

4/11/11

11/1443/FUL

**Odyssey**  
consulting engineers

**PROPOSED DEVELOPMENT AT  
TWICKENHAM STATION**

**Report on Highways & Transport issues by  
Odyssey Consulting Engineers on behalf of  
TRAG Twickenham Residents Action Group**

**Project No. 11-017  
October 2011**

**PROPOSED DEVELOPMENT AT  
TWICKENHAM STATION**

**Report on Highways & Transport issues by  
Odyssey Consulting Engineers on behalf of  
TRAG Twickenham Residents Action Group**

**Odyssey Consulting Engineers  
Elizabeth House  
39 York Road  
London  
SE1 7NQ  
Tel: 020 7620 2444  
Fax: 020 7620 1168  
[enquiries@odyssey-ce.co.uk](mailto:enquiries@odyssey-ce.co.uk)**

**Project No. 11-017  
October 2011**

## DOCUMENT CONTROL SHEET

| REV | ISSUE PURPOSE | AUTHOR | CHECKED | REVIEWED | APPROVED | DATE    |
|-----|---------------|--------|---------|----------|----------|---------|
|     | CLIENT ISSUE  | SRB    | SRB     | SRB      | SRB      | OCT. 11 |
|     |               |        |         |          |          |         |
|     |               |        |         |          |          |         |
|     |               |        |         |          |          |         |
|     |               |        |         |          |          |         |

## CONTENTS

## Page

|     |              |    |
|-----|--------------|----|
| 1.0 | Introduction | 1  |
| 2.0 | The Issues   | 2  |
| 3.0 | Conclusion   | 10 |

## DRAWINGS

OCE Drawing No. 11-107-001 – Existing Station Eastbound Waiting Area

## APPENDICES

Appendix A RFU Petition

Appendix B Extracts from Transport Chapter of Maddox Associates  
Environmental Statement

Appendix C Photographs

## 1.0 INTRODUCTION

1.1 Odyssey Consulting Engineers were approached by Twickenham Residents Action Group (TRAG) in February 2011 to provide advice on the proposed redevelopment of Twickenham station. Odyssey were appointed to review the highways and transport documentation supporting the planning application and to advise TRAG of the likely implications of the proposed development from a transport perspective, highlighting where it was considered that the proposals would result in conditions detrimental to local residents both in the short and the longer term.

1.2 Accordingly, Odyssey has reviewed the Transport Assessment accompanying the application dated November 2010 and its subsequent revision dated February 2011. Odyssey have also reviewed the Environmental Statement dated April 2011 prepared by Maddox Associates.

1.3 It will be appreciated by the planning authority that TRAG represents a group of local residents and as such do not have unlimited funds to counter development of this scale. Our brief was therefore to focus our attention on the most pertinent matters from a highways and transport perspective.

## 2.0 THE ISSUES

2.1 It is immediately apparent that this proposed station redevelopment is not typical of most station redevelopments, in that it does not only impact upon the day-to-day use of the station, but also impacts upon the use of the station to accommodate large numbers of people travelling to and from a major sporting venue, in this case Twickenham Rugby Stadium, on match days and during other events.

2.2 Given the sustainable location of the proposed development and the limited car parking provision for the new residents, this report does not raise any significant objections to the implications of the proposed development on a typical (i.e. non-match or event) day. Concerns are however, raised in respect of match or event days.

### *Rugby Football Union (RFU) Petition*

2.3 The RFU has relatively recently launched a petition which seeks to lobby Network Rail, the Department for Culture Media & Sport, the Department for Transport, Richmond-upon-Thames Council, the Mayor of London and South West Trains to help "*deliver significant improvements to Twickenham Station in time for the Rugby World Cup*" which takes place in 2015. In identifying issues at the station the RFU have highlighted that Twickenham Station "*struggles to cope with match day crowds*".

2.4 A copy of the RFU petition can be found at Appendix A to this report.

2.5 The petition also states that "*we expect over 600,000 fans from around the world to come and visit Twickenham for the tournament. The majority of rugby fans who will travel to Twickenham will arrive by train and use Twickenham station*".

### *Existing Matchday Station Constraints*

2.6 Having visited the stadium and Twickenham Railway station on a match day it is evident that the dispersal of match day crowds by rail is constrained by a number of factors pertaining to the capacity of the railway station. These factors can be broadly split into 3 components.

- The length of the existing platforms. This constraint of the existing station layout prevents the use of longer, higher capacity trains and as such is a significant factor in the discharge rate of match day crowds from the holding area within the station site and on the public highway. We have discussed this matter with Network Rail who have confirmed that at the time of writing this report this work was proceeding onsite.
- The length of the existing trains Network Rail are proposing to extend the current 8 car trains to 10 car trains at Twickenham station. The extended platform works will of course facilitate this. It is understood that the introduction of the longer trains is scheduled for 2018.
- The current inadequacy of available space within the station to accommodate those fans queuing to board a train, without overspill onto the surround public highways. The consequence of this is that the public highways are required to be closed to traffic for a period of time before, during and after a match. This clearly inhibits the operation of the public highway during this time not only for vehicles but also for residents going about their day to day business on foot, for cyclists and for those travelling on public transport.

2.7 It is clear that the increase in train capacity by 25% (i.e. 8 car trains to 10 car trains) and the lengthening of the platforms to accommodate them would clearly increase the throughput of match day crowds travelling via Twickenham station. This would clearly have an effect on the amount of queuing experienced at the station and on the surrounding public highways. It is interesting to note that the Transport Assessment accompanying the station redevelopment plan makes no assessment of this scenario.

2.8 It is clear from the above that critical matchday capacity improvement works at the station are being undertaken independent of the proposed station redevelopment and are evidentially not reliant upon it. This is important, as it demonstrates that two of the three constraining factors identified above are being dealt with without reliance on the proposed development.

2.9 The third matchday component, namely the storage area for those queuing to board a train, is affected by the proposed development and will be discussed in more detail later in this report.

#### *RFU – Strategic Plan*

2.10 With regard to usage of the railway station, the RFU Strategic Plan 2009/10-2015/16 states under the heading '*Twickenham-Transport*' that the RFU aims to limit match day car travel to the stadium to 40.95%. This suggests that the modal share to car can currently exceed this figure on match days. The impact of modal shift away from the private car would indicate greater use of rail services via Twickenham station on match days in the future. No allowance of this appears to have been made in the Transport Assessment accompanying the planning application.

#### *London Borough of Richmond-upon-Thames – Supplementary Planning document (11th October 2010)*

2.11 The London Borough of Richmond-upon-Thames has prepared a Supplementary Planning Document (SPD) entitled '*Twickenham Station and Surrounding Design Standards*'. The aim of this document, adopted in October 2010, is to *ensure 'the best overall development for the town in terms of layout and design'*.

2.12 In transport terms the SPD makes reference to the existing tunnel link under London Road which is expected to be used as part of any development at the station site and the sorting office site (opposite). The SPD states that this link should '*join the east/west route*' and also '*link into north/south*'



*pedestrian routes on the west side of London Road*'. The proposed redevelopment of the station proposes to make a 'passive' provision for this subway and no details have been provided within the Transport Assessment beyond stating that the development proposals would safeguard the existing underpass that leads from the station to the Royal Mail site under the London Road bridge.

#### *Future Rail Use Growth*

2.13 The Transport Assessment states that it makes allowance for growth to 2035 in the context of the design criteria for the station concourse. It does not appear to state what the growth factors are or where any such factors have been derived. In this regard it is relevant to note the Transport for London document *entitled 'A Rail Strategy for London's Future – Statement of Case (2007)' identifies that 'TfL's projections suggest that rail passenger demand will increase over the next 20 years by 30-40%'*.

2.14 Whilst it can be reasonably assumed that this growth in rail passenger demand will apply to the day-to-day use of the station, it is also reasonable to assume that some of this growth in rail usage over the next 20 years would translate to those travelling to and from Twickenham Stadium on a match day. It is expected therefore that in any event the numbers of people using Twickenham station after a match or event would increase in the future.

2.15 Assessment of the queuing and management of match day crowds at the station is set out within the Transport Assessment, and it appears to take no account of future increases in matchday travel by rail via Twickenham Station. In this regard it would be normal practice, when considering natural growth in travel by a particular mode over a period of time, to seek to accommodate this growth on a 'nil detriment' basis. The Transport Assessment appears not to have taken any account of this.

### *Assessment of Matchday Crowd Storage Space*

2.16 Figure 8.2 in the transport chapter in the Environmental Statement illustrates the existing station pedestrian routes. This clearly identifies the area used for storage of match day crowds waiting to access a platform along the northern boundary of the site. It is also evident that some areas of the site just to the north of the existing station building are not designated on the plan. This primarily comprises the triangular car parking area between the station and the 'designated' match day queuing area along the northern boundary.

2.17 Figure 8.3 of the E.S shows the proposed station pedestrian routes and indicates how these previously undesignated areas have been 'filled in' with proposed development.

2.18 The operational impacts (matchday) analysis is set out from paragraph 8.6.7 of the Environmental Statement. Figures 8.4 and 8.5 of the E.S set out the current queuing arrangements for both the egress route from the station and the ingress route for crowds returning to the station after an event. It is evident from observations on a matchday that the ingress route to the station after an event is the most critical in terms of the implications for queuing to take place both within the station site itself and on the surrounding public highways. In this regard Figure 8.5 of the E.S identifies the areas available for queuing within the station site both for those travelling eastbound (towards London) and for those travelling westbound (towards Reading) after a match or event.

2.19 It is again clearly evident from match day observations that the majority of those leaving the stadium and travelling to Twickenham station wish to travel in an eastbound direction towards London.

2.20 Figures 8.7 and 8.8 of the E.S show the proposed eastbound and westbound queuing arrangements with the development in place. Note, the titles of these figures are incorrect. Figure 8.7 of the E.S should be '*Proposed Westbound queuing arrangements*' and figure 8.8 should be '*Proposed Eastbound or London bound queuing arrangements*'.

2.21 The areas associated with each of the eastbound and westbound queuing arrangements for both the existing and proposed scenarios are compared at Table 8.3 at para 8.6.1.3 of the Environmental Statement. A copy of this table together with figures 8.2, 8.3, 8.5, 8.7 and 8.8 are contained at Appendix B within this report, for convenience.

2.22 Table 8.3 clearly shows for the westbound route that the proposed development will result in a significant improvement in the storage area for queuing passengers from 231m<sup>2</sup> to 512m<sup>2</sup>, an increase of 122%. However, with regard to the critical movement i.e. the eastbound route towards London, the proposed development would result in an increase in of only 2sqm or 0.2% above the existing queuing area identified in Figure 8.5.

2.23 It is evident from this that whilst Table 8.3 implies that the total ingress capacity will be increased by 27% as a result of the proposed development, the increase in capacity in the critical eastbound direction, which is the cause of the majority of the queuing onto the public highway, has barely increased, at just 2m<sup>2</sup>.

2.24 It is asserted that this 2m<sup>2</sup> increase in the eastbound capacity for queuing within the site would not accommodate the proposed increase in rail use generated by the implementation of the RFU's Strategic Plan for use of Twickenham station and the general increase in rail travel expected on match days in accordance with growth projections by TfL. As such, it is considered that the proposed development would not achieve 'nil detriment' with regard to the impact of queuing passenger's ingressing the station on match days.

2.25 Further examination of the available space at Twickenham station to accommodate the match day queues was subsequently undertaken. In general the area around which the queuing is currently organised is open in nature, generally comprising hard-standing and currently used for car parking on non-match days. There is also an area beyond the existing 3m security fence between the platforms and the car park which appears to be unused at

present (see photographs at Appendix C). Odyssey Consulting Engineers drawing no. **11-017-001** identifies these areas.

2.26 Subject to minor surfacing works such as the removal of kerbs and levelling of unmade ground and the relocation of fences, it is considered that the two potential additional waiting areas identified on the OCE plan namely the 831m<sup>2</sup> space north of the 3m fence and the 413m<sup>2</sup> space closet to the back of the station and the tracks, could be used to increase the queue storage area.

2.27 Whilst it is fair to say that Figure 8.5 of the Environmental Statement does indicate the **current** queuing arrangements for the ingress route, it is considered that an additional figure should have been provided which shows the 'potential' queuing arrangements for the ingress route utilising all available space at the station. Comparison of this total area (equating to some 2067m<sup>2</sup> (excluding the 168m<sup>2</sup> waiting area on the platform), with the 818m<sup>2</sup> identified in Table 8.3 would have clearly demonstrated that the proposed development would in fact significantly reduce the potential queuing area at the station on match days.

2.28 Even though it could be argued that this additional identified area is not currently being used, it is in our view perfectly valid that this additional space should be treated as potential queuing space for use in the future, which would be lost as a result of the development. The development would therefore result in a reduction of available queuing space within the station and would remove the potential for this space to be used to more effectively manage matchday queuing in the future.

2.29 This third component of the existing station capacity constraints on match days, as identified at the outset of this report, is currently within the stations gift to improve. As such it is clear the three constraining components, namely the length of the platforms, the length of the trains and the available queuing space can all be improved without the proposed development. The Transport Assessment accompanying the planning application does not test this scenario, which is considered to be a failing of the submission. As a

result, it is not known to what extent addressing the three above constraining components, without the development in place, would significantly reduce the match day queuing onto the adjacent public highways and its resultant implications for local people.

2.30 Whilst reasons for the non-utilisation of the identified additional space may be forthcoming from Network Rail and potentially the Police, it is considered that a proper assessment of the utilisation of this space on match days would result in a significant increase in the available queuing space and its effective management.

### 3.0 CONCLUSION

3.1 This report primarily deals with the implications of the proposed development on match days.

3.2 It is evident that as a result of both the modal shift to rail use arising from the RFU's Strategic Plan and the expected future increase in rail use to and from Twickenham station on match days, that the proposed increase in the critical eastbound queuing storage space within the site, would be inadequate to demonstrate 'nil detriment'.

3.3 The current constraint to eastbound travel on match days via the station can be spilt into three component parts, namely

- Available platform lengths
- Available number of carriages
- Available queue storage space within the site in the critical eastbound 'London' direction.

3.4 It has been demonstrated within this report that all three of these components could be addressed without the need for the proposed development. Indeed the platform lengthening programme was onsite at the time of writing this report. Network Rail are also known to be seeking to introduce the 10 car trains by 2018. The improvement in queue storage could also be delivered by the rationalisation of the existing space at the station, some of which is currently under-utilised on match days. The ability to achieve this third component would however be lost should the proposed development go ahead.

3.5 In conclusion therefore, it is argued that the existing problem of pedestrians queuing back onto the public highway from the station after a match has the potential to be addressed without the proposed development in place. A significant part of this potential would however be lost as a result of the proposed development thus denying local people a solution to this problem in the future.

APPENDIX A



## Twickenham Station Redevelopment Petition

We are delighted that England will be hosting the Rugby World Cup (RWC) in 2015. The RWC is the third largest sporting event in the world.

We expect over 600,000 fans from around the world to come and visit Twickenham for the tournament.

The majority of rugby fans who will travel to Twickenham will arrive by train and use Twickenham station. The station struggles to cope with demands of large numbers of people on match days despite the best efforts of the station staff.

While London has invested heavily in infrastructure for the Olympic and Paralympic Games in 2012 with state of the art transport links and improved stations in and around the Olympic Park, Twickenham station has yet to see any such improvements.

The RFU believe:

- That the RWC in 2015, as the third largest sporting event in the world, deserves to have the best facilities that London and England has to offer
- That Twickenham station needs significant improvements to ensure that fans from around the world can easily and quickly get to and from Twickenham

And thus we call on Network Rail, the Department for Culture, Media and Sport, Department for Transport, Richmond upon Thames Council, the Mayor of London and South West Trains to deliver significant improvements to Twickenham station in time for the RWC so that London and Twickenham can be proud of the experience that fans from around the world will have when they come to Twickenham.

To register your support please go to [www.ipetitions.com/petition/twickenham](http://www.ipetitions.com/petition/twickenham)



APPENDIX B

Figure 8-2 Existing Station Pedestrian Routes

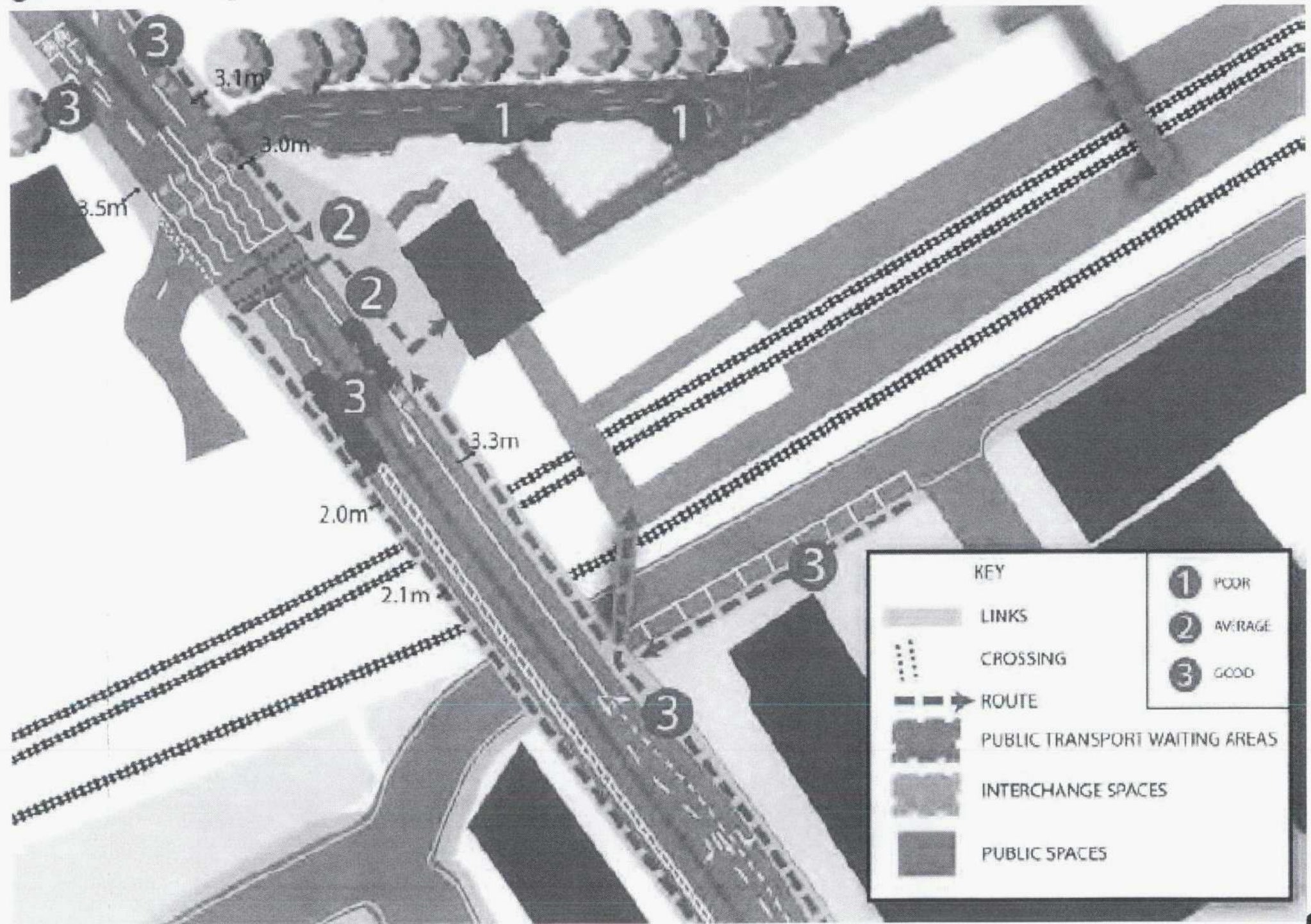


Figure 8-3 Proposed Station Pedestrian Routes

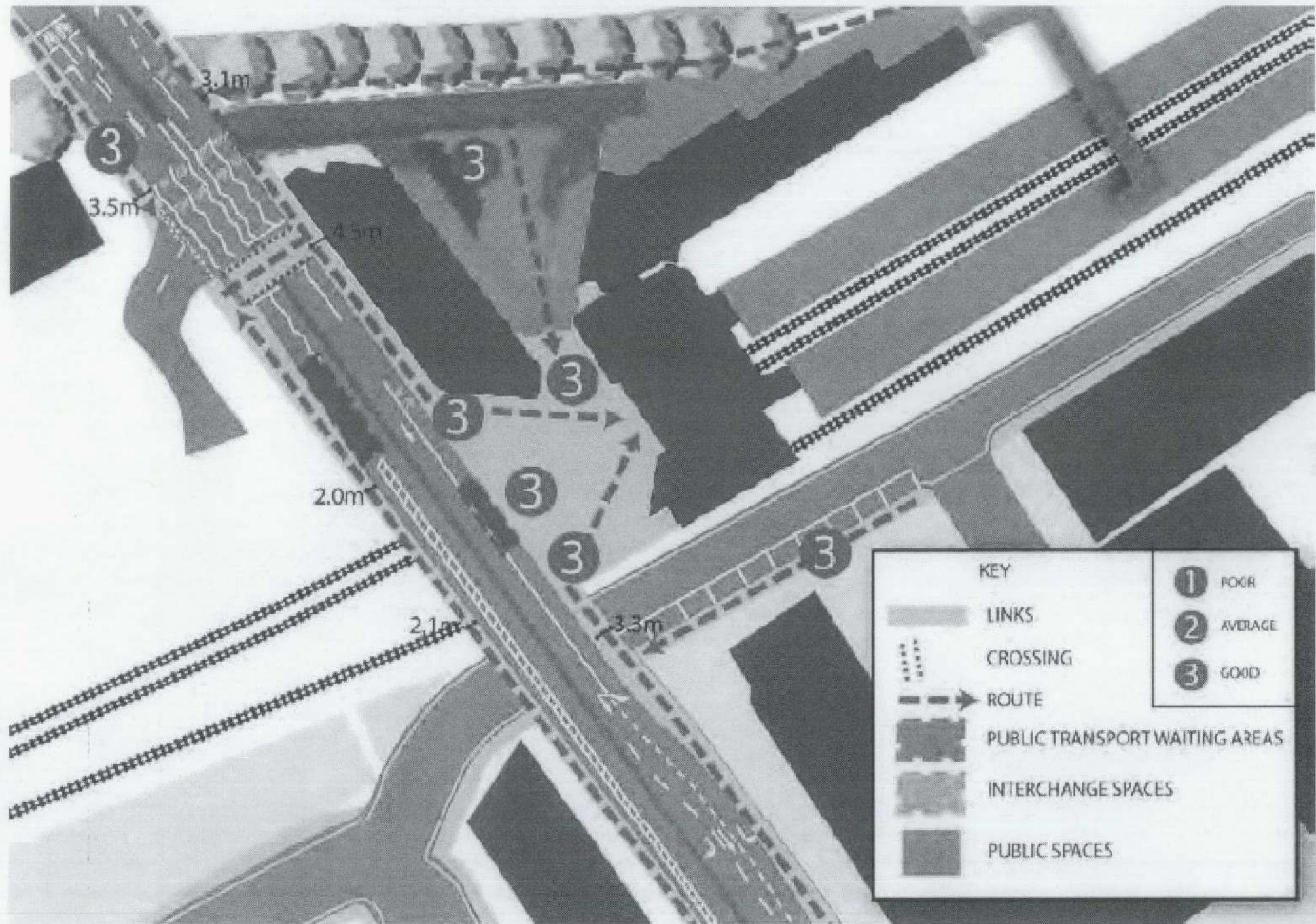


Figure 8-5 Current Queuing Arrangements for the Ingress Route

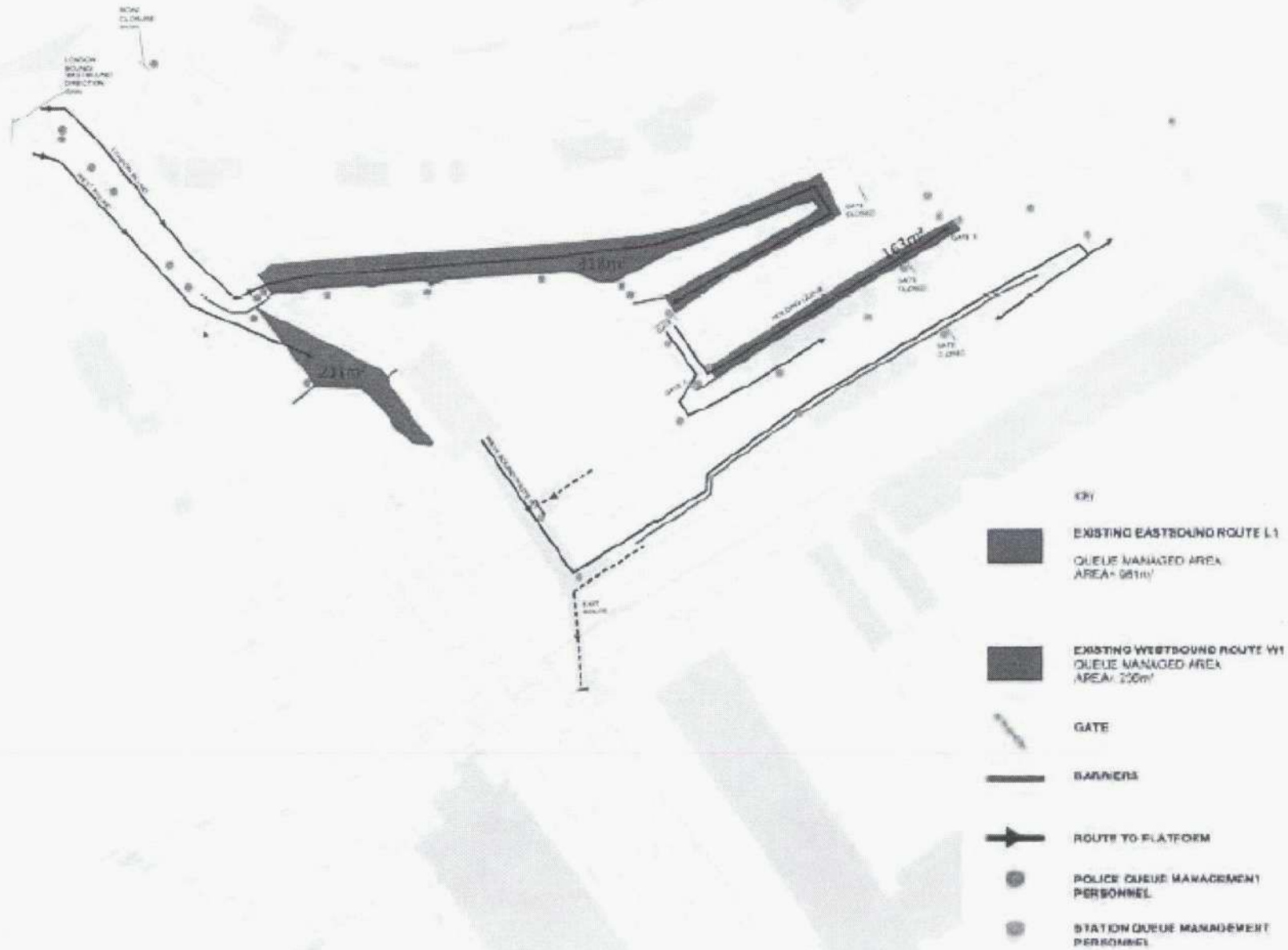
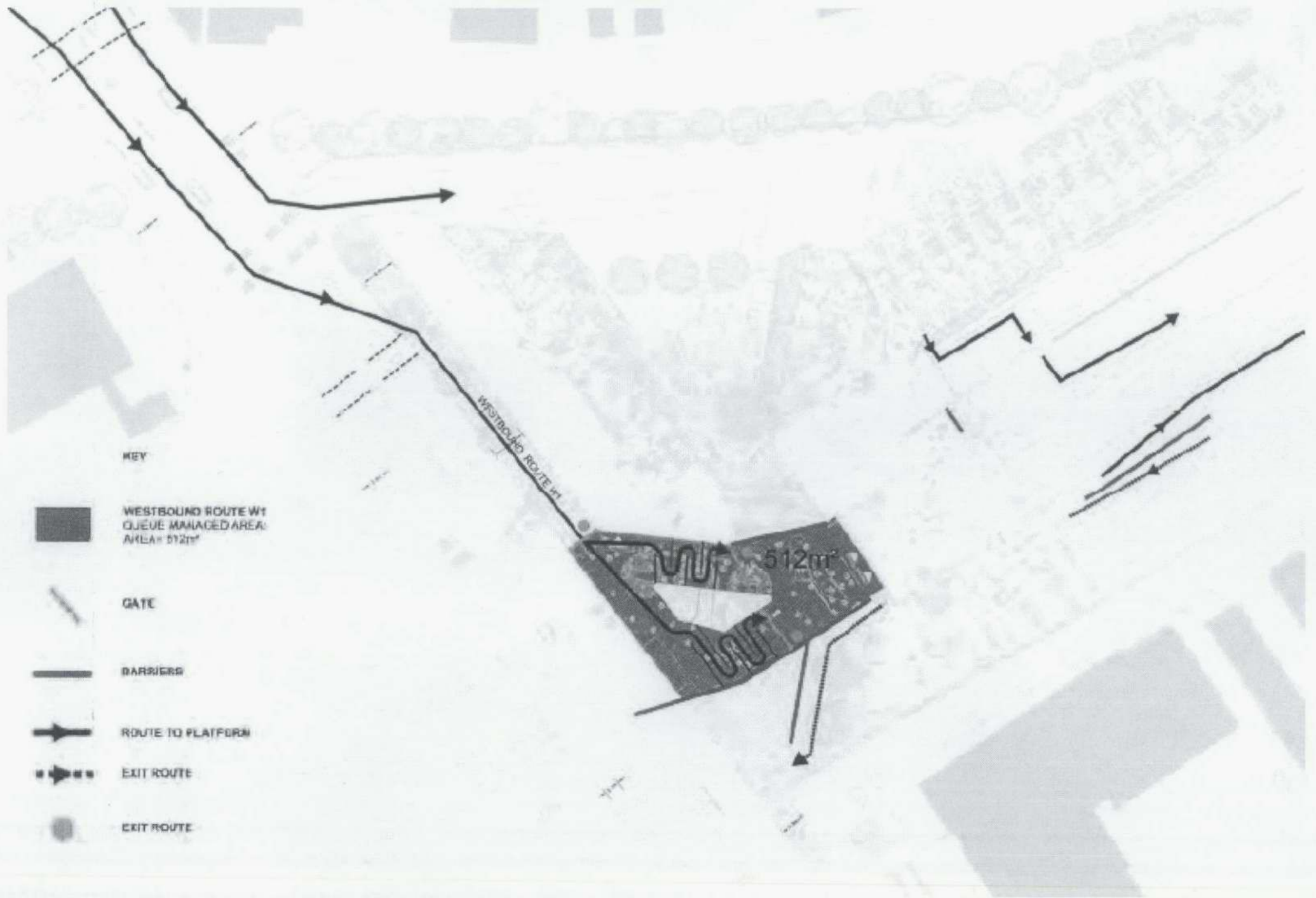


Figure 8-7 Proposed East Bound Queuing Arrangements



KEY

WESTBOUND ROUTE W1  
QUEUE MANAGED AREA:  
AREA = 512m²

GATE

BARRIERS

ROUTE TO PLATFORM

EXIT ROUTE

EXIT ROUTE

Figure 8-8 Proposed West Bound Queuing Arrangements

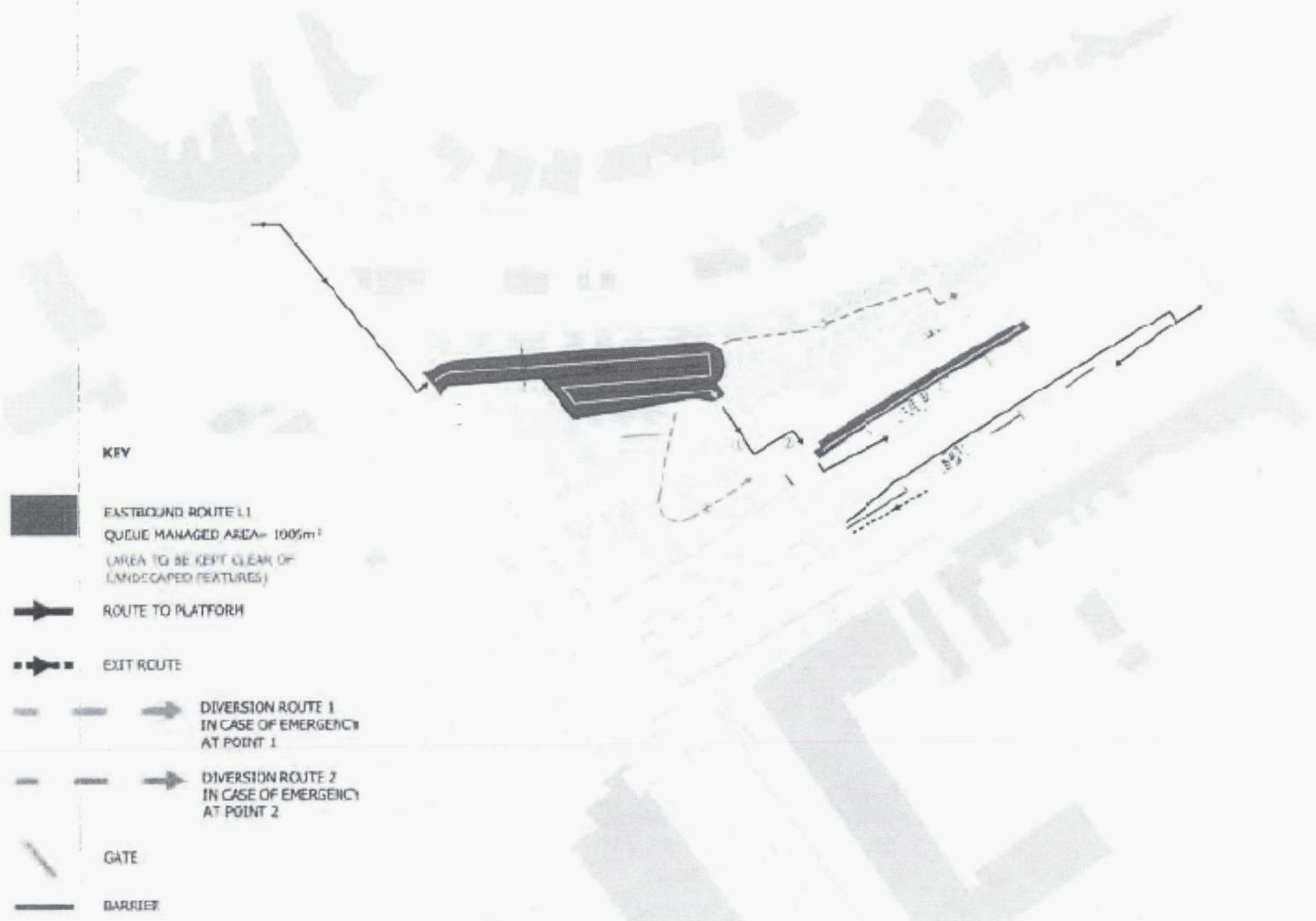


Table 8-3 shows the difference in area for each of the routes within the Station boundary.

| Queue                | Existing Area  | Proposed Area  | Increase      | % Increase |
|----------------------|----------------|----------------|---------------|------------|
| <b>Egress Route</b>  |                |                |               |            |
| Egress route         | 593sqm         | 1159sqm        | 566sqm        | 95%        |
| <b>TOTAL Egress</b>  | <b>593sqm</b>  | <b>1159sqm</b> | <b>566sqm</b> | <b>95%</b> |
| <b>Ingress Route</b> |                |                |               |            |
| East bound route     | 818sqm         | 820sqm         | 2sqm          | 0.2%       |
| West Bound route     | 231sqm         | 512sqm         | 281sqm        | 122%       |
| <b>TOTAL Ingress</b> | <b>1049sqm</b> | <b>1322sqm</b> | <b>283sqm</b> | <b>27%</b> |



APPENDIX C







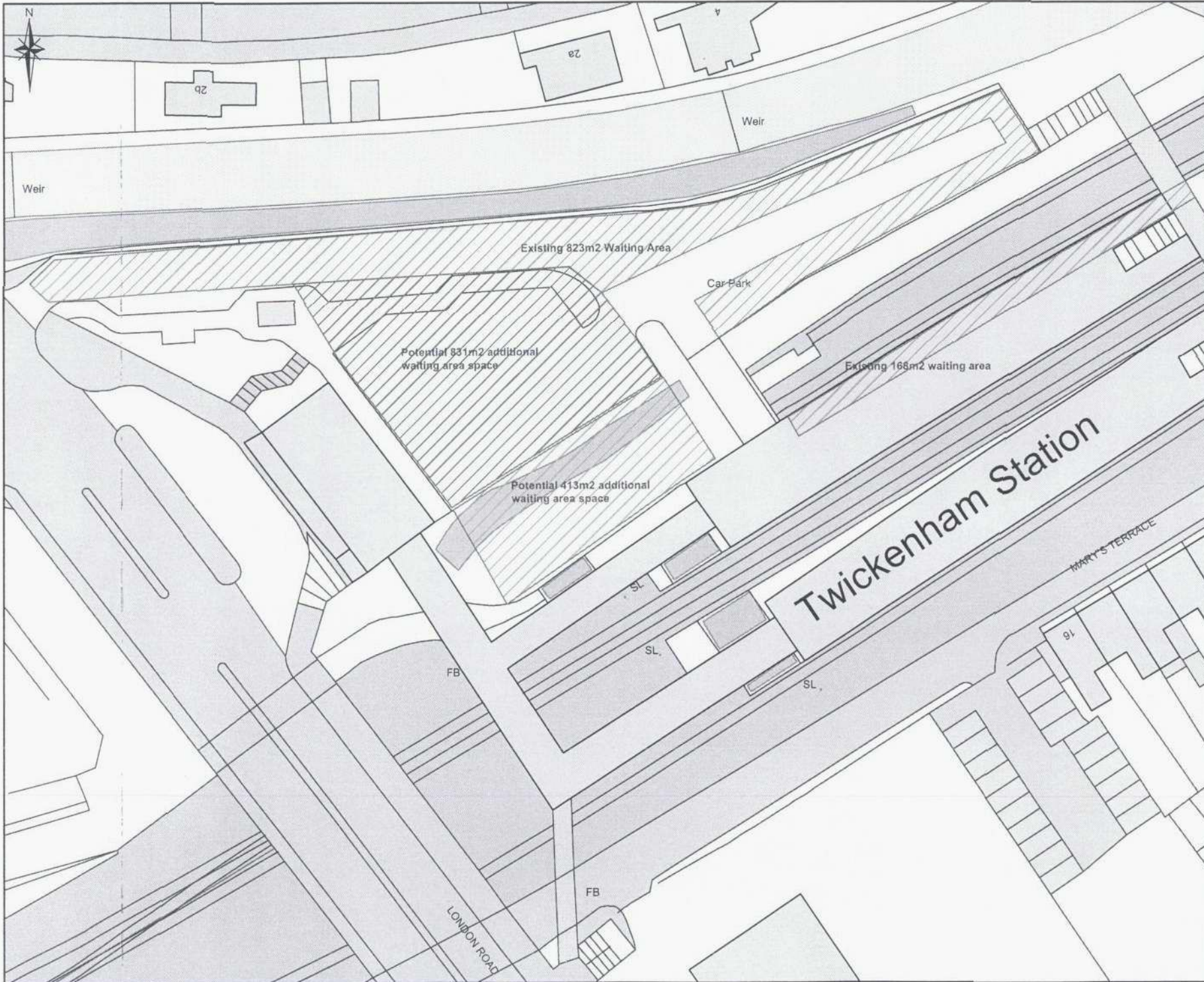








DRAWINGS



NOTES  
 1. Do not scale from Drawing  
 2. All dimensions in metres

|        |       |       |       |
|--------|-------|-------|-------|
| Author | Drawn | Check | Issue |
|        |       |       |       |

**Odyssey**  
 consulting engineers

Chartered Surveyors  
 141 Park Road  
 Twickenham  
 TW9 1JH

Telephone: 0181 748 0111  
 Fax: 0181 748 1148  
 Email: enquiry@odysseyeng.co.uk  
 Web: www.odysseyeng.co.uk

JOB TITLE  
**TWICKENHAM STATION REDEVELOPMENT**

Drawing Title  
**EXISTING STATION EASTBOUND WAITING AREA**

Client  
**TWICKENHAM RESIDENTS ACTION GROUP (TRAG)**

|       |         |          |
|-------|---------|----------|
| Scale | Date    | Project  |
| N.T.S | APR, 11 | HMC      |
| Drawn | Checked | Approved |
| HMC   | SRB     | SRB      |

|        |            |
|--------|------------|
| JOB No | Drawing No |
| 11-017 | 11-017-001 |