the traffic forecasts over the wider network and test the implications of the Prohibition of Driving application.
- 4.7.8 These baseline traffic flows from the model with the full St Johns development and Water Street open to through traffic is shown in **Figure 4.9** for the peak periods.

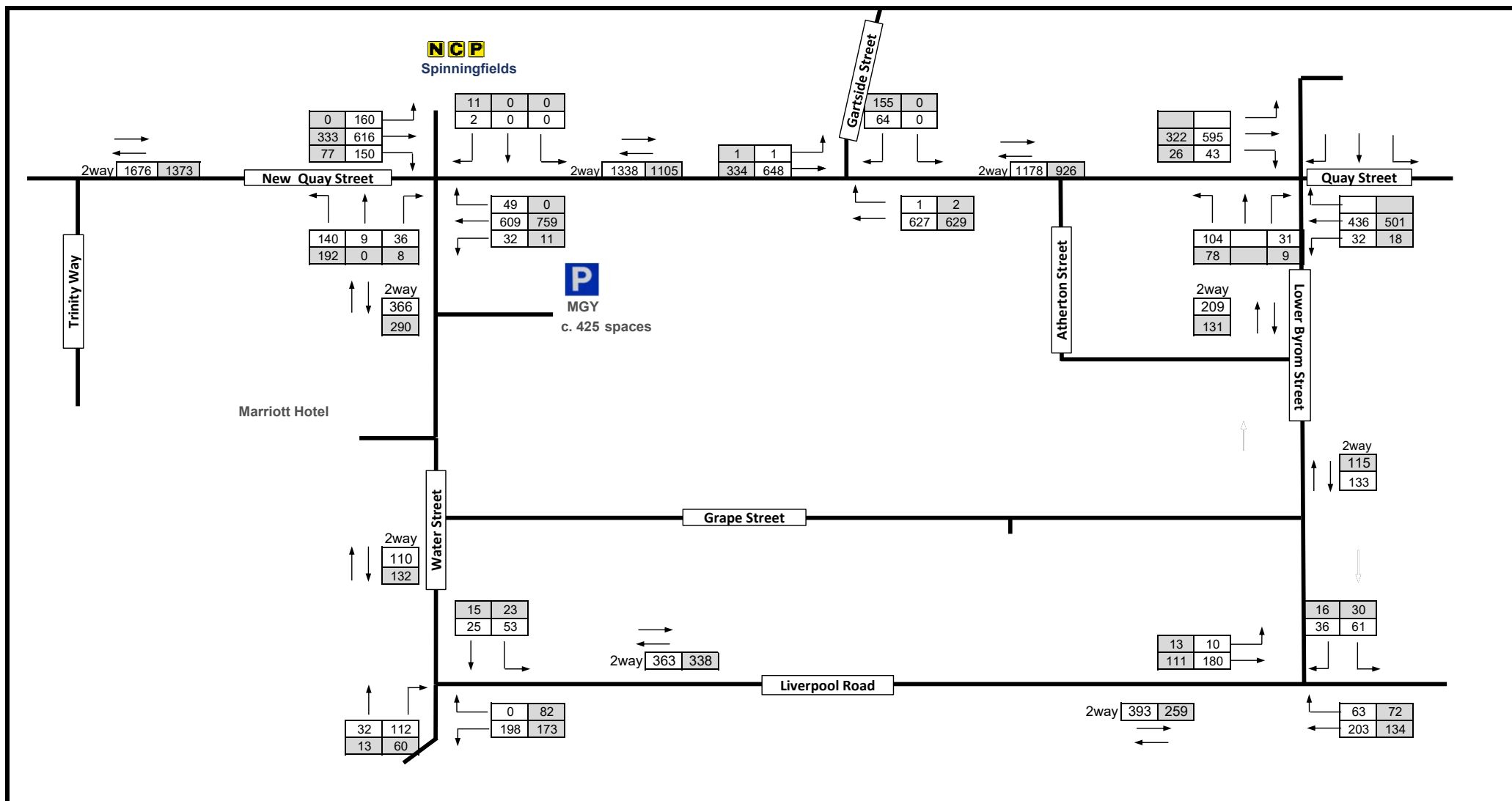


Figure 4.9 TfGM Modelled Flows (PCUs)
Water Street Open

Key:
 AM Peak (08:00 - 09:00)
 PM Peak (17:00 - 18:00)

5 FACTORY ACCESS STRATEGY

5.1.1 Factory is now being constructed and the key features of that development and its access strategy including the Prohibition of Driving Order are as follows:

5.2 Factory Trips

- The forecasts of trips to Factory have been previously made in the TA. Factory will host a wide variety of events which will have different arrival and departure profiles. A typical large event forecast was for 5000 persons in the Warehouse with a weekday evening event having the most peaked profile.
- Larger events will tend to attract national and international visitors who would tend to stay in city centre hotels. For MIF events around 15% stay in hotels.
- The modal share for visitors arriving at a large Factory event is described in Table 5.1 and is summarised below:
 - o 38% by Car 1900 persons, 956 cars;
 - o 9%by Coach 425 persons, 11 coaches;
 - o 7% by Taxi 325 persons, 163 taxis;
 - o 9% by Train 425 persons;
 - o 4% by Bus 213 persons;
 - o 13% by Tram 638 persons;
 - o 21% walk/cycle 1063 persons.

5.3 Parking Provision

- Factory does not provide any parking on site for the general public. There is significant public car parking available with more than 3300 parking spaces within a 10 minute walk and over 5500 spaces within a 15 minute walk.
- The nearest car park is the NCP Spinningfields car park 250m to the north of Factory with 680 spaces, 35 of which are Disabled Spaces.
- There will be provided 10 x on street disabled parking bays on Water Street south of Factory between 50m -70m of the foyer entrance.

Table 5.1 Factory Event Forecasts
St Johns Masterplan
Weekday Evening Event Forecasts

Assumptions

Attendees

Evening Events at Factory 5000

Total Attendees		5000
Attendees Staying Overnight*	15%	750
Attendees Returning Home	85%	4250



St Johns	
Attendees staying in St Johns area	525
Attendees staying in other hotels	225

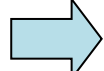


Attendees Needing Transport Home	4250
----------------------------------	------

*Source MIF

Transport Mode	
Walk /cycle	113
Taxi / Shuttle Bus	113

Main Mode	Assumptions	Person Trips	Modal Share	Modal Share With Hotel Guests	Modal Share
Private car (on-site)	Occupancy 2	1913	45%	1913	38%
	No. vehicles 956			No Vehs 956	
Coach	Occupancy 40	425	10%	425	9%
	No. Coaches 11			No Coaches 11	
Taxi	Occupancy 2	213	5%	325	7%
	No Vehicles 106			No Vehs 163	
Train		425	10%	425	9%
Bus		213	5%	213	4%
Tram		638	15%	638	13%
Walk, Cycle		425	10%	1063	21%
		4,250	100%	5000	100%



Arrival Profile for 19:30 Start						Departure Profile for 11:00 pm Finish		
Time period	17:30	18:00	18:30	19:00	19:30	23:00	23:00	00:00
Person Arrival Profile	18:00	18:30	19:00	19:30	20:00	23:30	00:00	00:30
Person Departure Profile	213	213	1488	2125	213	3400	638	213
%Arrival Profile	5%	5%	35%	50%	5%			
% Departure Profile						80%	15%	5%
Non Public Transport Profile								
Cars Arriving	48	48	335	478	48			
People Walking from Car Parks	96	96	669	956	96			
Cars Departing						765	143	48
People Walking to Car Parks						1530	287	96
Coaches			5	5			11	
Taxi Profile	5%	5%	35%	50%	5%	80%	15%	5%
Taxis (Vehicles)	8	8	57	81	8	130	24	8
Train (persons)	21	21	149	213	21	340	64	21
Bus (persons)	11	11	74	106	11	170	32	11
Tram (persons)	32	32	223	319	32	510	96	32
Walk /Cycle (persons)	53	53	372	531	53	850	159	53

St John Masterplan

Saturday Afternoon Event Forecasts

Assumptions

Attendees

Weekend Events at Factory 5000

Total Attendees		5000
Attendees Staying Overnight*	15%	750
Attendees Returning Home	85%	4250



St Johns	
Attendees staying in St Johns area	525
Attendees staying in other hotels	225

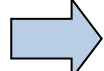


Attendees Travelling to/from Home	4250
-----------------------------------	------

*Source MIF

Transport Mode	
Walk	113
Taxi / Shuttle Bus	113

Main Mode	Assumptions	Person Trips	Modal Share	Modal Share With Hotel Guests	Modal Share
Private car (on-site)	Occupancy 2	1913	45%	1913	38%
	No. vehicles 956			No Vehs 956	
Coach	Approx Occupancy 40	425	10%	425	9%
	No. Coaches 11			No Coaches 11	
Taxi	Occupancy 2	213	5%	325	7%
	No Vehicles 106			No Vehs 163	
Train		425	10%	425	9%
Bus		213	5%	213	4%
Tram		638	15%	638	13%
Walk, Cycle		425	10%	1063	21%
		4,250	100%	5000	100%



Mix of Saturday Afternoon Events													
Time period	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00
	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30
Person Arrival Profile	425	638	850	850	850	425	213						
Person Departure Profile								213	425	1275	1275	850	213
%Arrival Profile	10%	15%	20%	20%	20%	10%	5%						
% Departure Profile								5%	10%	30%	30%	20%	5%
Non Public Transport Profile													
Cars Arriving	96	143	191	191	191	96	48						
People Walking from Car Parks	191	287	383	383	383	191	96						
Cars Departing								48	96	287	287	191	48
People Walking to Car Parks								96	191	574	574	383	96
Coaches			5	5								5	5
Taxis (Vehicles)	11	16	21	21	21	11	5	5	11	32	32	21	5
Train (persons)	43	64	85	85	85	43	21	21	43	128	128	85	21
Bus (persons)	21	32	43	43	43	21	11	11	21	64	64	43	11
Tram (persons)	64	96	128	128	128	64	32	32	64	191	191	128	32
Walk /Cycle (persons)	43	64	85	85	85	43	21	21	43	128	128	85	21

We assume that a proportion of Attendees Arrive early for a meal/drink and a smaller proportion stay later after an event

5.4 Pedestrian Movement

- There will be significant movements of pedestrians along Water Street before and after an event, most notably to and from the north.
- Pedestrians will enjoy a quality environment.
- Marshalls will be employed to direct Factory pedestrians away from using Grape Street before or after an event.

5.5 Access for Disabled Users

- To help disabled visitors or those that are mobility impaired there will be a step free space across Water Street connecting Festival Square and Factory Square.
- Seating will be provided across the space.
- Visually impaired visitors considered by using Water Street to approach Factory.
- A tactile route will be provided from the main approaches.

5.6 Coach Access

- Visitors by Coach will benefit from:
 - o 4 x coach parking spaces on New Elm Road;
 - o 2 Coach Parking Bays on Water Street (southbound) between Liverpool Road and New Elm Road;
 - o 2 new Coach Parking Bays on Deansgate between Camp Street and St Johns Street.
- These complement the existing coach parking spaces on Liverpool Road, Byrom Street (evening) Quay Street o/s peak periods.
- The coach passengers from New Elm Road would cross Liverpool Road and at peak times this would have a marshall to help pedestrians crossing.

5.7 Public Transport Access

- Salford Central Rail Station is around a 700m walk from Factory and its last train to Liverpool is at 23:30.
- Deansgate-Castlefield Metrolink and Rail Station is approximately 800m from Factory (last train 23:29, last tram 00:40 Weekends).
- Metrolink stop at St Peters is 1100m away.
- The free bus service offers a 10-minute service connecting the area to the main train stations and destinations in Manchester. The No. 1 Route serves Spinningfields stopping on Gartside Street but extends in the weekday commuter peaks to Salford Central Station stopping on Irwell Street. On a Saturday that route stops on Liverpool Road.
- There are the 33/63 bus services on Liverpool Road running between Manchester and Worsley.

5.8 Cycle Facilities

- 20 staff cycle parking spaces in the service yard.
- 40 visitor cycle parking spaces under cover.
- National Cycle Route 6 crosses the River Irwell on the new Ordsall Chord then heads along Liverpool Road.
- As cyclists enter Factory Square or Festival Square they will be directed to 'Share with Care' so that cyclists give way to pedestrians.



5.9 Turning Facilities

- With the prevention of through traffic on Water Street there is a need to allow vehicles to make a u-turn should they need to. As part of this strategy there is space to allow large cars to u-turn both north and south of the restricted area. For HGVs there is scope for vehicles to make a 3-point turn should they need to.

5.10 Taxi Facilities

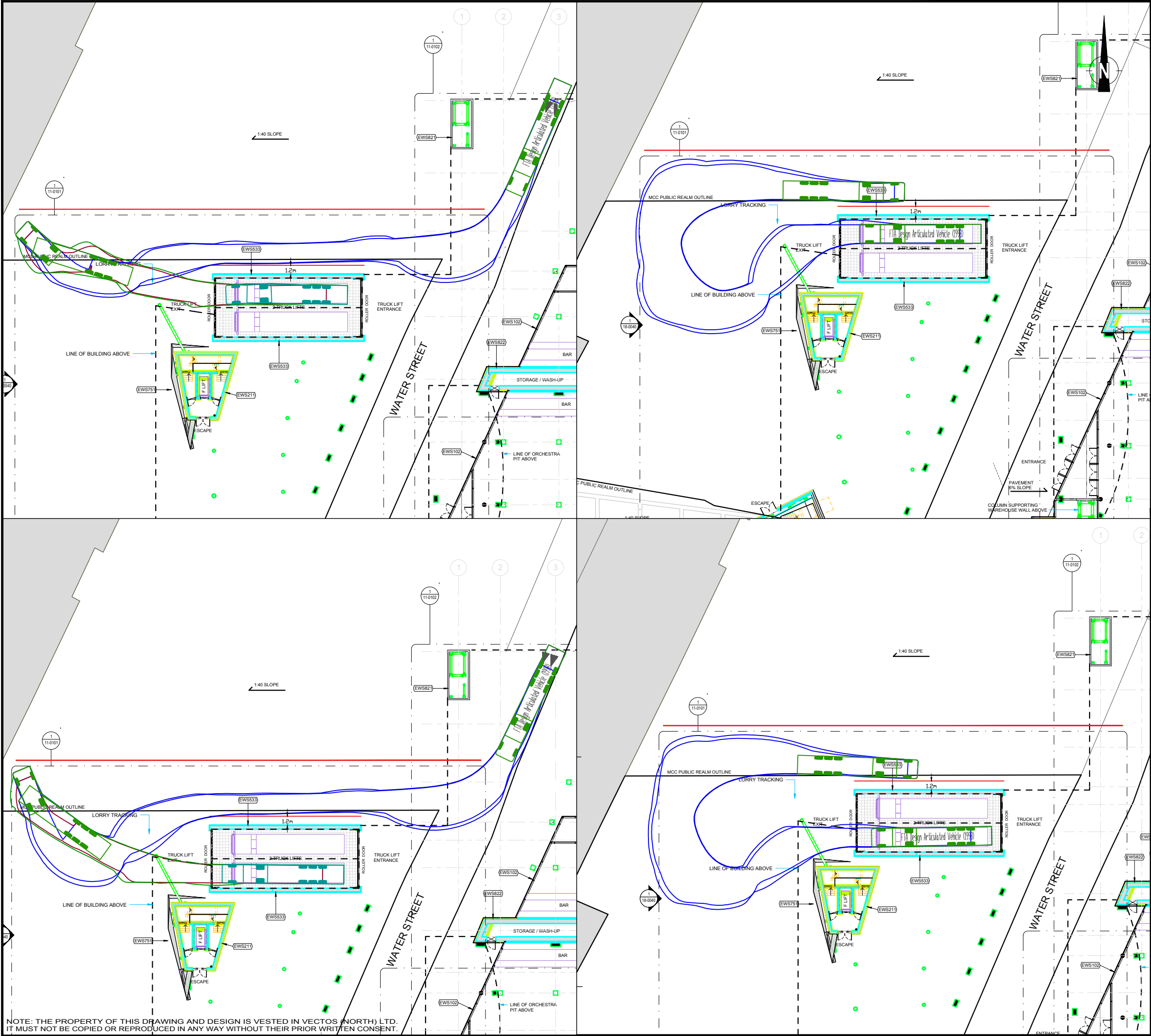
- There are four existing taxis ranks in the area:
 - Deansgate: Opposite St John Street;
 - Hardman Street;
 - Byrom Street: Adjacent to the Opera House;
 - Liverpool Road: Adjacent to MSI.
- There are no formal taxi ranks on Water Street but there is scope for taxis to drop off and pick up in the area. On Water Street north of Factory there is space for taxis to u-turn with a small additional area for drop-off/pickup. However, there will be a no-waiting traffic order to prevent vehicles waiting there.

5.11 Service Access

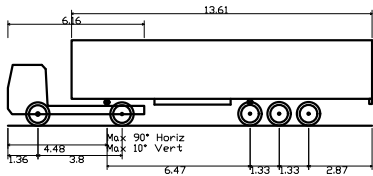
- Lorry Lifts provide the main event access by Articulated HGVs;
- Lorry Lifts permit vehicles up to 4.5m high with a 4.8m clearance;
- HGVs access the Lorry Lifts from the North passing through a set of automatic control bollards on Water Street;
- Those HGVs enter Factory Square and then reverse, using a banksman into the lorry lift. They would ensure this manoeuvre is safe for pedestrians;
- Exiting vehicles leave by the same route in reverse and can make a u-turn to leave;
- The tracking of these movements is shown in **Dwg VN60596-TR127A**;
- There is access available at Viaduct Level to Factory for occasional Outside Broadcast vehicles or on rare occasions, staging that won't fit into the Lorry Lifts. This arrangement would be with prior approval by MQL. The largest vehicles accessing this space would be articulated HGVs and the tracking of such vehicles manoeuvring is shown in **Dwg VN60596-TR131**.

5.12 Security Features

- Security Consultants have been appointed and advised that the public squares and the Factory Building itself need to be protected from a terrorist attack using a vehicle as a weapon or to carry a bomb.
- That protection is based around physical measures with those vehicles that are permitted to gain access being allowed to pass through automatic bollards, supported by CCTV/ANPR and Intercom.
- The access controls would be under the management of the 24/7 MQL St Johns site management.



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



FTA Design Articulated Vehicle (1998)
Overall Length 16.480m
Overall Width 2.550m
Overall Body Height 2.870m
Min Body Ground Clearance 0.515m
Max Track Width 2.470m
Lock to lock time 3.00s
Kerb to Kerb Turning Radius 6.550m

A	With northern boundary limits	HF	GD	01.03.18
REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
Manchester City Council

PROJECT:
Factory

DRAWING TITLE:
Lorry Lift - 16.5m Artic Track

SCALES:
1:500 at A3

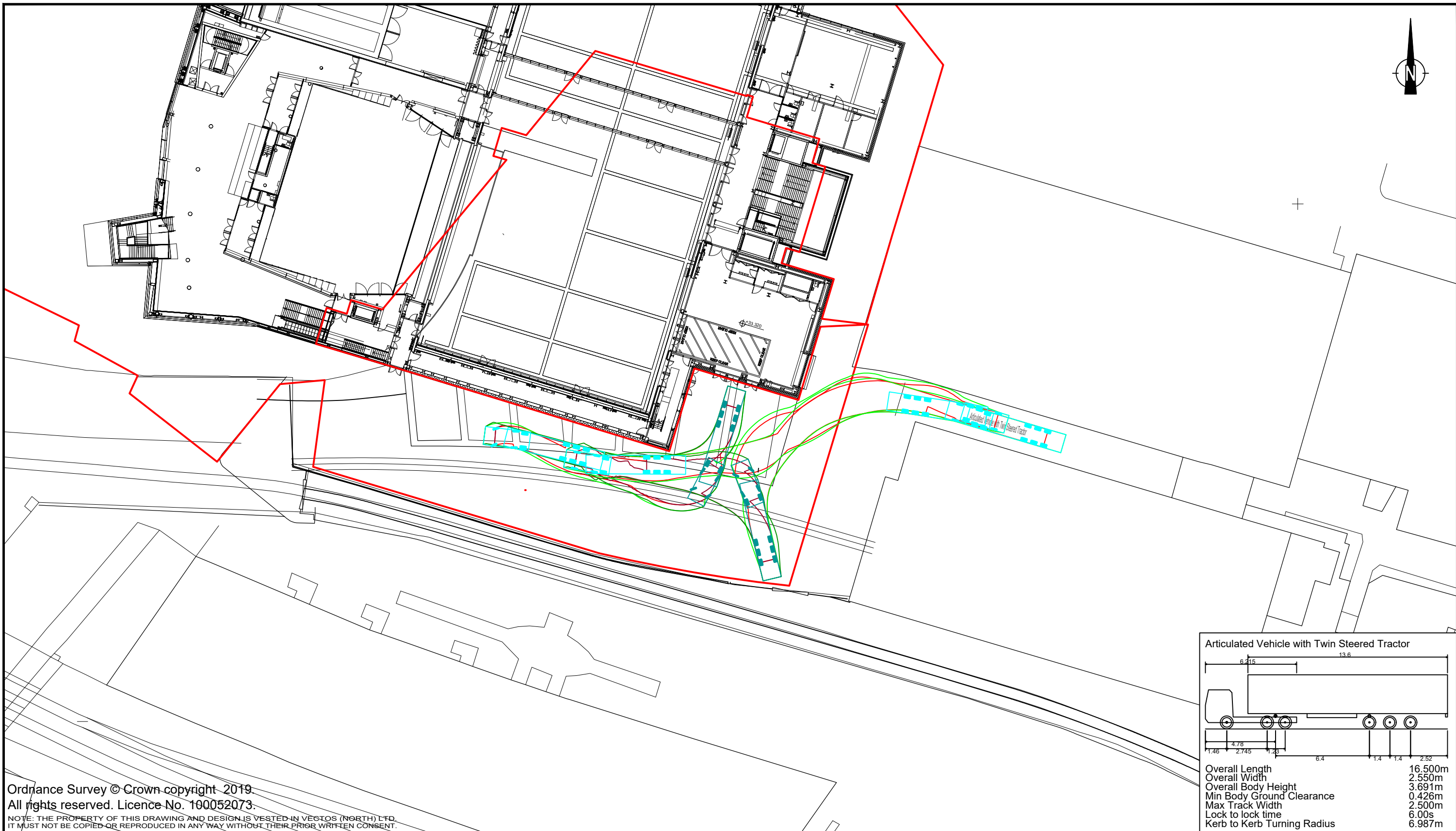
DRAWN:	HF	CHECKED:	GD	DATE:	12.10.17
--------	----	----------	----	-------	----------

vector
transport planning specialists

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

DRAWING NUMBER:	VN60596-TR127	REVISION:	A
-----------------	---------------	-----------	---

NOTE: THE PROPERTY OF THIS DRAWING AND DESIGN IS VESTED IN VECTOS (NORTH) LTD.
IT MUST NOT BE COPIED OR REPRODUCED IN ANY WAY WITHOUT THEIR PRIOR WRITTEN CONSENT.



Ordnance Survey © Crown copyright 2019.
All rights reserved. Licence No. 100052073.
NOTE: THE PROPERTY OF THIS DRAWING AND DESIGN IS VESTED IN VECTOS (NORTH) LTD.
IT MUST NOT BE COPIED OR REPRODUCED IN ANY WAY WITHOUT THEIR PRIOR WRITTEN CONSENT.

Articulated Vehicle with Twin Steered Tractor

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.691m
Min Body Ground Clearance	0.426m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.987m

REV.	DETAILS	DRAWN	CHECKED	DATE

Notes:

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

Factory

Swept Path Analysis - Articulated HGV

DRAWN:	CHECKED:	DATE:	SCALES:
TO	GD	13.02.20	1:500 at A3

Manchester City Council



transport planning specialists

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

DRAWING NUMBER:	REVISION:
VN60596-TR131	.

5.13 Signage

- As a new Neighbourhood for the City, St Johns will be signposted for vehicles and pedestrians. Factory won't be specifically signposted for cars as there is no parking provided. Therefore, the website for Factory will direct drivers to the nearby multi-storey car parks which are signposted from the ring road.
- On entering Water Street from the north and from the south there will be traffic orders and signage informing drivers that the Water Street is for Access Only and complemented by **'No Through Road'** Signage.

5.13.1 The provision of the Prohibition of Driving Order is described next.

6 PROHIBITION OF DRIVING ORDER

6.1 Introduction

6.1.1 To achieve a safe and secure environment for Factory and its visitors, a Prohibition of Driving Order (PoD) is proposed for Water Street either side of Factory. The safety consideration arise due to large numbers of pedestrians potentially crossing the highway before and after events, the security implications of a vehicle being able to bring in an explosive underneath Factory and that a vehicle could be used as a weapon against a large crowd and finally there are considerable amenity benefits that can be made with the highway closure.

6.1.2 This PoD will apply to general traffic except for the following:

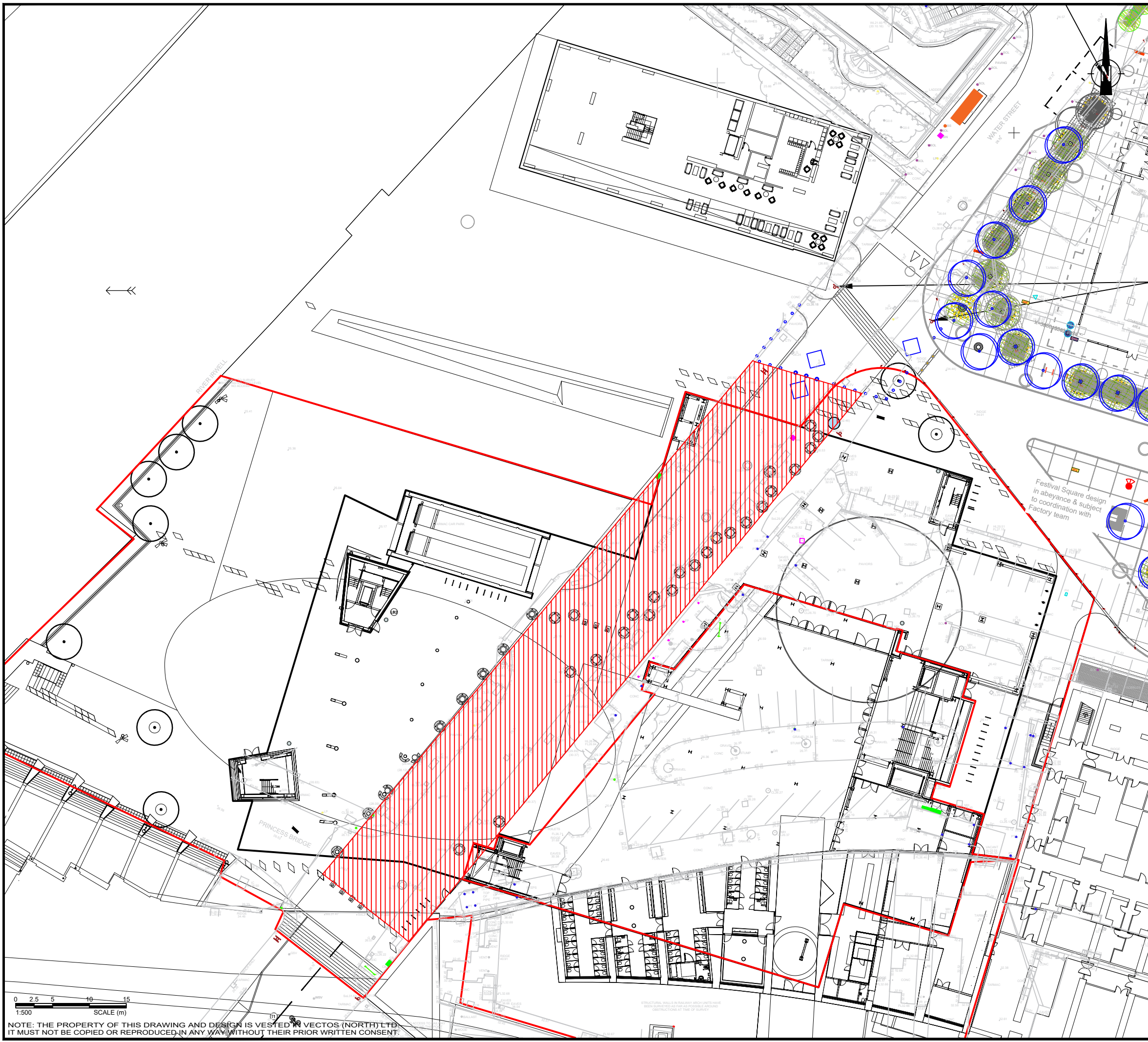
- Pedestrians;
- Cyclists;
- Fire brigade, ambulance or police;
- Statutory undertakes vehicles accessing plant;
- Vehicles servicing Factory St Johns or the Marriott Hotel, maintaining its buildings or its public realm;

6.1.3 The area of Water Street that will be subject to the PoD is given in **Dwg VN70930-125**.

6.1.4 The proposed public realm layout with the PoD is given in **Dwg MF-PLA-XX-GF-DR-L-10-0004-S4-P05** which lies primarily under the Factory Building. It is proposed that this Order will apply 24/7.

6.1.5 The PoD is controlled by Automatic Bollards under the control at all times of the MQL St Johns site management team. There is also signage on approach to the PoD to warn drivers in advance of the closure.

6.1.6 In addition to the PoD order, which will present a physical barrier to the movements of general traffic, there will be an Traffic Order order at the entry to Water Street from both New Quay Street and Liverpool Road restricting access to **'No Motor Vehicles, Except for Access'**. This order will permit access to the disabled bays south of Factory. The Signage associated with the PoD is given in **Dwg VN70930-124**.



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

Key

Prohibition of
Driving Area



REV.	DETAILS	DRAWN	CHECKED	DATE
-	-	-	-	-

CLIENT:

Manchester Quays Ltd

PROJECT:

St Johns Technical Masterplan

DRAWING TITLE:

Prohibition of Driving
Along Water Street

SCALE:

1:500 at A3

DRAWN:	WD	CHECKED:	GD	DATE:	09.03.20
--------	----	----------	----	-------	----------



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

DRAWING NUMBER:

VN70930-125

REVISION:

-

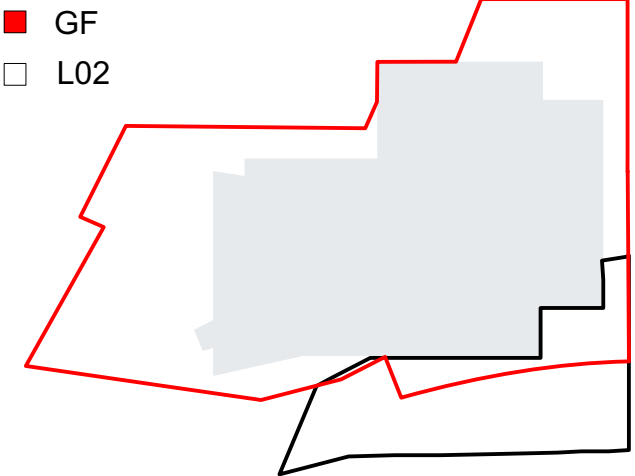
0 2.5 5 10 15
1:500 SCALE (m)

NOTE: THE PROPERTY OF THIS DRAWING AND DESIGN IS VESTED IN VECTOS (NORTH) LTD.
IT MUST NOT BE COPIED OR REPRODUCED IN ANY WAY WITHOUT THEIR PRIOR WRITTEN CONSENT.



NOTES:
1. Do not scale from this drawing.
2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

LOCATION PLAN



Ground Floor Site Boundary

HARDWORKS

- Glow in the Dark In-situ Concrete**
to spotlight area.
Material: Bespoke reinforced in-situ concrete with luminous aggregate.
- Light Grey In-situ Concrete**
Material: Bespoke reinforced grey in-situ concrete.
- Buff In-situ Concrete**
Material: Bespoke reinforced buff in-situ concrete.
- Precast Concrete Permeable Paving**
Material: Precast concrete permeable paving units with grass seed and topsoil or gravel and circular concrete unit in voids, varying ratio of paving grass surfacing.
- Tactile Paving**
Pre-cast concrete blocks paving with built in hazardous strip.
- Yorkstone Setts Paving (existing and proposed)**
Material: sandstone setts.
- Yorkstone Flags (partly stock material)**
Material: sandstone.
- Existing Reclaimed Cobbles - retained**
Material: granite.
- Existing Granite Flags - retained**
Material: granite.
- Tarmacadam**
existing retained.
Subject to detailed design.

SOFTWORKS

- Proposed Semi-mature Trees**

0m 5 10 15

STEPS/RETAINING WALLS

- Existing Brick Pier and Sandstone Coping**
- Existing Precast Concrete Retaining Wall**
to Ordsall Chord Interface
- Precast Concrete Retaining Feature**
to Ordsall Chord Interface
Reinforced multi concrete
- Precast Concrete Retaining Feature Seating**
to seating steps next to new pedestrian/cycle bridge
Precast concrete with timber tops
- Precast Concrete Steps**
to seating steps next to new pedestrian/cycle bridge and existing brick pier
Light grey precast concrete. Rise - 150mm. Going - 600mm. Contrast strip paving.
- River Wall and Guard Rail**
to river wall edge on top of retaining wall
Block to concrete wall and Post Stone Guard Rail. Hot dip galvanised and powder coated.
- InSitu Concrete Retaining Wall**
to service yard and Bonded Warehouse Interface
Reinforced multi concrete

FURNITURE

- Bespoke Fencing & Access Door**
- Timber Tops to Retaining Wall**
- Seating Cubes**
Material: concrete & timber.
Dimensions: 400mm (H) x 400mm (W) x 1000mm (L). No permanent fixings to ground surface.
Anchoring accessories to top of units to move during events.
Subject to detailed design.
- Existing Lighting Column - Retained**
to service yard and Bonded Warehouse Interface
- Lighting Column**
to service yard and Bonded Warehouse Interface
Hot dip galvanised and Powder Coated RAL 7035.
- Precast Concrete Rings**
to column protection.
- Cycle Stand**
Stainless Steel. 1200mm x 750mm x 50mm diameter. Road fixed.
- Fixed / Removeable Bollards**
Material: stainless steel.
- Potential Bespoke Art Lighting Installation**
- Handrail (Root Fixed and Wall mounted)**
Steel. Root fixed to tree and wall mounted to post.
- Litter Bins - Wall Mounted and Free-standing**
recycle. City Bin. Hot dip galvanised and Powder Coated. Free-standing / wall mounted / attached to lighting column.

Revision	Date	Description	Drawn	Appr'd.
S4-P05	05/03/20	Planning	TF	AM
S1-P04	22/10/19	Design Update	TF	AM
S1-P03	22/10/19	Design Update - Option 3	TF	AM
S1-P02	24/07/19	Design Update	TF	AM

Planit I.E. Limited
E: info@planit-ie.com W: planit-ie.com
MANCHESTER
2 Back Grafton St, Altrincham, WA14 1DY
T: 0161 928 9281
LONDON
Unit 6 Waterside, 44-48 Wharf Road, London, N1 7UX
T: 0207 253 5678
LIVERPOOL
No. 8 Princes Parade, Princes Dock, Liverpool, L3 1DL
T: 0151 705 6746

Client OMA / MCC

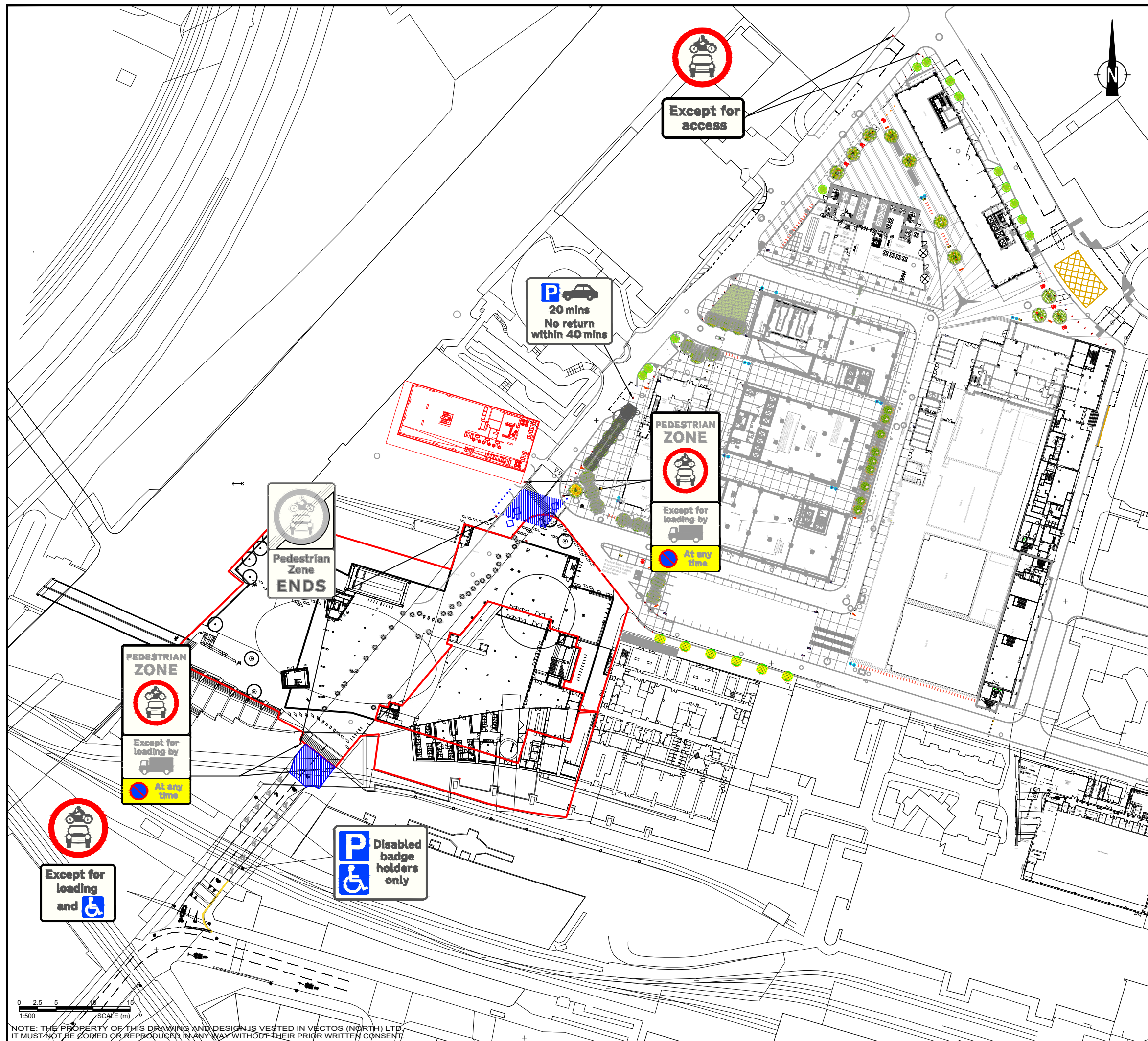
Project Factory

Drg Title Landscape Illustrative Masterplan
Ground Floor

Created on 17-07-19 Created by TF Approved by AM

Scale 1:250 Size A1 Workstage Stage 3 / Planning

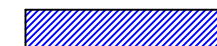
Drg No. MF-PLA-XX-GF-DR-L-10-0004 Suitability S4 Revision P05



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

Key

Turning Area
(Subject to
Further Design)



REV.	DETAILS	DRAWN	CHECKED	DATE
-	-	-	-	-

CLIENT:

Manchester Quays Ltd

PROJECT:

St Johns Technical Masterplan

DRAWING TITLE:

General Arrangement

SCALE:

1:1250 at A3

DRAWN:	WD	CHECKED:	GD	DATE:	24.02.20
--------	----	----------	----	-------	----------



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

DRAWING NUMBER:

VN70930-124

REVISION:

-

- 6.1.7 Vehicles entering the controlled area would be timed to avoid periods of high pedestrian movement. Where a vehicle needs to reverse within the public spaces a banksman would be employed. Vehicles would be instructed to drive at no more than 5mph. All access would be under the control of MQL site management team.
- 6.1.8 To the north there is a service route through Festival Square for delivery vehicles that have served MGY, T1 or the Studios. These vehicles are not affected by the PoD although they would have passed for clearance by MQL management and passed through automatic bollards. Again, these delivery movements would be timed to avoid periods of high pedestrian movement.
- 6.1.9 Vehicles looking to serve the 'Zig Zag' Arches to the south or Network Rail vehicles accessing the viaduct structure can do so without entering the PoD zone.

7 HIGHWAY ASSESSMENT

7.1 Introduction

7.1.1 This chapter sets out the traffic and highway operational analysis with the PoD in place. The operation of the wider highway network has been modelled by TfGM using a PARAMICS model as described previously in Chapter 4. In simple terms the only change in this model is to close off Water Street south of the Core Site of St Johns.

7.1.2 The traffic flow forecasts are shown in **Figure 7.1** for the situation with Water Street Closed to through traffic with the PoD implemented. **Figure 7.2** shows the difference in traffic flow as a result of the PoD.

7.2 Changes in Flow on Water Street

7.2.1 The flow forecasts show that on Water Street itself there is reduction in flow of around 100 vehicles. This reduction on flow means that the only traffic in the area is traffic accessing premises off Water Street and it should become a quieter highway.

7.3 Changes in Flow on Liverpool Road

7.3.1 The reduction in flow on Water Street tends to lead to a small reduction in two-way traffic flow on Liverpool Road in the PM peak of 68 vehicles with little change in the AM peak. The junction of Water Street with Liverpool Road now would have relatively little traffic and would operate well within capacity.

7.4 Changes in Flow on Quay Street

7.4.1 On Quay Street east of Water Street, there is an increase in two-way traffic flow of 84 vehicles in the AM peak and 100 vehicles in the PM peak. These increases are split directionally so that the main increases are in the opposite direction the peak commuter flows for example in the AM peak the main city bound flow increases by 18 vehicles in an hour and the opposing outbound flow is 66 vehicles. In the PM peak the outbound flow increases by 66 vehicles or around 1 per minute with the contrary inbound flow is 48 vehicles.

7.4.2 To put this into context these increases represent an increase of 6% in traffic on Quay Street in the AM peak and 9% in the PM peak.

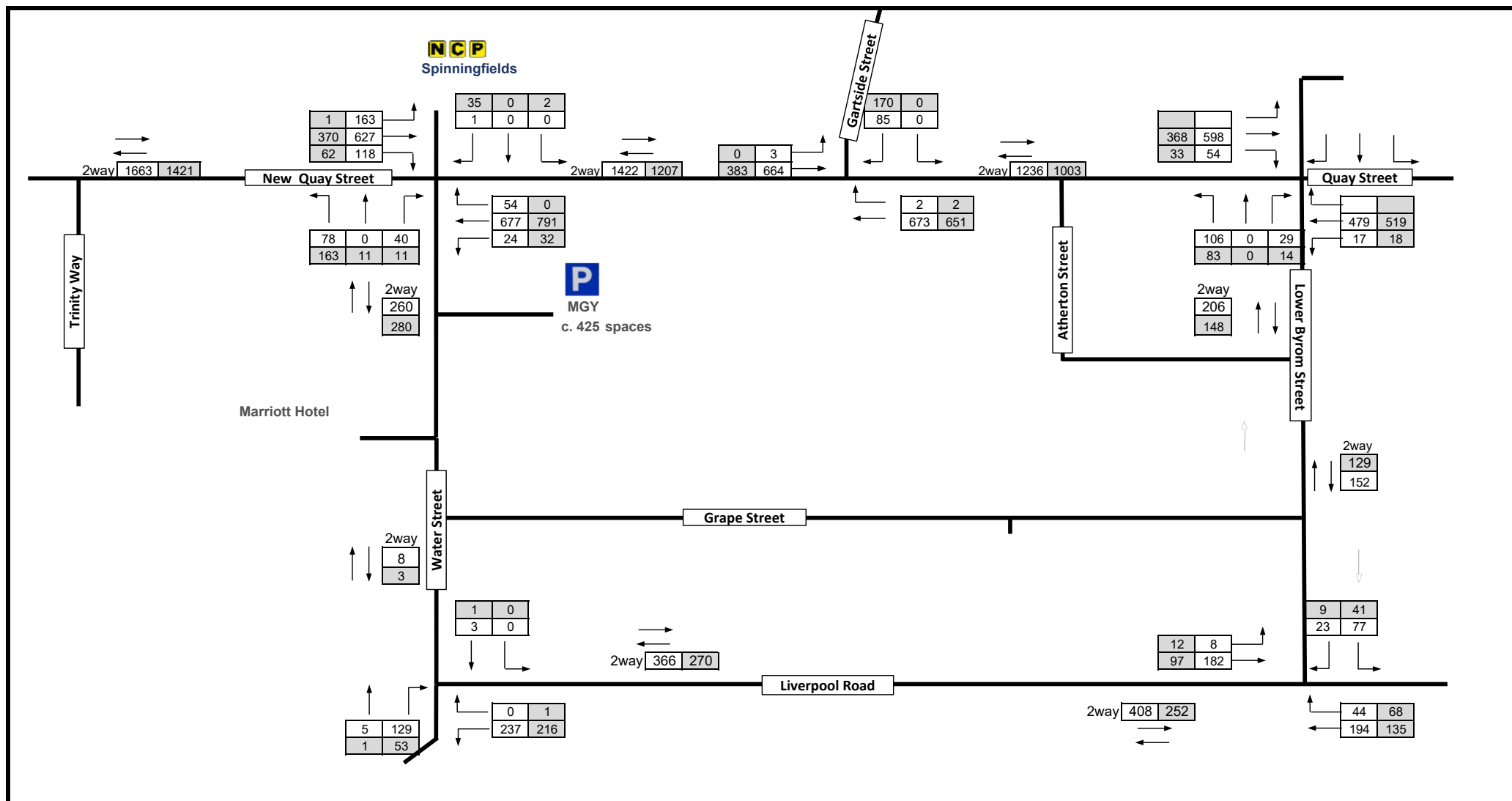


Figure 7.1 TfGM Modelled Flows (PCUs)
Water Street Closed with PoD

Key:

Light Grey Box	AM Peak (08:00 - 09:00)
Dark Grey Box	PM Peak (17:00 - 18:00)

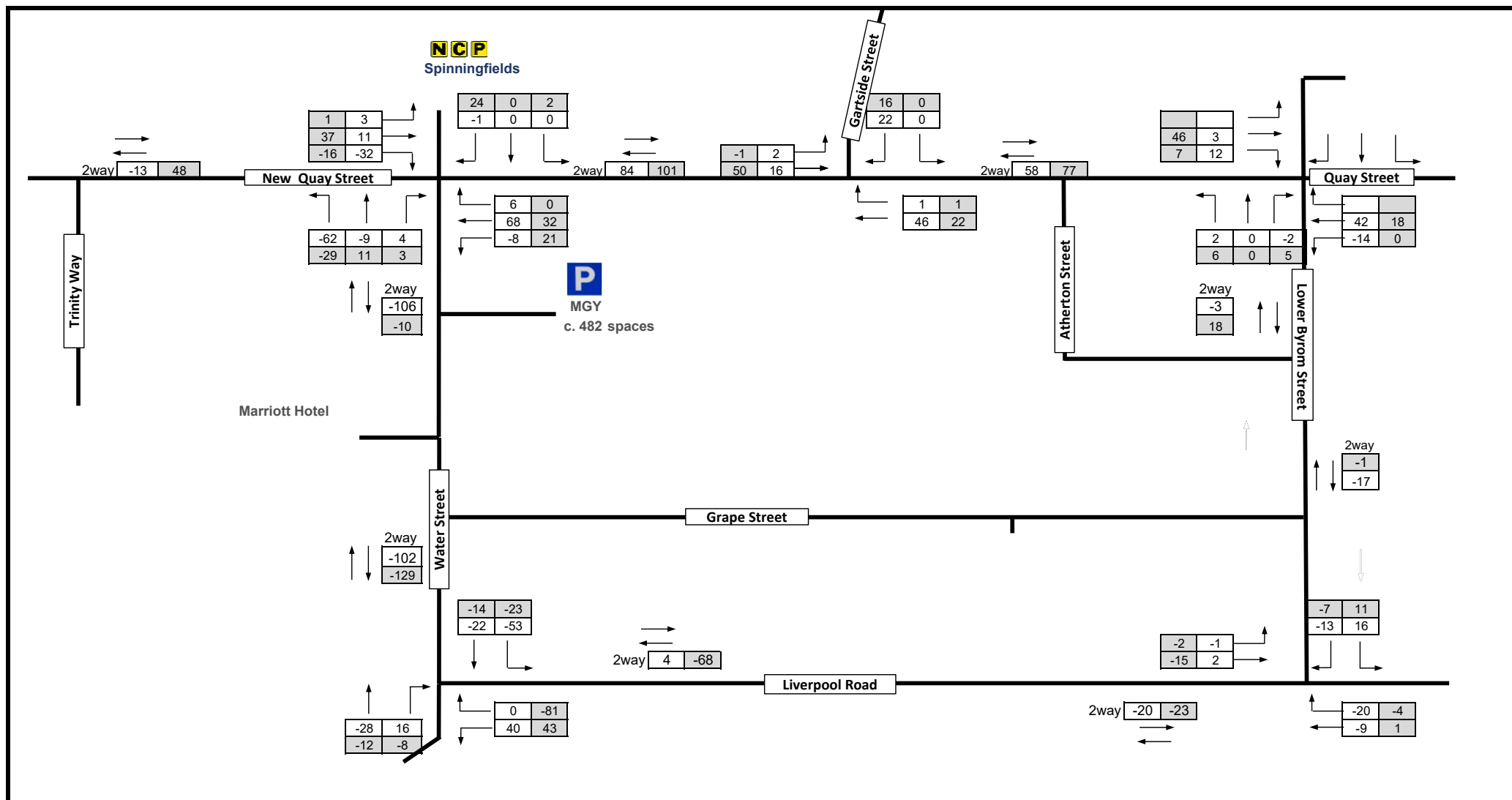


Figure 7.2 TfGM Modelled Flows (PCUs)
Difference between Water Street Closed v Open

Key:
 AM Peak (08:00 - 09:00)
 PM Peak (17:00 - 18:00)

7.5 Changes in Flow on Lower Byrom Street

- 7.5.1 Lower Byrom Street would see a reduction on the central section of that road south of Gt John Street of up to 17 vehicles in the AM peak. In the PM peak there is practically no change on this section but on the northern section it is forecast 11 vehicles heading north onto Quay Street and 7 vehicles heading south.

7.6 Traffic Signals Operation on Quay Street

- 7.6.1 To assess the implications of this peak hour traffic on the signals at Quay Street/Gartside Street and Quay Street/ Water Street, the LINSIG modelling software was used with the traffic flow forecasts as from the PARAMICS model. The LINSIG model output is shown overleaf in **Table 7.1** with the output given in **Appendix B**.
- 7.6.2 In looking at these results there are very little changes between the scenario with and without the PoD. In summary, the junctions will operate within capacity although there are notable queues that form, in a similar fashion that happens at present. In this area the queues are sensitive to blocking back. The largest queue on New Quay Street that could block back is the 18-vehicle queue from the Water Street signals but this queue is not made any worse by the PoD. In fact, with the PoD in place, the junction of Water Street with Quay Street performs slightly better, probably due to the reduction in through traffic on Water Street allowing more green time to be applied to the main line flows.
- 7.6.3 At the Gartside Street signals, again the changes between the two scenarios are marginal. With the PoD the increases in queue lengths are by 1 or 2 vehicles on any of the approaches in each of the peak periods.
- 7.6.4 In summary, this set of signal junctions are not adversely affected in a noticeable way by the PoD. The changes are slight, and the junctions will operate within capacity but would remain sensitive to queues blocking back during peak periods.
- 7.6.5 At off peak periods, Quay Street operates with considerable spare capacity and so during the periods when events are happening the network should be able to operate efficiently.

Water Street Open				
Link	AM Peak		PM Peak	
	DoS (%)*	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1/1: New Quay St (W)	90.4	24	39.2	5
J1/2: Water St (N)	2.5	0	13.8	0
J1/3: New Quay St (E)	68.8	12	80.7	18
J1/4: Water St (S)	82.7	7	82.4	7
PRC (%)	-0.5		9.2	
J2/1: New Quay St (W)	82.8	13	50.7	4
J2/2: Gartside Street (N)	38.8	2	57.9	4
J2/3: Quay St (E)	64.0	12	72.3	14
Practical Reserve Capacity (%)	8.7		24.6	
Cycle Time (Secs)	90		90	
Water Street Closed				
Link	AM Peak		PM Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J1/1: New Quay St (W)	84.4	20	41.2	6
J1/2: Water St (N)	1.1	0	43.8	1
J1/3: New Quay St (E)	70.8	14	82.8	18
J1/4: Water St (S)	72.7	4	78.2	6
PRC (%)	6.6		8.9	
J2/1: New Quay St (W)	84.7	14	58.7	5
J2/2: Gartside Street (N)	51.6	3	63.5	5
J2/3: Quay St (E)	68.6	14	74.7	15
Practical Reserve Capacity (%)	6.2		20.6	
Cycle Time (Secs)	90		90	

Table 7.1 New Quay Street/Water Street/Gartside Street Signals

* DoS Degree of Saturation. 100% equates to the theoretical junction capacity

** MMQ Mean Maximum Queue averaged over the hour Base traffic flows have been taken from the following sources:

7.7 Highway Operation During Events

- 7.7.1 Factory is expected to host events over most days of the year. The main aim behind Factory is that it can create/rehearse performances while at the same time presenting events and so most of the time only either the Warehouse or the Theatre will be presenting to the public at any one time. Factory will also be able to host outdoor performances which may be tied to the events indoor.
- 7.7.2 The timing of larger events is likely to be outside of the peak traffic periods, later in the evening or at weekends.
- 7.7.3 With a large event, the majority of event goers will walk in from public transport, coach drop-offs or from car parks in the area. There is expected to be visitors arriving by taxi or being dropped off and these could arrive on Water Street to pick-up and drop-off. There are no taxi ranks proposed turning areas and there would be 'No Waiting' traffic orders imposed. We still expect some peak traffic waiting to pick-up after an event and that could result in congestion for 20 minutes or so after an event. It is expected that users and taxi drivers in particular will be aware of that congestion and Factory will inform visitors in advance via the website to access the site in a sustainable way.

SUMMARY AND CONCLUSION

7.8 Summary

- 7.8.1 Manchester City Council has commissioned Vectos North to prepare a Transport Statement to support the discharge of a planning application for Public Realm Works at Factory and a Prohibition of Driving Order (PoD) for Water Street which helps facilitate those works. Factory will be a landmark arts development where the widest range of art forms would be made and presented. Factory was supported by a Transport Assessment and this report builds on that work.
- 7.8.1 To achieve a safe and secure environment for Factory and its visitors, a PoD is proposed for Water Street underneath the Factory Building. Either side of Factory, the length of Water Street between New Quay Street and Liverpool Road will benefit from a Traffic Order which prevents access by motorised vehicles (except for those accessing properties on Water Street). Those accessing the disabled parking spaces will also be permitted to enter.
- 7.8.2 In the turning spaces either side of Factory there will be a 'No Waiting' Order preventing drivers from parking in these locations.
- 7.8.3 The rationale for the PoD is due to safety considerations from the large numbers of pedestrians potentially crossing the highway before and after events, the security implications of a vehicle being able to bring in an explosive underneath Factory and that a vehicle could be used as a weapon against a large crowd and finally there are considerable amenity benefits that can be made with the highway closure.
- 7.8.4 This PoD will apply to general traffic except for the following:
- Pedestrians;
 - Cyclists;
 - Fire brigade, ambulance or police;
 - Statutory undertakes vehicles accessing plant;
 - Vehicles servicing Factory, maintaining the building or its public realm;
- 7.8.5 This report presents the management controls that would apply and how they would operate.

- 7.8.6 The Report presents the output of the traffic model undertaken by TfGM that has tested the operation of the local highway network both with Water Street open to traffic and with it closed with the PoD. This model is the most up to date model and includes the transport interventions coming forward in the city centre such as the closure of Deansgate as a through route and a Bus Gate on Bridge Street.
- 7.8.7 In summary the changes in traffic flow are quite modest. There is a reduction in traffic on Water Street as might be expected without the through traffic passing along that link. There is a modest increase in traffic on Quay Street of up to 100 vehicles in the PM peak (+9%) but this is split directionally so the maximum increase on any approach is around one additional vehicle per minute or less.
- 7.8.8 With the changes in traffic flow, this network has been tested in detail with a LINSIG traffic signal model. This model shows the junction operating within capacity but with queues that could block back and is therefore sensitive. Overall with the PoD, there is very limited change in highway operation compared to existing. There is in fact a small improvement at the Water Street signals and at Gartside Street the queue lengths increase by just 1-2 vehicles. The signals will still be sensitive to queues blocking back but that is evident in the current operation and the PoD does not make this any worse.
- 7.9 Conclusion**
- 7.9.1 It is considered that the PoD is an appropriate highway intervention that will provide a quality environment for the public to enjoy at Factory and that the proposals are acceptable in highways and transportation terms.