Peter Evans Partnership
Transport Planning
& Highway Consultants

Proposed Residential Development on Land to the North of Hanham Way & Land off Netherton Wood Lane

Application ref. 23/P/2322/OUT & 23/P/2325/OUT

Nailsea Town Council

Transport Review of Planning Application Submissions

January 2024

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APPENDICES

1.0 INTRODUCTION

1.1 Aim of Assessment

1.1.1 Peter Evans Partnership (PEP) has been appointed by Nailsea Town Council (NTC) to undertake an independent review of two recent planning applications for residential development, from a traffic impact perspective.

1.1.2 One application is for land to the North of Hanham Way, ref. 23/P/2322/OUT comprising 150 houses. This application was validated on 17th November 2023. It is a site allocated in the adopted North Somerset Council (NSC) Local Plan.

1.1.3 The other application is for land West of Netherton Wood Lane, ref. 23/P/2325/OUT comprising 200 houses, but this is not in the Local Plan. This application was validated on 9th November 2023.

1.1.4 The two sites are shown on the plan at Appendix 1.

1.1.5 NTC has requested a review of the applications individually, but also to review the cumulative impact from these two developments. This report therefore assesses what effect these two developments would have on the highway network, both in terms of congestion and safety.

1.1.6 The two applications have not considered each other as cumulative or committed development.

1.2 Approach of Review

1.2.1 The following relevant documents and drawings submitted as part of the planning applications have been reviewed by PEP:

North of Hanham Way

- Transport Assessment (TA), Miles White Transport, November 2023;
- Illustrative Masterplan, Focus on Design, June 2023;
- Routes and Movement Plan, Focus on Design, June 2023; and
- Site Access Arrangement Drawing 23046-001/B, Miles White Transport, June 2023.

West of Netherton Wood Lane

- Transport Assessment, Ardent, October 2023;
- Illustrative Masterplan, Roberts Limbrick, October 2023;
- Movement and Access Parameters Plan, Roberts Limbrick, October 2023; and
- Illustrative Access Drawing 2206820-D-002, Ardent, October 2023.

1.2.2 This note is based on a review of the following elements of the application submissions:

- the site location, accessibility and access proposals;
- the highway safety records;
- the individual traffic generation associated with the two sites; and
- the traffic distribution associated with each of the two sites.

1.2.3 The note then considers:

- where there could be a cumulative increase in traffic on the local highway network from the two sites;
- if the cumulative traffic could impact on any location where there is an existing highway safety problem or pattern, a congestion hotspot, or impact on roads adjacent to sensitive land uses; and
- identify any shortcomings in the planning applications or transport work submitted, where further work is needed to be able to assess, confirm or mitigate the cumulative traffic impact from the two applications.

1.3 Contents

1.3.1 The note continues:

- in Section 2 with a summary of the submission information, including background information and a description of the Land North of Hanham Way development proposals;
- in Section 3 with a summary of the submission information, including background information and a description of the Land West of Netherton Wood Lane development proposals;
- in Section 4 with additional information PEP has obtained relevant to considering the scheme proposals;
- in Section 5 with a technical assessment of the Land North of Hanham Way scheme proposals;
- in Section 6 with a technical assessment of the Land West of Netherton Wood Lane scheme proposals;
- in Section 7 with a technical assessment of the cumulative impact from the scheme proposals;
- in Section 8 with a summary of our findings.

2.0 SUMMARY OF SUBMISSION INFORMATION - LAND NORTH OF HANHAM WAY

2.1 Introduction

2.1.1 This section considers the background context of this planning application for 150 houses including existing nearby traffic conditions, road safety record, and pedestrian, cyclist and public transport accessibility, as provided by the applicant in the TA.

2.1.2 The scheme proposals are also summarised with information on the site access arrangements proposed and likely traffic generation and distribution of traffic on the road network.

2.2 Background Information

Traffic Data

2.2.1 The TA includes local surveyed traffic flows in Table 2.1 and on traffic flow diagrams at Drawings TIA-01 and TIA-02 in the TA Appendix B for existing peak hour and daily traffic data obtained from surveys carried out in April and May 2023. The traffic flows near the site are referenced as:

Causeway View	Direction of Traffic Flow on Causeway View	AM (08:00-09:00)	PM (17:00-18:00)	Daily (24 hour)
North of Watery Lane	Northbound	38	42	500
	Southbound	32	36	440
	Two Way	70	78	940

2.2.2 Speed surveys were also undertaken in April and May 2023 and referenced in Table 2.2 of the TA. These recorded:

Direction of Traffic Flow on Causeway View	Average Speed	85th Percentile Speed
Northbound	18.2mph	21.5mph
Southbound	18.6mph	24.8mph

Safety Record

2.2.3 The TA obtained Personal Injury Accident (PIA) data from the Crashmap online database for the most recent five year period. It identified:

- one accident on Causeway as a result of a collision between two cars on the bend in the road, resulting in two slight PIAs, one to the drive and one to a passenger in one of the cars;
- one accident on Causeway View at the junction with Watery Lane, involving a car and a cyclist. There was no collision but the bicycle rider did sustain a slight injury assumed from falling off;
- one accident at the junction between Hanham Road and North Street involving a car colliding with a cyclist, resulting a slight injury to the cyclist.

2.2.4 The TA stated that there is no accident pattern or problem within the area it studied.

Public Transport

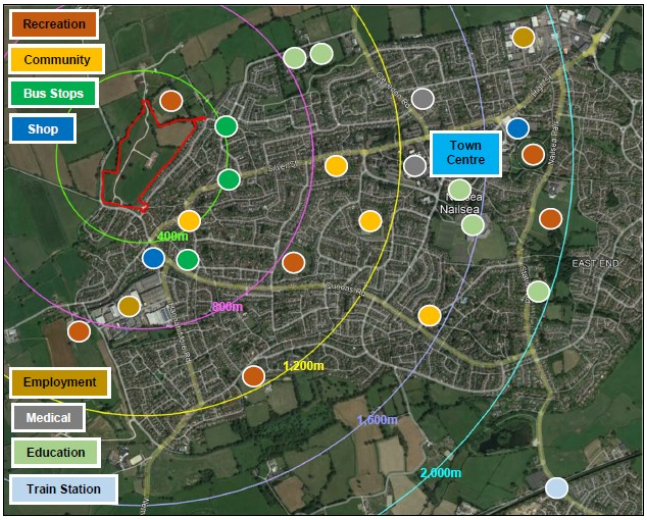
2.2.5 The TA identifies the following bus stops and services near the site, within an approximate 500m of the centre of the site:

Service	Operator	Route	Frequency	Bus stop
X7	First bus	Bristol bus station – Clevedon	Hourly (M-Su)	
X9	First bus	Bristol bus station – Nailsea	30 mins (M-Sa) Hourly (Su)	

2.2.6 The TA identifies Nailsea & Backwell railway station is some 2.5km from the site.

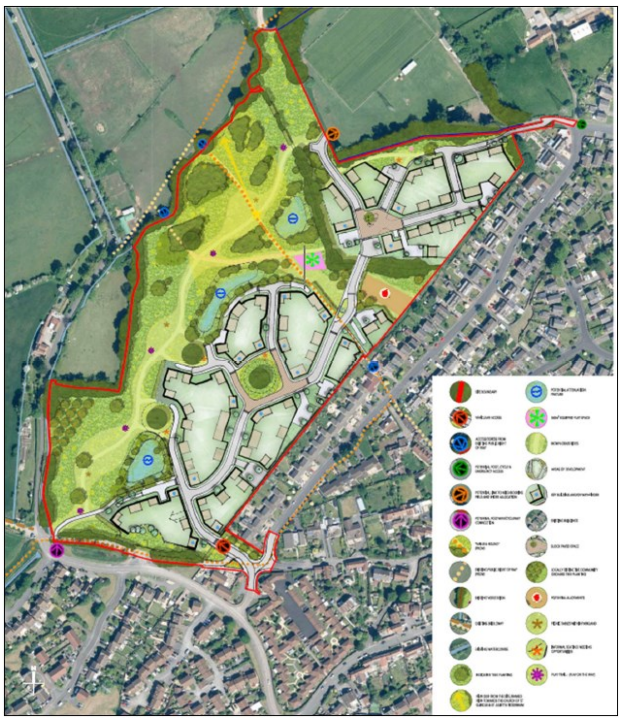
Local Facilities and Amenities

2.2.7 The TA in Figure 4.1 sets out the site proximity to local facilities. These is shown below:



2.3 Planning Application Details

2.3.1 The scheme assessed in the TA is for 150 dwellings. It forms part of a wider Local Plan allocation site for 450 homes and 1.5ha of employment use, on the north western edge of Nailsea. The illustrative layout is shown below:

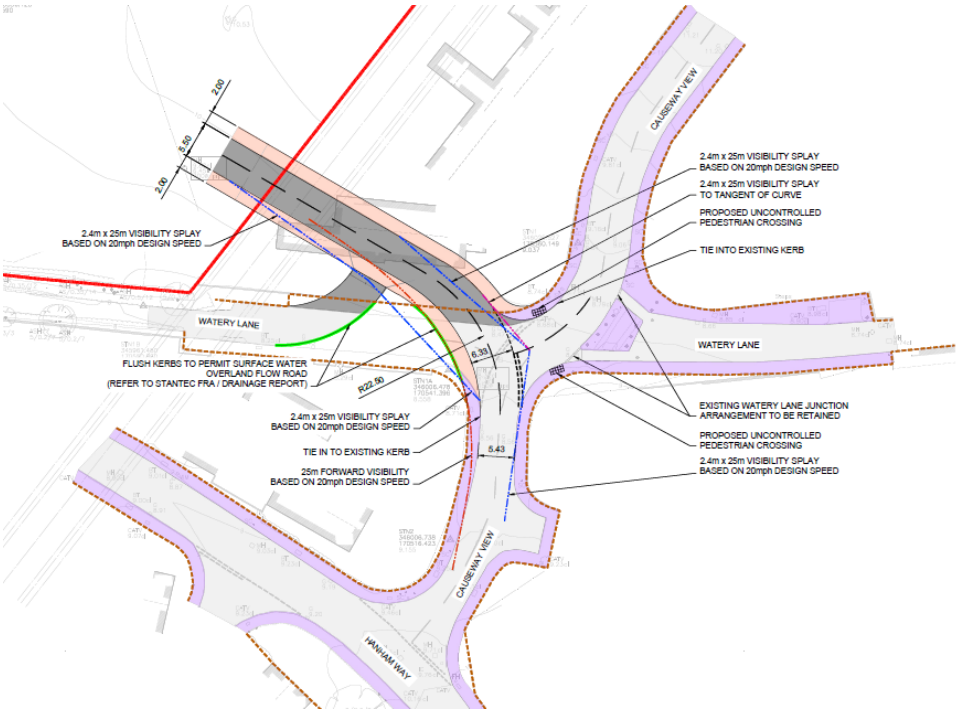


2.4 Vehicle Access

2.4.1 A single vehicle access is proposed at the south east corner of the site, involving the realignment of the junction between Causeway View and Watery Lane. It requires the demolition of No.10 Watery Lane. The site access would become the priority road with a 5.5m wide carriageway and 2m wide footways on both sides of the carriageway.

2.4.2 Visibility splays of 2.4 x 25m would be provided at the priority junctions created on Causeway View and Watery Lane and 25m forward visibility around the bend, in accordance with the design speed.

2.4.3 The junction is shown on the plan below:



2.4.4 An emergency access would be created at the north east corner of the site at Fryth Way.

2.5 Traffic Generation

2.5.1 The development trip generation, distribution and assignment are included in Section 7 of the TA. The development is forecast to generate the following vehicular trips:

	Proposed Residential Vehicle Traffic Generation		
	Arrivals	**Departures**	**Two-way**
Morning Peak Hour 0800-0900	19	51	70
Evening Peak Hour 1700-1800	44	24	68
Daily			620

2.5.2 The level of walking, cycling and public transport trips has not been calculated.

2.6 Traffic Distribution

2.6.1 The traffic associated with the development has been distributed in accordance with the 2011 Travel to Work Census data. The same data for 2021 Census was not available at the time of writing. The distribution calculations are in the appendices to the TA and are included at Appendix 2. In summary the distribution calculated is:

- Route 1: B3130 Clevedon Road to Clevedon (via Causeway / Washing Pound Lane) = 16%
- Route 2: B3130 Clevedon Road to Failand (via Pound Lane) = 40%
- Route 3: B3130 Stock Way North to Wraxall (via Silver Street and Pound Lane) = 23%
- Route 4: A370 East to Bristol (via Queens Road and Station Road) = 13%
- Route 5: A370 West to Weston-s-Mare (via Queens Road and Station Road) = 6%
- Route 6: North Street to West End Lane (via Hanham Way) = 2%

2.6.2 This indicates that approximately 70% of the development traffic heads east towards Bristol, Portishead and J19 of the M5, with the other 30% either heading north along Hanham Way and Washing Pound Lane or southwest along the A370 via Backwell.

2.7 Committed Development

2.7.1 The TA at paragraph 7.12 identifies the following local committed developments considered as part of proposals/review.

- Land West of Engine Lane, 17/P/1250/F, 183 dwellings; and
- Land at Youngwood Lane, 16/P/1677/OT2, 450 dwellings.

2.7.2 The TA also applied TEMPRO growth factors to the 2023 surveyed flows to create a 2029 scenario.

2.8 Traffic Impact

2.8.1 The TA assessed 11 junctions for capacity, as follows:

- Hanham Way / Watery Lane / Causeway View priority T-junction (Junction 1)
- Hanham Way / Hanham Way priority T-junction (Junction 2)
- Hanham Way / North Street / Queens Road priority cross-roads (Junction 3)
- Silver Street / Fosse Way priority T-junction (Junction 4)
- B3130 Clevedon Road / Pound Lane priority T-junction (Junction 5)
- Stock Way North / B3130 Clevedon Road signalised T-junction (Junction 6)
- Station Road / Queens Road priority T-junction (Junction 7)
- A370 / Station Road / Dark Lane signalised Cross-Roads (Junction 8)
- Fosse Way / Fryth Way / Fosse Lane priority cross-roads (Junction 9)
- B3130 Clevedon Road / Washing Pound Lane priority T-junction (Junction 10)
- Station Road / Station Close / Moorside Farm priority cross-roads (Junction 11)

2.8.2 There would be the following development trips at the junctions listed above.

Junction		AM Peak Hour (two-way)	PM Peak Hour (two-way)
1	Hanham Way / Watery Lane / Causeway View	70	68
2	Hanham Way / Hanham Way	34	33
3	Hanham Way / North Street / Queens Road	23	23
4	Silver Street / Fosse Way	8	8
5	B3130 Clevedon Road / Pound Lane	36	35
6	Stock Way North / B3130 Clevedon Road	16	16
7	Station Road / Queens Road	14	13
8	A370 / Station Road / Dark Lane	14	12
9	Fosse Way / Fryth Way / Fosse Lane	36	36
10	B3130 Clevedon Road / Washing Pound Lane	11	11
11	Station Road / Station Close / Moorside Farm	14	13

2.8.3 The results of the junction assessments showed all junctions operated within capacity with minimal queuing and delay in the baseline scenarios and with the additional committed and development traffic, except for the following junctions:

- Station Road / Queens Road priority T-junction (Junction 7)
- A370 / Station Road / Dark Lane signalised Cross-Roads (Junction 8)

2.8.4 For the Station Road / Queens Road priority T-junction the TA states that the junction is currently operating at capacity. With the committed traffic this would operate noticeably over capacity with significant queues and delay on Queens Road. It states the inclusion of the development trips has a minor adverse impact and highlights the development trips through the junction are a maximum of 1.5% of existing traffic. The results are shown below:

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2023 Surveyed							
Stream B-AC	3.9	43.38	0.81	E	3.7	43.94	0.81	E
Stream C-AB	0.1	5.92	0.08	A	0.1	5.48	0.08	A
	2029 + Com Dev							
Stream B-AC	28	215.02	1.09	F	13.1	126.34	0.99	F
Stream C-AB	0.1	6.08	0.09	A	0.2	5.73	0.12	A
	2029 + Com Dev + Development							
Stream B-AC	33.2	248.12	1.12	F	14.9	139.84	1.01	F
Stream C-AB	0.1	6.09	0.09	A	0.2	5.75	0.12	A

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

Arm A: Station Road (South)

Arm B: Queens Road

Arm C: Station Road (North)

2.8.5 The TA does refer to improvements being proposed at this junction as part of the Youngwood Lane development, either a mini-roundabout arrangement or a change in priorities. It states the proposed development would benefit from these improvements.

2.8.6 For the A370 / Station Road / Dark Lane signalised crossroads the TA states that the junction is currently operating over capacity, with the morning peak hour busier than the evening peak hour. With the committed traffic the TA states this would exacerbate the situation. It states the inclusion of the development trips has a minor adverse impact and highlights the development trips through the junction are a maximum of 0.8% of existing traffic.

2.8.7 The results are shown below:

	AM			PM		
	Queue (PCU)	Delay (s)	Degree of Saturation	Queue (PCU)	Delay (s)	Degree of Saturation
	2023 Surveyed					
Arm 1	6.4	25.6	50.3%	18.0	44.5	88.4%
Arm 2	7.6	131.4	92.6%	3.6	71.2	66.5%
Arm 3	39.6	184.3	106.2%	20.6	97.5	97.8%
Arm 4	25.1	221.6	107.2%	14.8	98.4	95.7%
	2029 + Com Dev					
Arm 1	7.5	27.8	58.2%	35.7	103.7	101.1%
Arm 2	10.4	180.6	99.9%	4.0	75.4	70.8%
Arm 3	95.1	455.8	126.6%	47.3	260.1	111.3%
Arm 4	60.5	473.6	127.8%	34.3	252.6	110.2%
	2029 + Com Dev + Development					
Arm 1	7.5	28.0	59.7%	37.2	108.5	101.5%
Arm 2	10.4	180.6	99.9%	4.0	75.4	70.8%
Arm 3	95.8	458.7	126.8%	48.3	265.7	111.7%
Arm 4	65.9	507.8	130.9%	36.3	271.4	111.6%

Arm 1: A370 (East)
Arm 2: Dark Lane
Arm 3: A370 (West)
Arm 4 Station Road

2.8.8 The Hanham Way / North Street / Queens Road cross road junction is shown to operate within capacity, but the development and committed development increases the queues and delay on the Queens Road and Hanham Way arms of the junction. The TA references improvements being proposed to this junction as part of the Youngwood Lane development which would improve the operation of the junction. It references the changes being changing the priority of the junction with Hanham Way and Queens Road becoming the major arms.

3.0 SUMMARY OF SUBMISSION INFORMATION - LAND WEST OF NETHERTON WOOD LANE

3.1 Introduction

3.1.1 This section considers the background context of this planning application for 200 houses including existing nearby traffic conditions, road safety record, and pedestrian, cyclist and public transport accessibility, as provided by the applicant in the TA.

3.1.2 The scheme proposals are also summarised with information on the site access arrangements proposed and likely traffic generation and distribution of traffic on the road network.

3.2 Background Information

Traffic Data

3.2.1 The TA in paragraph 6.12 refers to the traffic data from 2016 included within the adjacent Taylor Wimpey development TA, but there are no results presented in the text.

3.2.2 The TA in paragraph 6.13 refers to traffic surveys being carried out in June 2022, but there are no results presented in the text. There is no data on vehicle speeds on local roads provided.

3.2.3 Figures 4 and 5 in the TA show the 2016 Baseline traffic flows on the local highway network and Figures 6 and 7 show the 2023 Baseline traffic flows. The 2023 flows are the 2016 traffic flows growthed using TEMPRO growth factors. The traffic network diagrams are included at Appendix 3.

Safety Record

3.2.4 The TA obtained PIAs data from the Crashmap online database for the most recent five year period.

3.2.5 The TA stated that there were no PIAs at the site access, on Netherton Wood Lane or on the immediate highway network within the five year period. It stated there is no accident pattern or problem within the area it studied.

Public Transport

3.2.6 The TA identifies the following bus stops and services near the site, stating the the closest bus stops to the site are located on Hannah More Road, approximately 400 metres northeast from the site. The bus service X9 between Nailsea and Bristol serves these stops.

3.2.7 The TA identifies Nailsea & Backwell railway station is some 1.8km from the site.

Local Facilities and Amenities

3.2.8 Figure 4.1 in the TA identifies the Ring O' Bell public house, The Grove Sports Centre & Social Club, Nailsea United FC, Holy Trinity Church and a public play area with park and open space are within the 800m walk.

3.2.9 Figure 4.2 in the TA identifies the Happy Hours Nursery and Baby Unit, St Francis Pre-school, Hannah More Infants School and the Church Lane Pre-school are all within a 2km walking distance of the site.

3.2.10 Paragraph 4.12 suggests it is generally recognised that a typical cycle speed of 12mph would result in this distance equating to a journey time of approximately only 15 minutes. Figure 4.4 of the TA shows the distance that could be cycled from the centre of the site within 15 minute cycle time. It shows the entirety of Nailsea including the town centre, Nailsea School and Nailsea and Backwell Railway Station, and surrounding areas including West End, Backwell, East End, The Elms and Middletown, are within comfortable cycling distance.

3.2.11 The TA states that pedestrian and cycling improvements as part of the adjacent Taylor Wimpey development would provide a link through to Nailsea and Backwell Railway Station.

3.3 Planning Application Details

3.3.1 The scheme assessed in the TA is for 200 dwellings. The illustrative layout is shown below:

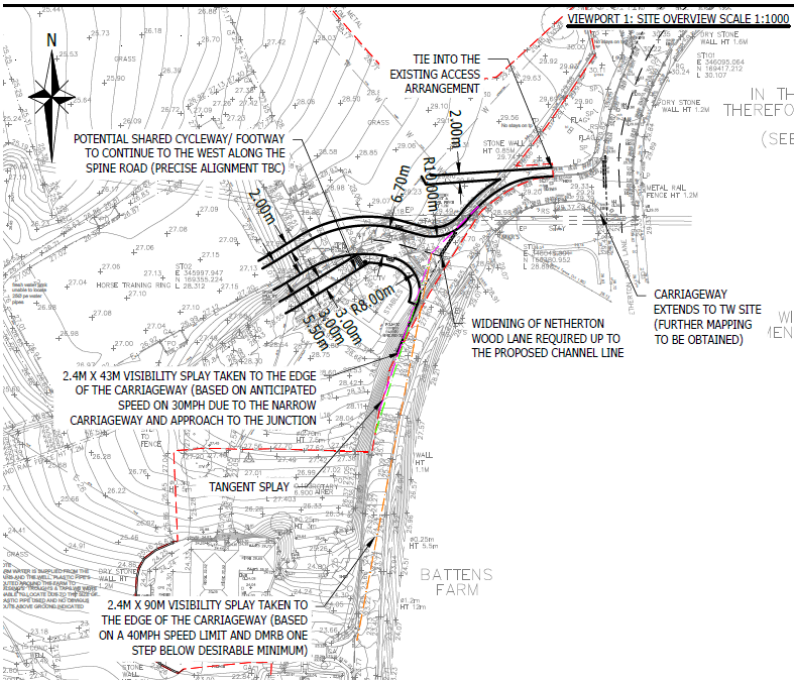
3.4 Vehicle Access

3.4.1 A single vehicle access is proposed at the north east corner of the site onto Netherton Wood Lane. Paragraph 5.4 states this would be designed in accordance with NSC Highway Guidance (October 2020).

3.4.2 The TA quotes NSC guidance on the Road Safety Audit (RSA) requirements, which state a Stage 1 RSA should be carried out '*..as part of the planning application process, to be completed prior to the determination of the planning application'*.

3.4.3 Paragraph 5.8 of the TA states an RSA would be carried out once the principles of the access have been agreed with NSC at the reserved matters stage.

3.4.4 The site access would be 6.7m wide at the junction, narrowing to 5.5m within the site. The junction design is shown below.



3.4.5 Visibility splays of 2.4 x 43m are shown at the access, for vehicle speeds of 30mph, but a visibility splay of 90m is also shown based on a 40mph speed limit and Design Manual for Roads and Bridges (DMRB) one step below desirable minimum.

3.4.6 Netherton Wood Lane is subject to the National Speed Limit (60mph) in the vicinity of the site frontage, reducing to 30mph immediately to the northeast of the existing site access.

3.5 Traffic Generation

3.5.1 The development trip generation, distribution and assignment are included in Section 7 of the TA. The development is forecast to generate the following vehicular trips:

	Proposed Residential Vehicle Traffic Generation		
	Arrivals	**Departures**	**Two-way**
Morning Peak Hour 0800-0900	27	72	99
Evening Peak Hour 1700-1800	67	32	99

3.5.2 The level of walking, cycling and public transport trips has not been calculated.

3.6 Traffic Distribution

3.6.1 The traffic associated with the development has been distributed in accordance with the 2011 Travel to Work Census data. The distribution diagrams are in the appendices to the TA and are included at Appendix 3.

3.7 Committed Development

3.7.1 The TA at Figure 3.1 identifies the following local committed developments considered as part of proposals/review.

- Land West of Engine Lane, 17/P/1250/F, 171 dwellings;
- Land South of The Uplands, 20/P/2000/R3, 52 dwellings;
- Land at Youngwood Lane Phase 1, 20/P/2347/RM, 168 dwellings; and
- Land at Youngwood Lane Phase 2, 22/P/1558/RM, 282 dwellings.

3.7.2 The TA also applied TEMPRO growth factors to the 2023 calculated traffic flows to create a 2028 scenario.

3.8 Traffic Impact

3.8.1 The TA assessed 11 junctions, as follows:

- Proposed Site Access / Netherton Wood Lane priority T-junction (Junction 1)
- Taylor Wimpey Site Access / Netherton Wood Lane priority T-junction (Junction 2)
- St Mary's Grove / Engine Lane priority T-junction (Junction 3)
- Barratt Homes Site Access / Engine Lane priority T-junction (Junction 4)
- Engine Lane / Blackfriars Road priority T-junction (Junction 5)
- Engine Lane / North Street priority T-junction (Junction 6)
- St Mary's Grove / Hannah More Road priority T-junction (Junction 7)
- Hannah More Road / Blackfriars Road priority T-junction (Junction 8)
- Hannah More Road / Queens Road priority T-junction (Junction 9)
- Queens Road / North Street / Hanham Way crossroad junction (Junction 10)
- Queens Road / Station Road priority T-junction (Junction 11)
- Station Road / A370 / Dark Lane signalised crossroad junction (Junction 12)

3.8.2 The TA at paragraph 6.6 stated that '*an increase of 30 two-way peak hour vehicular movements is a general starting point for determining where a significant impact could occur. However, it is common that higher hourly increases of 45 to 60 vehicles could also be deemed insignificant at junctions/links where capacity and highway safety issues do not exist*.'

3.8.3 The TA at paragraph 6.10 stated that '*where increases in traffic from the development would be below 60 two-way movements in the peak hour (i.e. less than one vehicle per minute on average), no further detailed assessment should be required*.'

3.8.4 The TA shows the following development traffic flows at each junction:

Junction		AM Peak Hour (two-way)	PM Peak Hour (two-way)
1	Proposed Site Access / Netherton Wood Lane	99	99
2	Taylor Wimpey Site Access / Netherton Wood Lane	62	62
3	St Mary's Grove / Engine Lane	62	63
4	Barratt Homes Site Access / Engine Lane	7	7
5	Engine Lane / Blackfriars Road	7	7
6	Engine Lane / North Street	0	0
7	St Mary's Grove / Hannah More Road	55	56
8	Hannah More Road / Blackfriars Road	55	54
9	Hannah More Road / Queens Road	55	55
10	Queens Road / North Street / Hanham Way	44	44
11	Queens Road / Station Road	18	18
12	Station Road / A370 / Dark Lane	10	22

3.8.5 On this basis, using the threshold of 60 two-way movements and the potential sensitivity of particular junctions to traffic increases, the TA carried out capacity analysis at junctions 1, 2, 3, 7 and 9.

3.8.6 The TA excluded Junction 8 Hannah More Road / Blackfriars Road priority T-junction from further assessment because the development traffic at the junction is not turning traffic, it is travelling on the priority road through the junction.

3.8.7 The results of the junction assessments showed all junctions tested operated within capacity with minimal queuing and delay in the baseline scenarios and with the additional committed and development traffic.

4.0 ADDITIONAL RELEVANT INFORMATION IDENTIFIED BY PEP

4.1 Introduction

4.1.1 As part of the independent review PEP has reviewed additional traffic data commissioned by NTC and obtained further information on the road safety record of the local area. This additional information is provided in this section.

4.2 Additional Traffic Information

4.2.1 ATC surveys were carried out on Causeway View and Hanham Way between 8th and 14th January 2024. The five day average traffic flows recorded were:

	Direction of Traffic Flow	AM (08:00-09:00)	PM (17:00-18:00)	Daily (24 hour)
Causeway View	Northbound	52	47	509
	Southbound	40	40	427
	Two Way	92	87	936

	Direction of Traffic Flow	AM (08:00-09:00)	PM (17:00-18:00)	Daily (24 hour)
Hanham Way	Northbound	205	144	2,068
	Southbound	132	171	1,817
	Two Way	337	315	3,885

4.2.2 Speed surveys were also undertaken in January 2024 and these recorded:

Direction of Traffic Flow on Causeway View	Average Speed	85th Percentile Speed
Northbound	27.8mph	33.2mph
Southbound	28.5mph	33.9mph

Direction of Traffic Flow on Hanham Way	Average Speed	85th Percentile Speed
Northbound	24.0mph	29.1mph
Southbound	23.4mph	28.9mph

4.3 Additional Road Safety Information

4.3.1 Accident data from Crash Map has been examined by PEP and corresponds with the data provided in the TA. However, Crashmap shows there are the following junctions or links where there have been a serious PIA or two or more collisions, and these may be on the desire lines for residents at the proposed housing developments, by foot, bicycle or car:

- Four accidents on Queens Road including two close to its junction with Whitesfield Road involving cyclists, one of which was a child;
- Mizzymead Road between Queens Road and Nailsea town centre, close to Nailsea School – three slight accidents, two involving cyclists and one involving a pedestrian; and
- The Perrings / Whiteoak Way junction – one serious accident involving a pedal cyclist.

4.3.2 The collision records from Crashmap are included at Appendix 4.

4.4 CIHT Guidance

4.4.1 The Chartered Institute of Highways and Transportation (CIHT) published 'Guidelines for Providing for Journeys on Foot' in 2000. This document indicates that the average length of a walking journey is 1 km. The report also provides advice on acceptable walking distances to various facilities.

4.4.2 The suggested distances are provided in Table 3.2 of the document as set out below:

	Suggested Acceptable Walking Distance (metres)		
	Town centres	**Commuting/School**	**Elsewhere**
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

4.4.3 The CIHT guidance 'Planning for Walking' 2015, suggests that people will walk up to 800m to get to a railway station.

4.4.4 The CIHT guidance 'Buses in Urban Developments' 2018, sets out the following recommended maximum walk distances to bus stops:

- Core bus corridors with two or more high frequency services – 500m;
- Single high-frequency routes (every 12 minutes or better) – 400m;
- Less frequent routes – 300m.

4.5 DfT Guidance

4.5.1 The Department for Transport suggest in Local Transport Note (LTN1/20): Cycle Infrastructure Design *'Two out of every three personal trips are less than five miles in length – an achievable distance to cycle for most people.'* (para 2.2.2).

AECOM Transport Assessment

4.5.1 AECOM has prepared a Stage 4 and 5 Transport Assessment on behalf of NSC to inform the emerging Local Plan.

4.5.2 The AECOM TA Stages 4 and 5 appraises six potential opportunity areas for residential development in Nailsea against four objectives using a Red, Amber, Green (RAG) scoring system. Of relevance to the two applications are the opportunity areas to the north of Nailsea (for land to the North of Hanham Way) and west of Nailsea (for land west of Netherton Wood Lane). The methodology and relevant extracts from this appraisal are included at Appendix 5.

4.5.3 The AECOM TA states the Nailsea Northern Extension would score positively on distance from the town centre and schools, with some potential to use existing bus routes, although limited opportunities for public transport improvements. In traffic terms, the northern extension scores neutrally with a minimal increase in traffic at congestion hotspots and low potential for mitigating the congestion through walking and cycling improvements.

4.5.4 The AECOM TA states the Nailsea Western Extension would score negatively on distance from a primary school, bus routes and to a local centre. It also would have limited potential benefits from planned active travel routes and public transport improvements. In traffic terms, the western extension scores negatively with potential impacts on congestion hotspots and limited potential for mitigating the congestion.

4.5.5 The AECOM TA identifies the Station Road / A370 / Dark Lane as a congestion hotspot, but it is difficult to mitigate the impact from additional traffic at this junction. The only options that could successfully mitigate the traffic impact on Station Road involve a new road and bridge crossing of the railway line to the east of Backwell, which would be challenging and expensive.

5.0 TECHNICAL ASSESSMENT OF PROPOSALS – LAND NORTH OF HANHAM WAY

5.1 Introduction

5.1.1 This Section and Section 6 sets out both a summary of the technical assessment undertaken in the TAs, and our associated assessment and commentary on the submissions. The areas of review include:

- site accessibility for non-car users and ability to minimise vehicle trips;
- suitability of access proposed;
- traffic generation and impact; and
- road safety impact.

5.1.2 The cumulative impact of the development sites is then assessed in Section 7.

5.2 Site accessibility for non-car users

5.2.1 There are several points of access proposed for pedestrians and cyclists minimising distances to local bus stops, schools, shops and the town centre.

5.2.2 The site is reasonably located for journeys to the town centre by walking and cycling, although it is beyond the CIHT recommended 800m walk from a town centre. A convenience store is just over 400m from the centre of the site. It is within the recommended acceptable distance for walking journeys to primary and secondary schools. It is a walk of around 400m to existing bus stops with services to the town centre, Bristol and Clevedon, which is slightly longer than the CIHT 300m recommended distance to a bus stop for infrequent bus services.

5.2.3 The railway station would also be beyond the recommended walking distance from the application site.

5.2.4 The whole of Nailsea is within a five mile cycle of the site which LTN1/20 suggests is an achievable distance for most people to cycle.

5.2.5 The site is reasonably well located to encourage trips to be made by walking, cycling and public transport, reducing the reliance on a car.

5.3 Suitability of Site Access

5.3.1 The access involves the realignment of the junction between Causeway View and Watery Lane, changing priorities, and impacting on the route for cyclists along Watery Lane to / from Causeway and bridleway. There has been one collision involving a cyclist at the junction. There has been no RSA presented for the junction design.

5.3.2 PEP has not reviewed the access arrangements in detail but from a highway safety perspective, further information, including a Stage 1 RSA, is required to confirm that the access junction is safe and suitable for all road users.

5.4 Traffic Generation and Impact

5.4.1 There is no reference of a scope of assessment agreed with NSC. However, the trip rates and trip generation appear reasonable for the site location and composition.

5.4.2 PEP has carried out a high level review of the trip distribution analysis based on the information provided in the TA. However, in broad terms the general distribution appears reasonable for the site location and key destinations.

5.4.3 The development traffic distribution identified in the TA and the traffic increase on Causeway View and Hanham Way compared to the January 2024 ATC survey is shown below:

Two-Way Traffic Flow	ATC January 2024		Development Traffic		Impact	
	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)	AM (08:00-09:00)	PM (17:00-18:00)
Causeway View	92	87	36	34	39%	39%
Hanham Way	337	315	23	23	7%	7%

5.4.4 It needs to be demonstrated by the applicants that this increase in traffic would not have a negative impact on the operation and safety of Causeway View.

5.4.5 From the traffic impact analysis, the only junctions where capacity constraints have been identified are:

- Station Road / Queens Road priority T-junction
- A370 / Station Road / Dark Lane signalised Cross-Roads

5.4.6 It has not been possible to carry out a thorough analysis of the traffic capacity analysis, but for the proposed size of development, site location and PEP experience, this is not an unreasonable conclusion. However, the TA shows with the addition of the committed traffic and then development traffic the queues and delay would increase at the Hanham Way / North Street / Queens Road cross road junction. It indicates the mitigation measures proposed by the Youngwood Lane application for the junction, but gives no detail or provides confirmation that the improvements will be delivered by the Youngwood Lane development or NSC.

5.4.7 Further information is required to confirm that the improvements at the Hanham Way / North Street / Queens Road cross road junction can be delivered, and would operate satisfactorily in the future with the proposed junction improvements.

Station Road / Queens Road Junction

5.4.8 At the Station Road / Queens Road, the TA states the committed development traffic would increase queuing and delay substantially, but the development traffic would have a negligible impact on the operation of these junction, only 1.5% increase in traffic. However, the development traffic would increase queues by up to five vehicles and delay by up to 30 seconds on Queens Road. It states the mitigation being proposed by the Youngwood Lane development at this junction would benefit the proposed development, but there are no details provided to be able to confirm that a safe and suitable solution can be delivered by the Youngwood Lane development or NSC.

5.4.9 Further information is required to confirm that the Station Road / Queens Road junction improvements can be delivered, and would operate satisfactorily in the future with the additional development traffic and proposed junction improvements.

A370 / Station Road / Dark Lane Junction

5.4.10 For the A370 / Station Road / Dark Lane junction, the TA states the committed development traffic would increase queuing and delay substantially, but the development traffic would have a negligible impact on the operation of these junction, only 0.8% increase in traffic. However, the development traffic would increase queues by up to five vehicles and delay by up to around 34 seconds on Station Road.

5.4.11 The level of traffic forecast to be associated with the development of the proposed site creates additional queuing and delay at the A370 junction, which is identified as a congestion hotspot with the AECOM TA. The applicant needs to address this point and the need for mitigation.

5.5 Road Safety Impact

5.5.1 The TA suggests that there are currently no accident clusters or patterns in the accidents recorded, and that there would be no road safety impact as a result of the scheme proposals. PEP agrees that there are no current clusters/patterns to accidents locally, although two accidents reported did involve cyclists including one at the site access location and one at Hanham Road / North Street junction which would experience an increase in traffic from the proposal. There has also been additional accidents on Queens Road involving cyclists. Queens Road would be used by development related trips to / from Station Road, the railway station and onwards to Backwell for instance.

5.5.2 The impact of the scheme and increase in movement of vehicles, pedestrians, and cyclists can also have an impact on the road safety. This has not been considered sufficiently by the applicant.

6.0 TECHNICAL ASSESSMENT OF PROPOSALS - LAND WEST OF NETHERTON WOOD LANE

6.1 Site accessibility for non-car users

6.1.1 The site is within the CIHT guidance's preferred maximum walking distances to some local facilities and amenities including a primary school and sports centre. However, the town centre and secondary school is beyond the recommended maximum walking distances from the site.

6.1.2 Bus stops and the railway station would also be beyond the recommended walking distance from the application site.

6.1.3 From the submitted information there are limited facilities that could be required on a regular basis within reasonable walking distance of the site, meaning people would have to travel longer distances to access goods and services and are likely to do so mainly by car.

6.2 Suitability of Site Access

6.2.1 PEP has not reviewed the access arrangements in detail but from a highway safety perspective, further information, including a Stage 1 RSA, is required to confirm that the access junction is safe and suitable for all road users.

6.3 Traffic Generation and Impact

6.3.1 There is no reference of a scope of assessment agreed with NSC. However, the trip rates and trip generation appear reasonable for the site location and composition.

6.3.2 PEP has carried out a high level review of the trip distribution analysis based on the information provided in the TA. There are some discrepancies noted between the text and traffic figures in the appendices and there is no clear distribution for trips to / from the town centre e.g. using Mizzymead Road. Further clarification of the distribution on the local road network is required.

6.3.3 The TA used an arbitrary traffic threshold to determine whether there could be any traffic impact at individual junctions. It also suggested junctions are assessed based on the potential sensitivity to traffic increases, but no further detail provided.

6.3.4 There is no national guidance prescribing the approach taken in the TA and therefore further justification is required for the methodology used.

6.3.5 From the traffic impact analysis in the TA, the only junctions tested for capacity were:

- the site access;
- Taylor Wimpey Site Access / Netherton Wood Lane;
- St Mary's Grove / Engine Lane;
- St Mary's Grove / Hannah More Road; and
- Hannah More Road / Queens Road.

6.3.6 The TA concluded that all junctions tested operated within capacity with minimal queuing and delay in the baseline scenarios and with the additional committed and development traffic.

6.3.7 It has not been possible to carry out a thorough analysis of the traffic capacity analysis, but for the proposed size of development, site location and PEP experience, these are not unreasonable conclusions. However, we would have expected detailed analysis of Queens Road / Station Road and Station Road / A370 / Dark Lane as these have been identified as congestion hotspots.

6.3.8 Further information is therefore required to confirm that the Queens Road / Station Road and Station Road / A370 / Dark Lane junctions would operate satisfactorily in the future with the proposed committed and development traffic.

6.3.9 There are also committed infrastructure improvement schemes as part of the Youngwood Lane development at North Street / Queens Road / Hanham Way and Queens Road / Station Road. These should be considered within the analysis.

6.4 Road Safety Impact

6.4.1 The TA suggests that there are currently no accident clusters or patterns in the accidents recorded, and that there would be no road safety impact as a result of the scheme proposals. PEP agrees that there are no current clusters/patterns to accidents locally, although there have been accidents on Queens Road, Whiteoak Way / The Perrings and on Mizzymead Road involving cyclists. Queens Road and Whiteoak Way would be used by development related trips to / from the town centre, Station Road and onwards to Backwell for instance. Mizzymead Road would be used by development related trips to / from the town centre and Nailsea School.

6.4.2 The impact of the scheme and increase in movement of vehicles, pedestrians, and cyclists can also have an impact on the road safety. This has not been considered sufficiently by the applicant.

7.0 CUMULATIVE TRAFFIC IMPACT

7.1 Introduction

7.1.1 This section considers the following:

- Where there could be an identified cumulative increase in traffic from the two applications on the local roads in the vicinity of the two sites; and
- If the cumulative traffic could impact on any location where there is an existing highway safety problem or pattern, a congestion hotspot, or impact on roads adjacent to sensitive land uses.

7.2 Junction Impact

7.2.1 From a review of the two planning applications, it is possible to identify the traffic from both developments is forecast to use the following roads and junctions:

- Hanham Way
- Queens Road
- North Street / Queens Road / Hanham Way
- Queens Road / Station Road
- Station Road / A370 / Dark Lane

7.2.2 The forecast traffic is shown in the table below:

Road / Junction	**Land North of Hanham Way**		**Land West of Netherton Wood Lane**		**Combined**	
	AM Peak Hour (two-way)	**PM Peak Hour (two-way)**	**AM Peak Hour (two-way)**	**PM Peak Hour (two-way)**	**AM Peak Hour (two-way)**	**PM Peak Hour (two-way)**
Hanham Way	23	23	37	37	60	60
North Street (North Queens Road / Hanham Way)	8	8	7	7	15	15
Queens Road	14	13	18	18	32	31
North Street / Queens Road / Hanham Way	23	23	44	44	67	67
Queens Road / Station Road	14	13	18	18	32	31
Station Road / A370 / Dark Lane	14	12	10	22	24	34

Hanham Way

7.2.3 On Hanham Way, there is an increase of 60 two way vehicle trips in the AM and PM, or one additional vehicle every minute on average.

7.2.4 Whilst the increase in the number of vehicle movements on Hanham Way is relatively small, this would be an approximate 20% increase in traffic in the AM and PM based on the ATC from January 2024. The applicants have not considered if the increase would give rise to any issues with the operation and safety of Hanham Way.

North Street & Queens Road

7.2.5 For Queens Road there could be an increase in traffic of around one additional vehicle every two minutes from the two sites and on North Street there could be an increase in traffic of around one additional vehicle every four minute from the two sites.

North Street / Queens Road / Hanham Way Junction

7.2.6 The North Street / Queens Road / Hanham Way junction assessments in the Land North of Hanham Way TA showed there would be spare capacity and only minor delays with the addition of the development traffic and committed traffic from previously consented schemes. With the traffic from these two live applications the junction performance would worsen but unlikely to operate overcapacity.

7.2.7 As shown in the table, there would be a maximum increase in traffic of around one additional vehicle every minute from the two sites at the North Street / Queens Road / Hanham Way junction and on Hanham Way.

7.2.8 There are committed junction improvements for North Street / Queens Road / Hanham Way and Queens Road / Station Road. These are not tested within either TA, but should be considered and shown to be able to accommodate the proposed development traffic.

Station Road / A370 / Dark Lane Junction

7.2.9 The Station Road / A370 / Dark Lane junction is a congestion hotspot. Both developments would add traffic to a junction already operating overcapacity and cumulatively it could be an additional one vehicle every two minutes. Both applicants need to address this point and the need for mitigation.

7.3 Road Safety

7.3.1 The traffic from both applications is shown to use Queens Road where there has been four accidents reported within the last five years, three involving cyclists.

7.3.2 The impact of the two schemes and increase in movement of vehicles, pedestrians, and cyclists could have an impact on the road safety on routes away from the sites. This should be considered by the applicants.

8.0 SUMMARY

8.1 Summary

8.1.1 This note has been prepared to provide an independent review of two recent planning applications in the town for residential development, from a highways and transportation perspective.

8.1.2 The two applications have not considered each other as cumulative or committed development.

8.1.3 This note is based on a review of the following elements of the application submissions:

- the site location, accessibility and access proposals;
- the highway safety records;
- the individual traffic generation associated with the two sites; and
- the traffic distribution and impact identified for each of the two sites.

8.1.4 The note then considers:

- where there could be a cumulative increase in traffic on the local highway network from the two sites;
- if the cumulative traffic could impact on any location where there is an existing highway safety problem or pattern, a congestion hotspot, or impact on roads adjacent to sensitive land uses; and
- identify any shortcomings in the planning applications or transport work submitted, where further work is needed to be able to assess, confirm or mitigate the cumulative traffic impact from the two applications.

8.2 Traffic Generation

8.2.1 The calculated level of traffic associated with the development proposals appear broadly reasonable.

8.2.2 The site North of Hanham Way has several points of access for pedestrians and cyclists and is reasonably well located for journeys by foot, cycle on public transport, helping reduce the reliance on private car journeys.

8.2.3 The application site West of Netherton Wood Lane is not well related to the town centre and there are limited facilities that could be required on a regular basis within reasonable walking distance of the site, meaning people would have to travel longer distances to access goods and services and may do so mainly by car.

8.3 Traffic Distribution

8.3.1 In broad terms, the distribution of the development traffic on the local highway network associated with each application is reasonable, but further clarification is required on the detailed distribution of traffic for the West of Netherton Lane site.

8.4 Transport Impacts and Mitigation

8.4.1 There is no reference of a scope of the junction assessments agreed with NSC for either planning application.

Land to the North of Hanham Way

8.4.2 The TA for Land to the North of Hanham Way carried out detailed capacity analysis for a wide number of junctions in Nailsea to help provide a clear indication of the traffic impact of the proposed development.

8.4.3 The conclusions from the traffic models appear reasonable, but there is no assessment of the committed infrastructure improvements at the Hanham Way / North Street / Queens Road cross road junction and Station Road / Queens Road priority T-junction. These should be considered within the TA analysis.

8.4.4 The TA shows the development could cause additional queuing and delay at the already congested Station Road / A370 / Dark Lane cross-road junction. The applicant needs to address this point and the need for mitigation.

Land West of Netherton Wood Lane

8.4.5 The West of Netherton Lane TA used an arbitrary traffic threshold to determine whether there could be any traffic impact at individual junctions. However, further justification is required for the methodology used to be able to confirm that the traffic impact of the proposed development has been assessed appropriately.

8.4.6 The conclusions from the traffic models appear reasonable, but there is no assessment of Queens Road / Station Road and Station Road / A370 / Dark Lane which have been identified as congestion hotspots.

8.4.7 Further information is therefore required to confirm that the Queens Road / Station Road and Station Road / A370 / Dark Lane junctions would operate satisfactorily in the future with the proposed committed and development traffic.

8.4.8 There is no assessment of the committed infrastructure improvements at the Hanham Way / North Street / Queens Road cross road junction and Station Road / Queens Road priority T-junction. These should be considered within the TA analysis.

Cumulative Traffic Impact

8.4.9 The traffic from both developments is forecast to use the following roads and junctions:

- Hanham Way
- Queens Road
- North Street / Queens Road / Hanham Way
- Queens Road / Station Road
- Station Road / A370 / Dark Lane

8.4.10 There would be an increase in traffic of around one additional vehicle every minute from the two sites at the North Street / Queens Road / Hanham Way junction and on Hanham Way. The increase would be less on Queens Road and North Street.

8.4.11 On Hanham Way, there would be an approximate 20% and 21% increase in traffic in the AM and PM respectively based on the ATC from January 2024. The applicants have not considered if the increase would give rise to any issues with the operation and safety of Hanham Way.

8.4.12 The performance of the North Street / Queens Road / Hanham Way junction with the traffic from these two live applications would worsen, but unlikely to cause it to operate overcapacity. However, the committed junction improvements need to be considered by both applicants to confirm they would also accommodate the proposed development traffic.

8.4.13 The Station Road / A370 / Dark Lane junction is a congestion hotspot. Both developments would add traffic to a junction already operating overcapacity and cumulatively it could be an additional one vehicle every two minutes. Both applicants need to address this point and the need for mitigation.

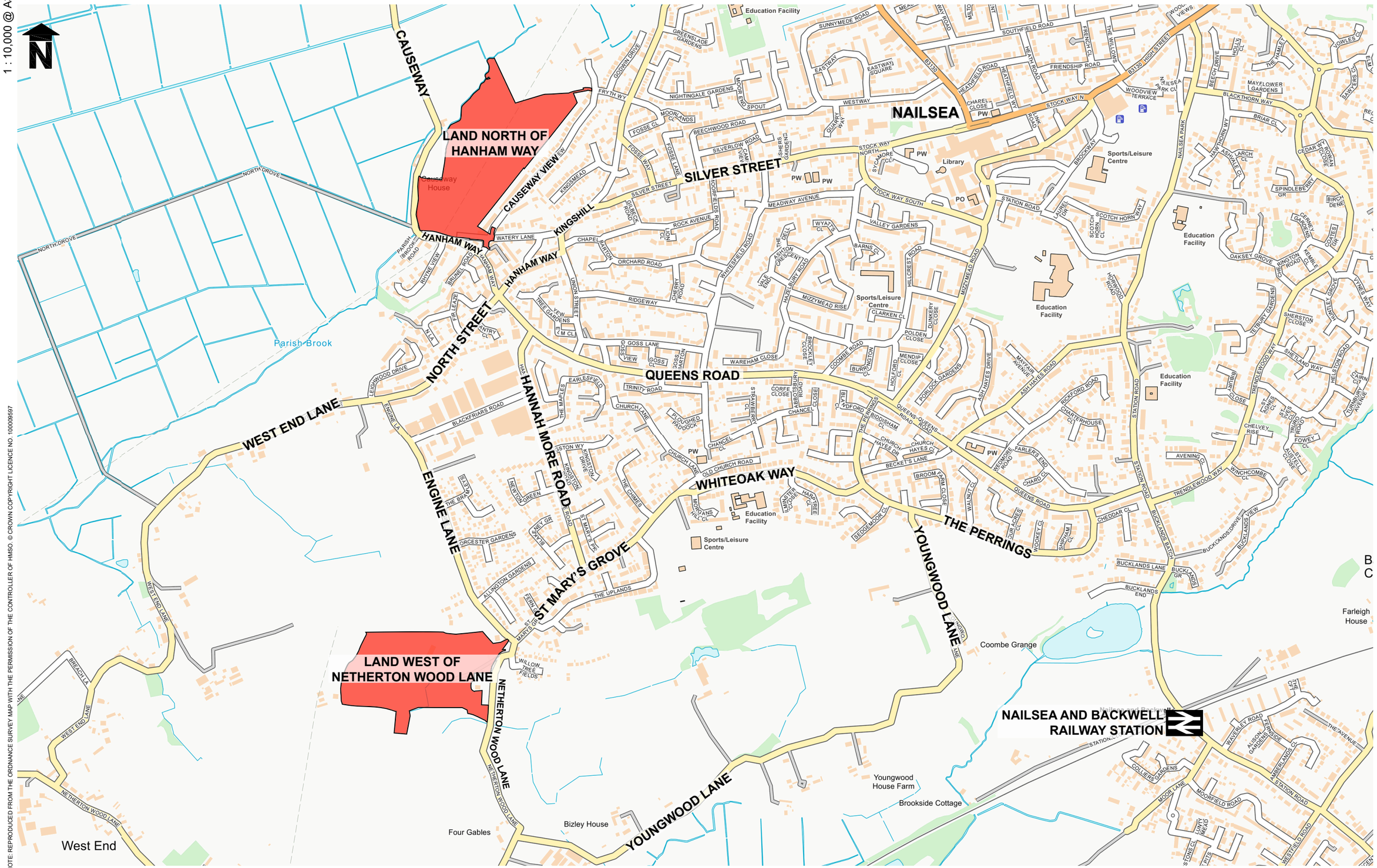
8.5 Road Safety

8.5.1 For both applications, there has been no RSA presented for the access junction designs. This should be provided to confirm that the access junctions are safe and suitable for all road users.

8.5.2 The traffic from both applications is shown to use Queens Road where there has been four accidents reported within the last five years, three involving cyclists. The additional traffic, pedestrians and cyclists on Queens Road could worsen the highway safety situation for pedestrians and cyclists without mitigation. This has not been considered by either applicant.

pep

1 : 10,000 @ A3



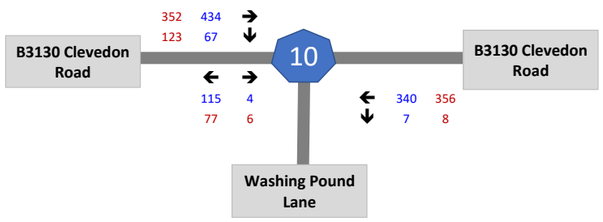
Proposed Residential Developments, North West and South West Nailsea
PEP Planning Application Review, January 2024

APPENDIX 1
Site Location

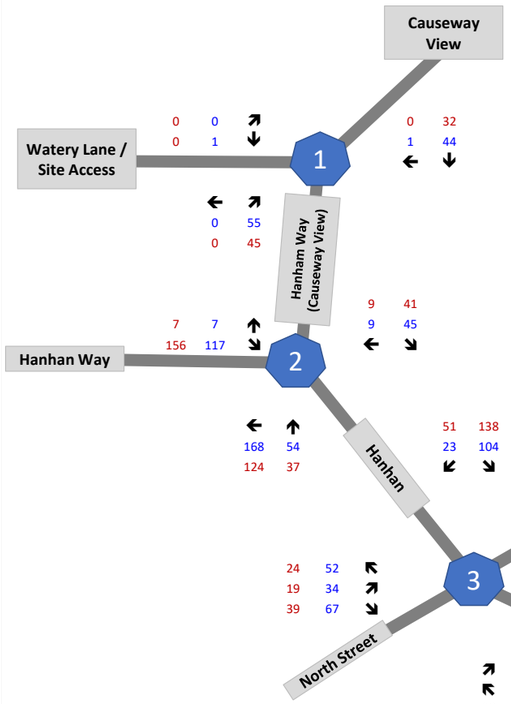
KEY

123 AM Peak (08:00 - 09:00)

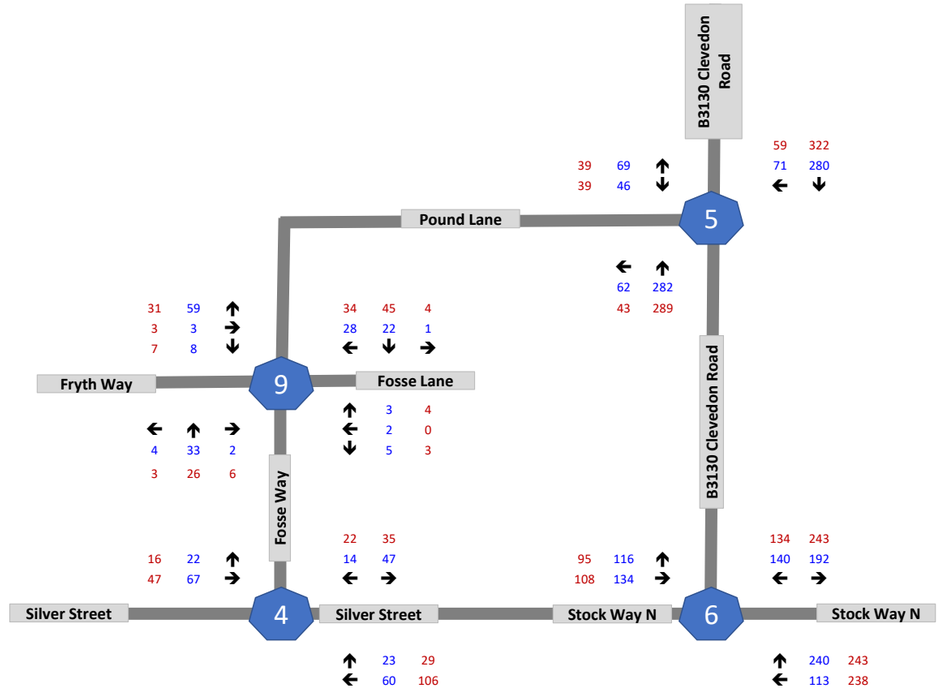
456 PM Peak (17:00 - 18:00)



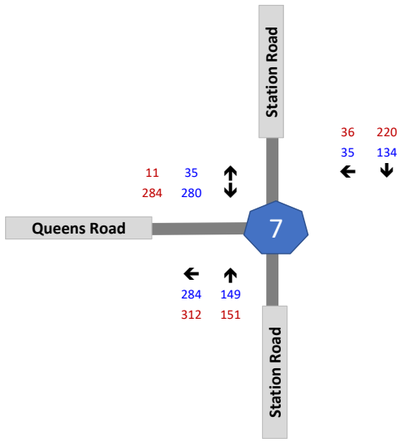
Junction 10



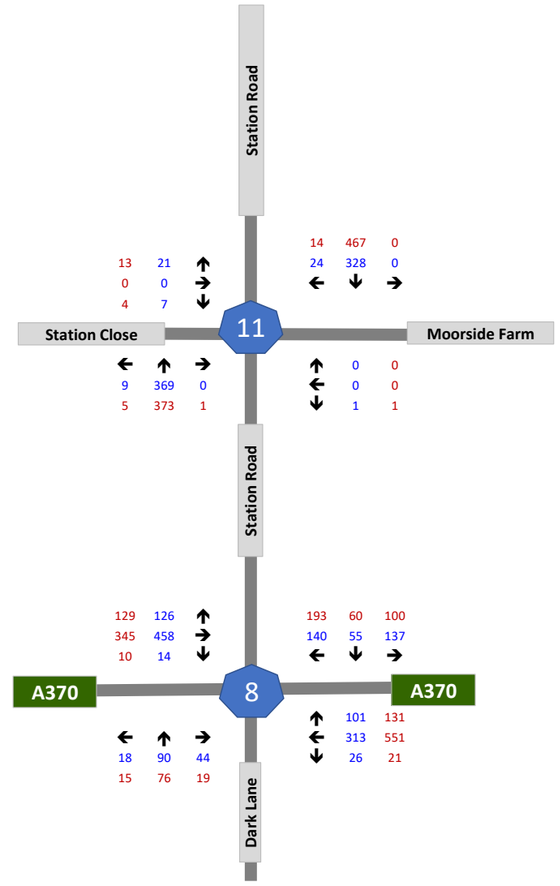
Junctions 1, 2 & 3



Junctions 4, 5, 6 & 9



Junction 7



Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

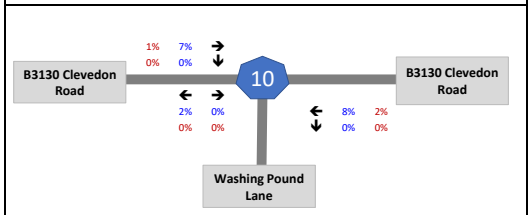
2023 Surveyed Peak Hour Turning Movements (PCUs)

Project:	230046	Drawing No:	TIA-01

KEY

12% AM Peak (08:00 - 09:00)

34% PM Peak (17:00 - 18:00)



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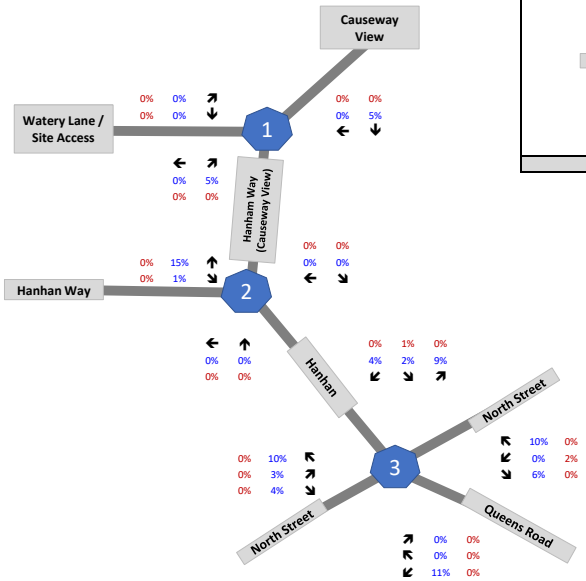
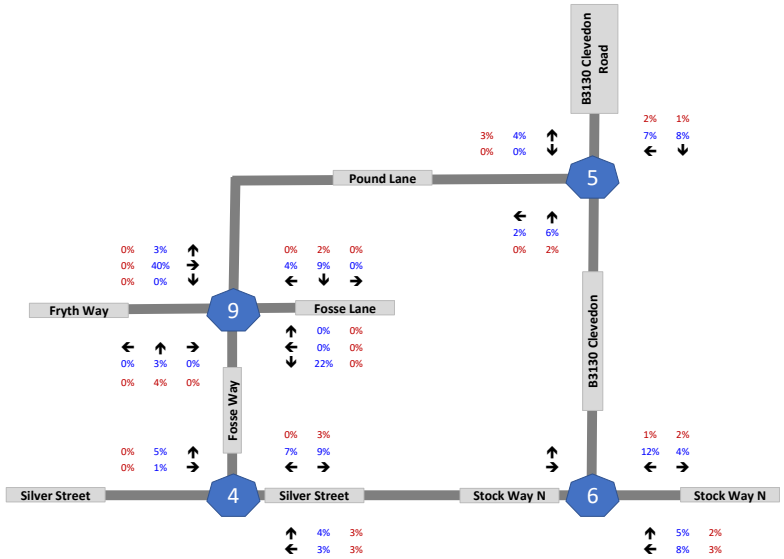
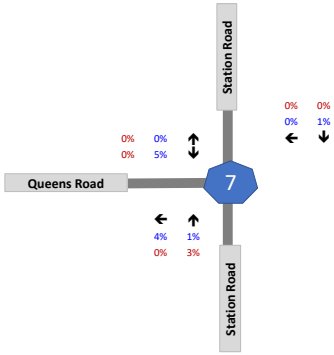


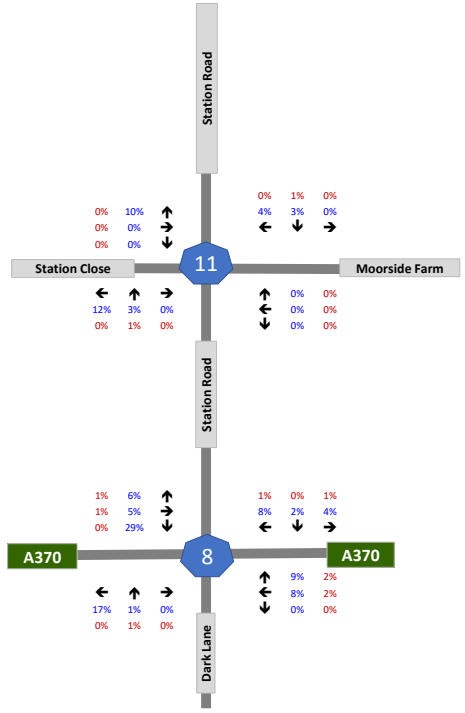
Junctions 1, 2 & 3



Junctions 4, 5, 6 & 9



Junction 7



Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

2023 Surveyed HGVs

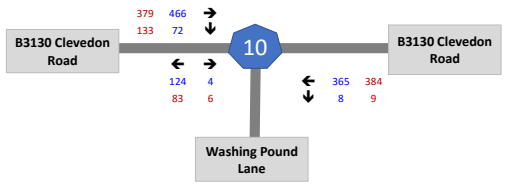
Project:	230046	Drawing No:	TIA-02

KEY

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

TEMPRo Growth Factors

1.0754 AM Peak 2023 to 2029
1.0777 PM Peak 2023 to 2029



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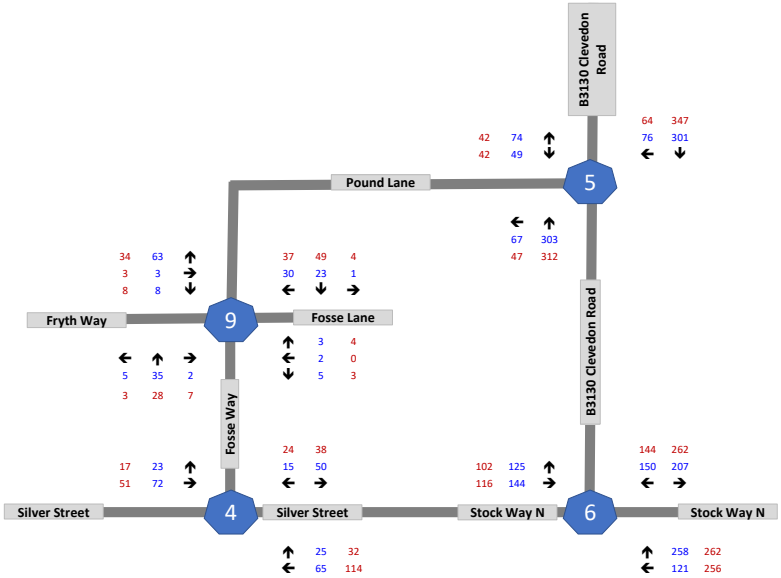
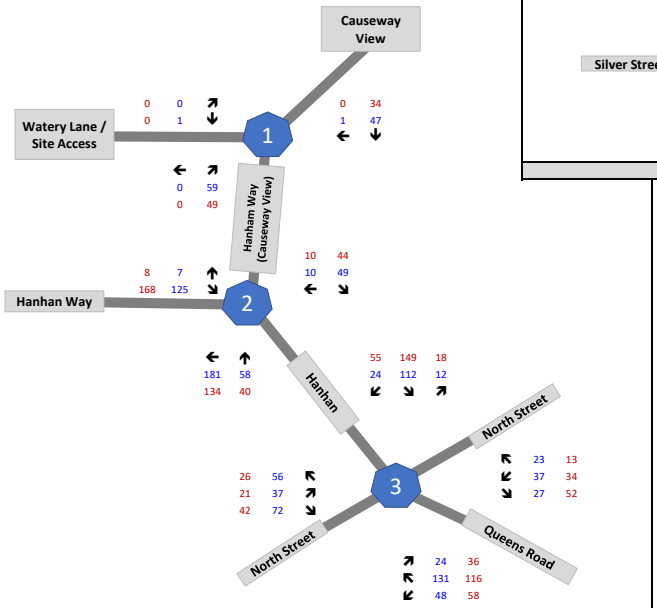
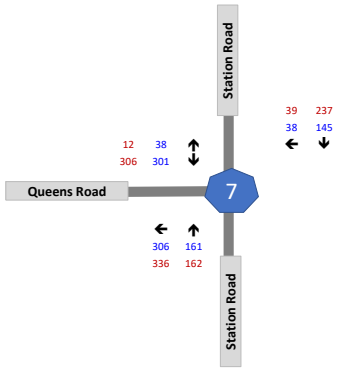


Junctions 4, 5, 6 & 9



Junctions 1, 2 & 3



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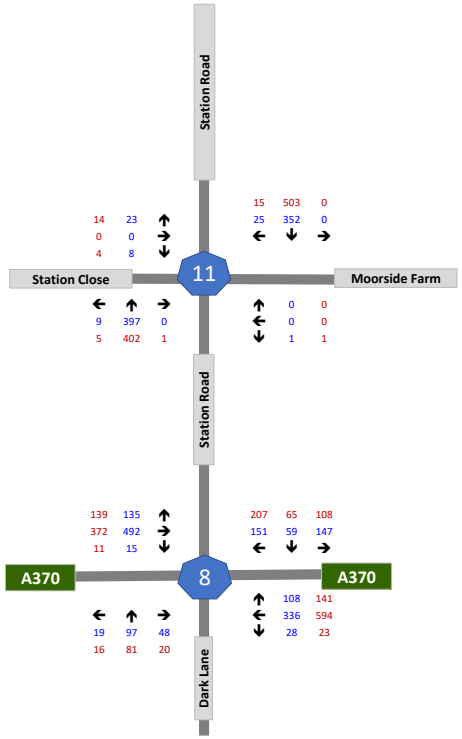


Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

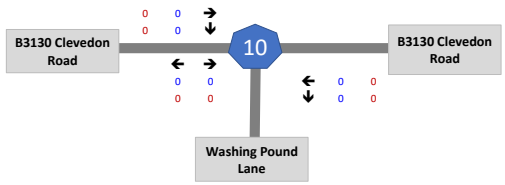
2029 Base
Peak Hour Turning Movements
(PCUs)

Project:	230046	Drawing No:	TIA-03

KEY

123 AM Peak (08:00 - 09:00)

456 PM Peak (17:00 - 18:00)



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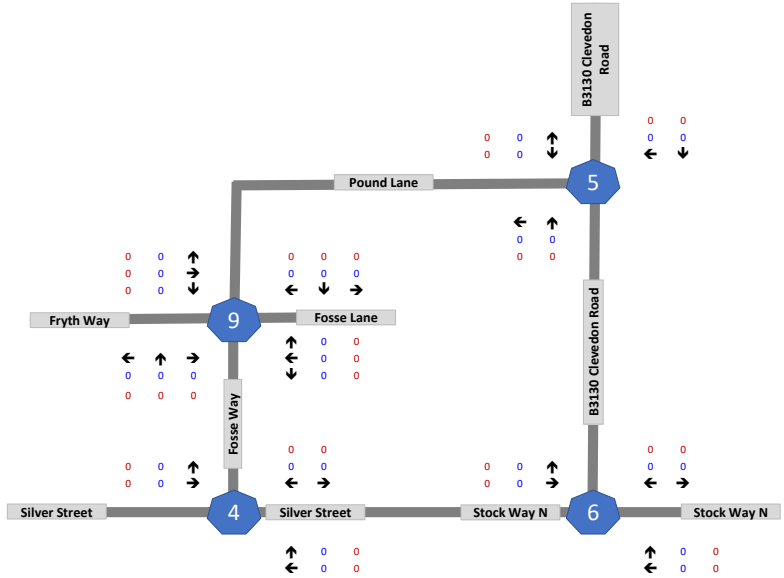
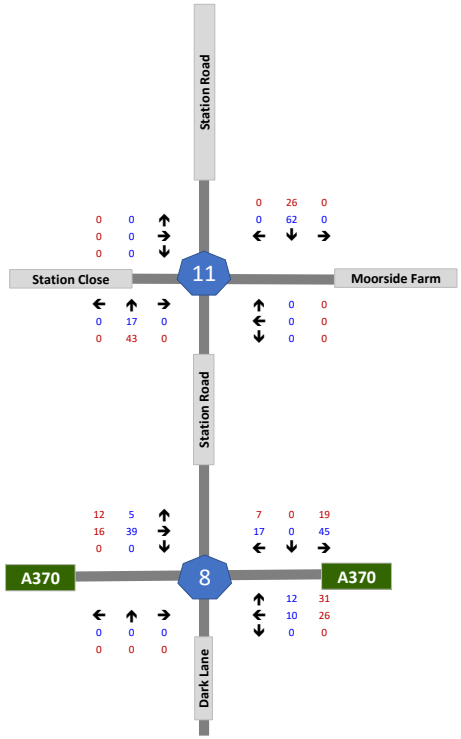
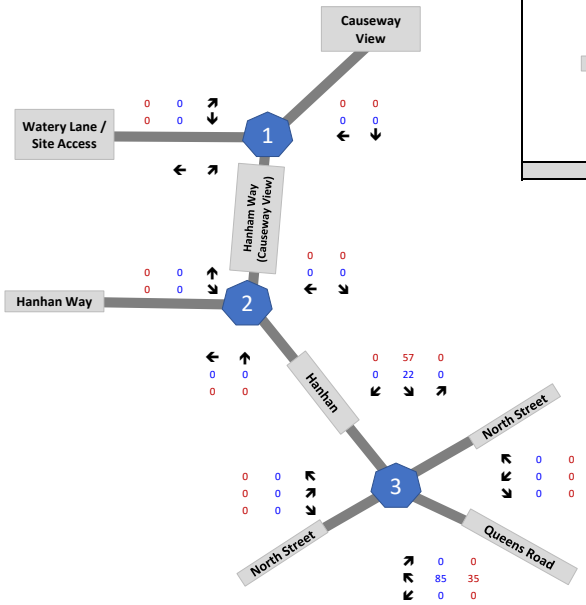


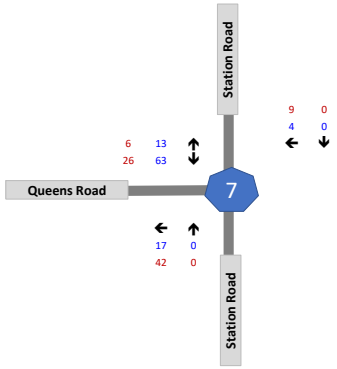
Junctions 4, 5, 6 & 9



Junctions 8 & 11



Junctions 1, 2 & 3



Junction 7

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

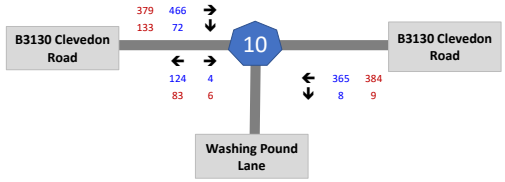
Committed Development Trips
Peak Hour Turning Movements
(PCUs)

Project:	230046	Drawing No:	TIA-04

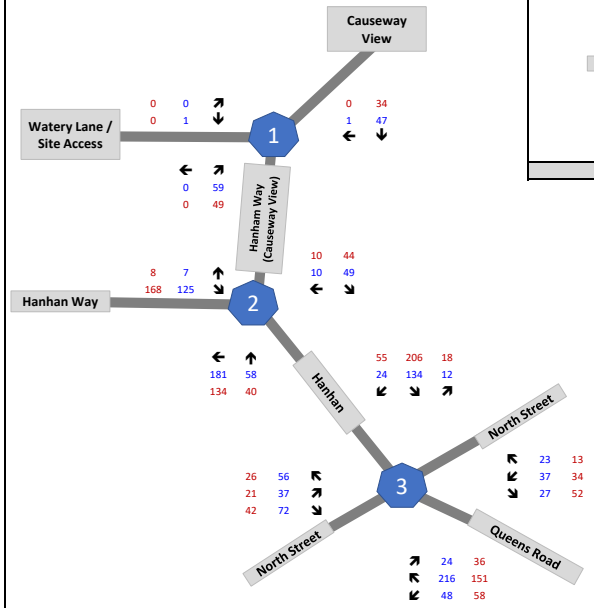
KEY

123 AM Peak (08:00 - 09:00)

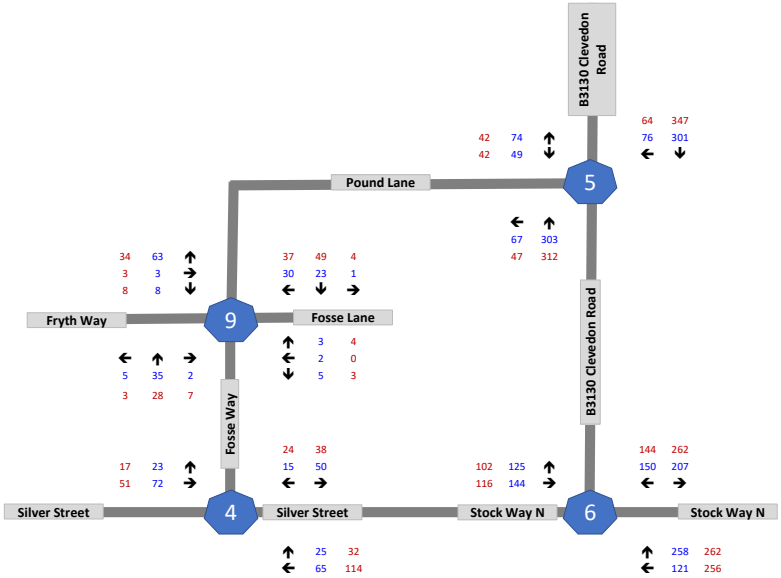
456 PM Peak (17:00 - 18:00)



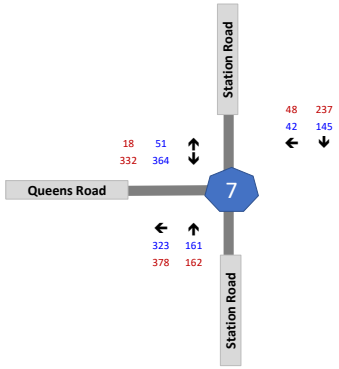
Junction 10



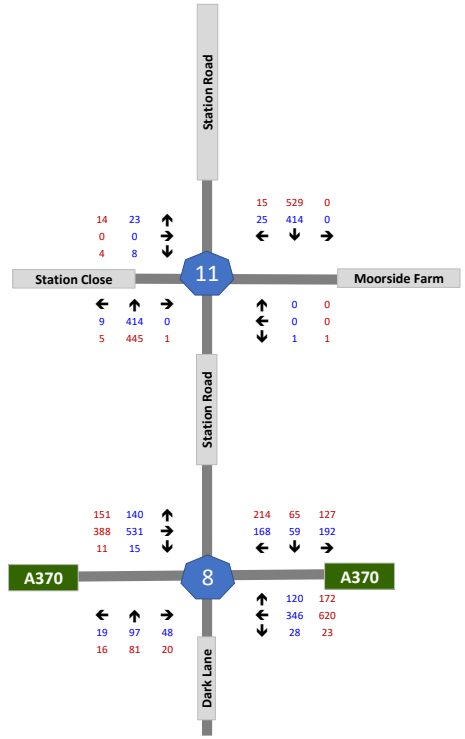
Junctions 1, 2 & 3



Junctions 4, 5, 6 & 9



Junction 7



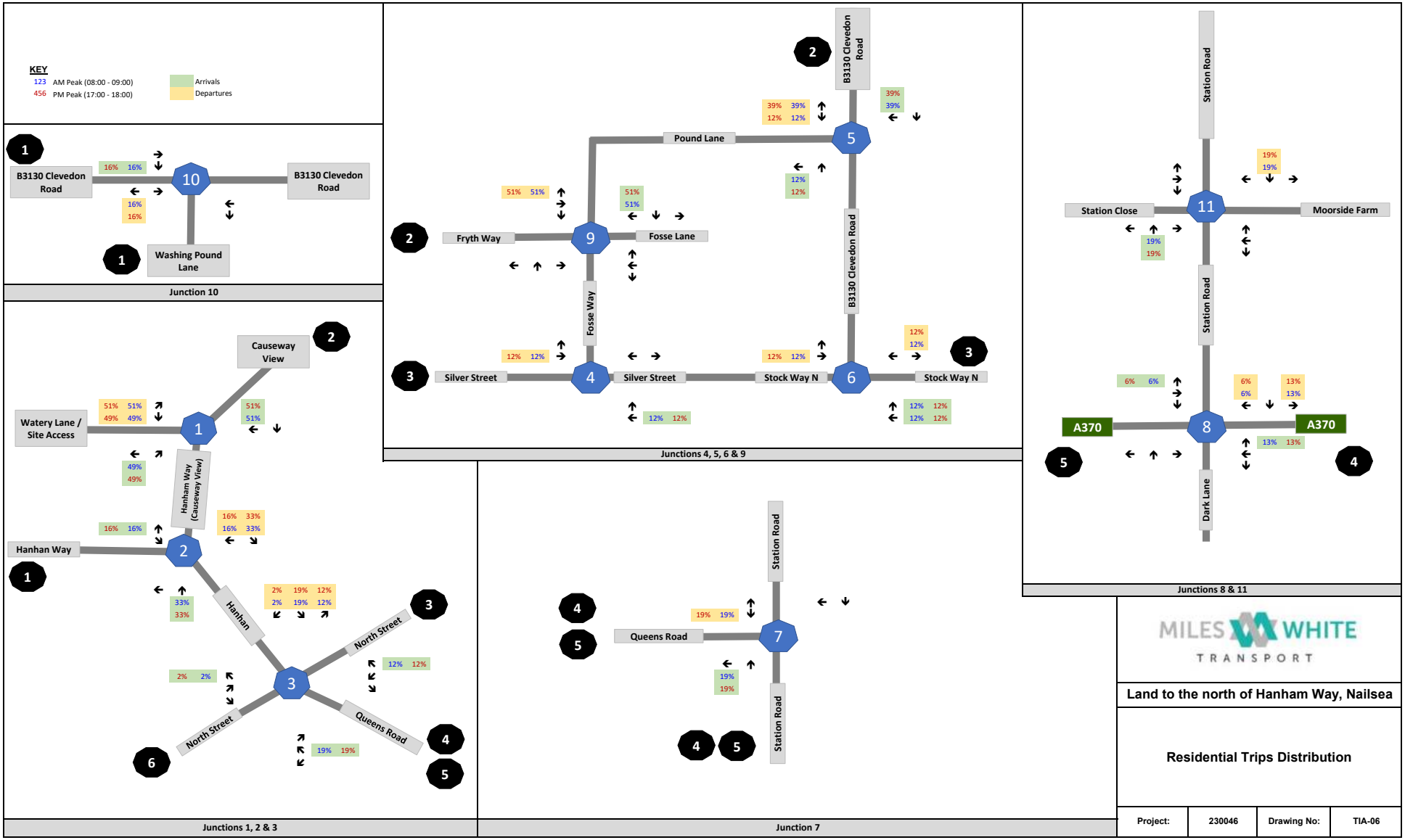
Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

2029 Base
+ Committed Development Trips
Peak Hour Turning Movements
(PCUs)

Project:	230046	Drawing No:	TIA-05


KEY
123 AM Peak (08:00 - 09:00)
456 PM Peak (17:00 - 18:00)
Arrivals
Departures
B3130 Clevedon Road
Washing Pound Lane
Junction 10
Causeway View
Watery Lane / Site Access
Hanham Way (Causeway View)
Hanham Way
Hanham
North Street
Queens Road
Junctions 1, 2 & 3
B3130 Clevedon Road
Pound Lane
Fryth Way
Fosse Lane
Fosse Way
Silver Street
Stock Way N
Junctions 4, 5, 6 & 9
Station Road
Station Close
Moorside Farm
Dark Lane
A370
Junctions 8 & 11
Queens Road
Junction 7
MILES WHITE TRANSPORT
Land to the north of Hanham Way, Nailsea
Residential Trips Distribution
Project: 230046
Drawing No: TIA-06

KEY

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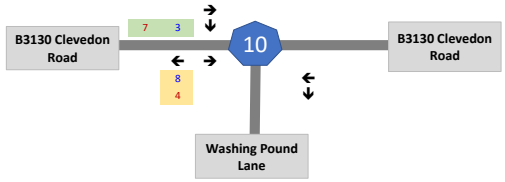
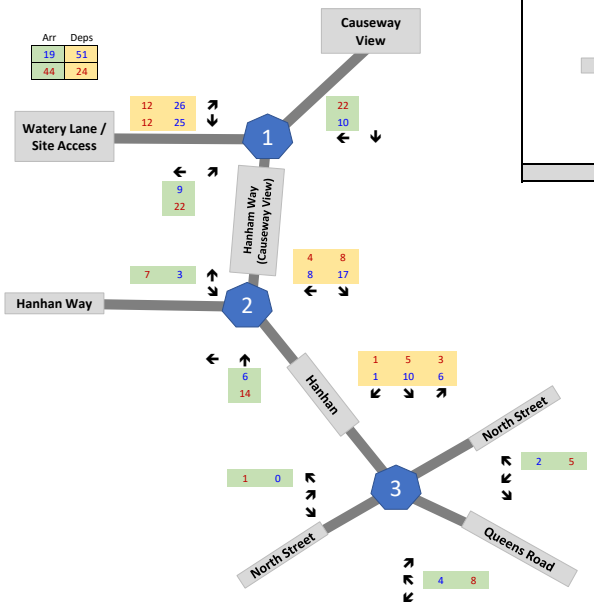
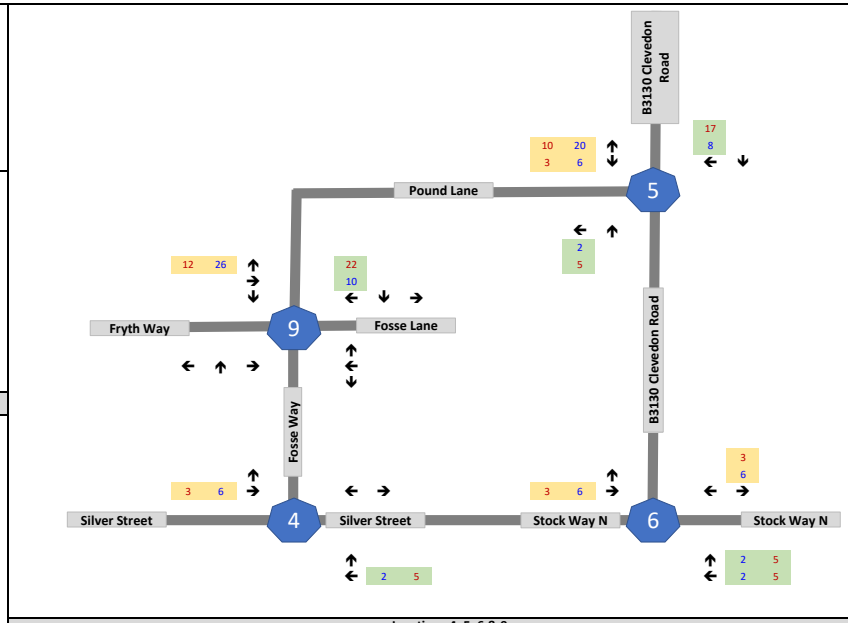
456 PM Peak (17:00 - 18:00)



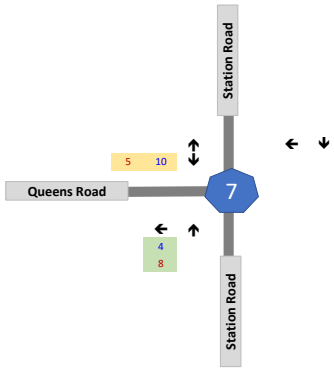
Junction 10



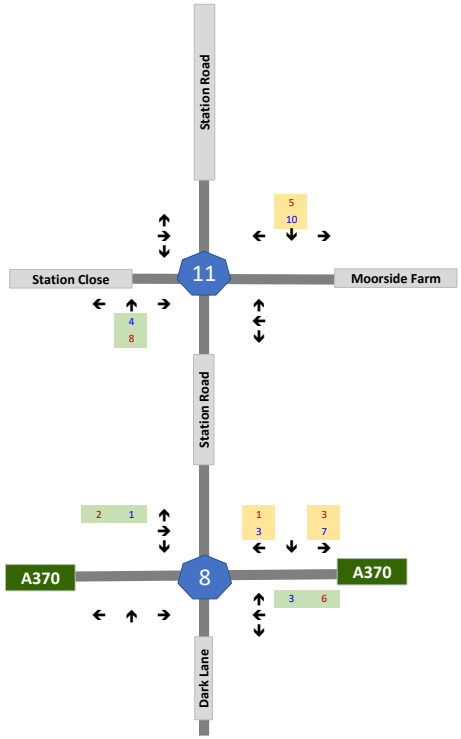
Junctions 1, 2 & 3



Junctions 4, 5, 6 & 9



Junction 7



Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

Residential Trips Assignment (PCUs)

Project:	230046	Drawing No:	TIA-07

KEY

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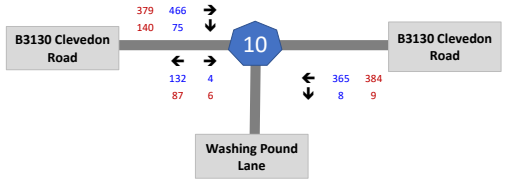
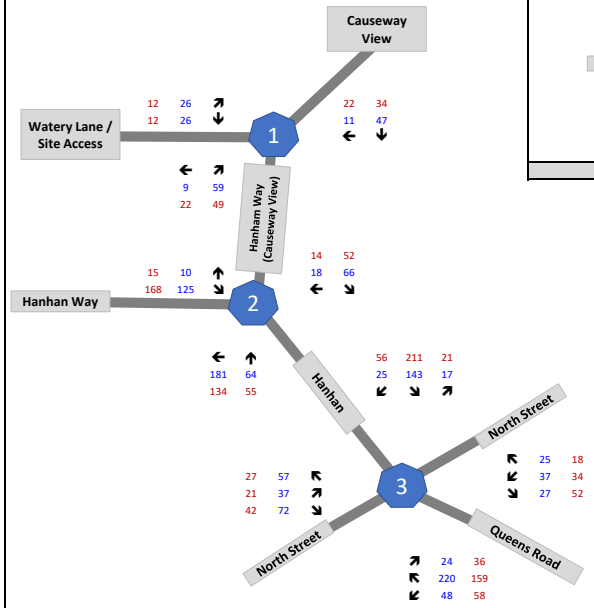
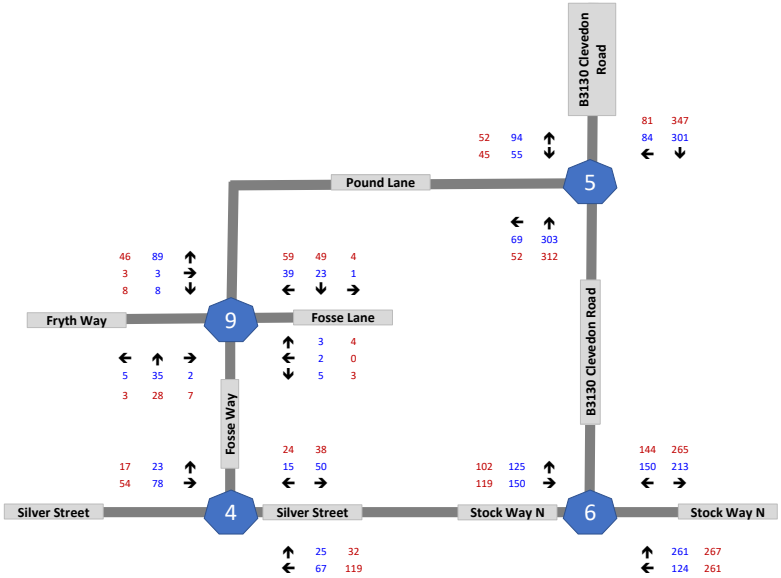
456 PM Peak (17:00 - 18:00)



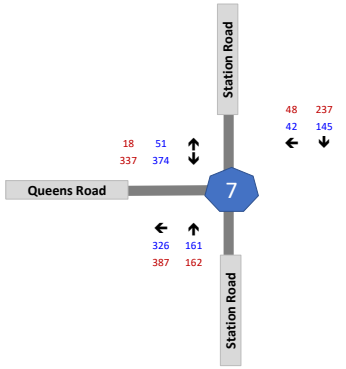
Junction 10



Junctions 1, 2 & 3



Junctions 4, 5, 6 & 9



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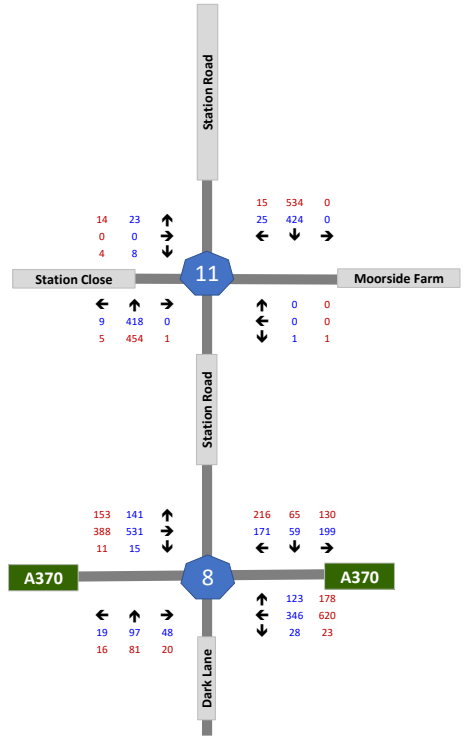


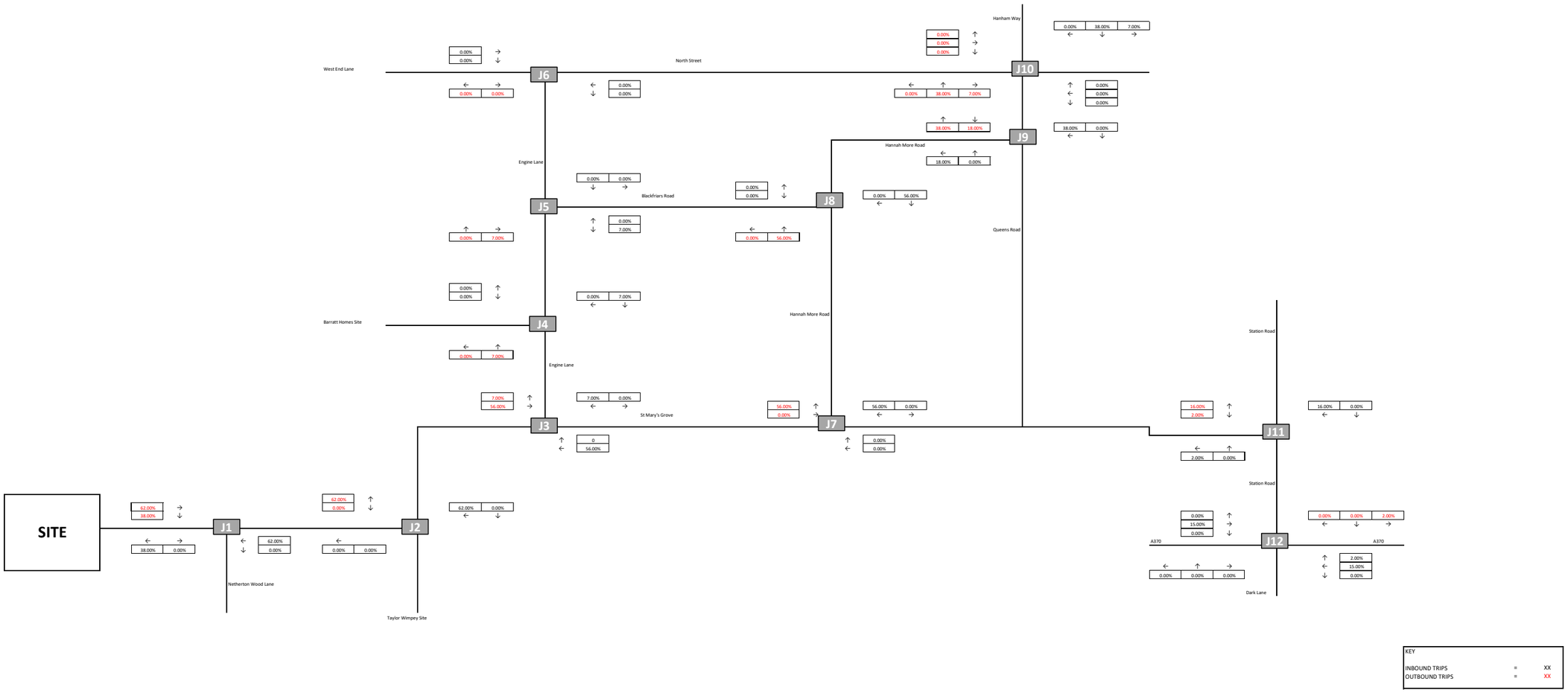
Junctions 8 & 11

MILES WHITE TRANSPORT

Land to the north of Hanham Way, Nailsea

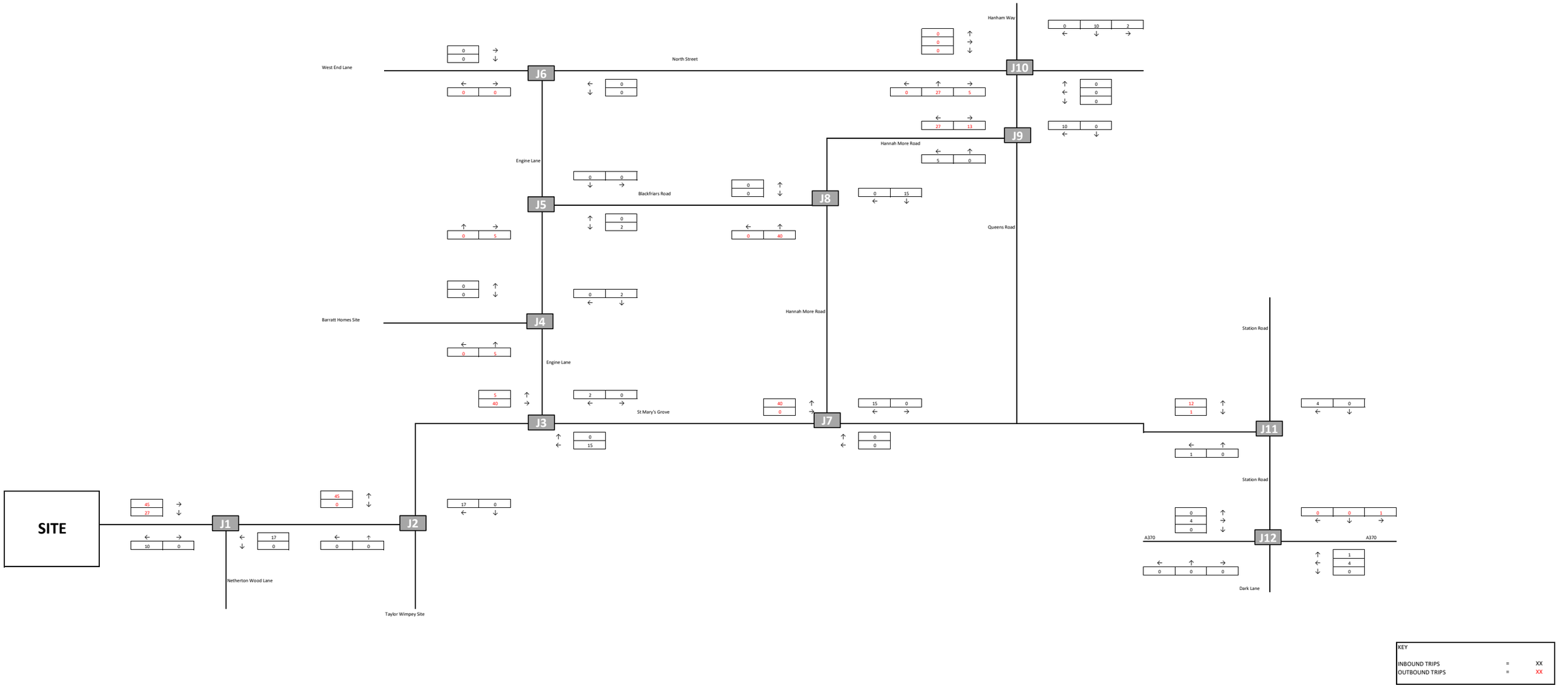
2029 Base
+ Committed Development Trips
+ Resdidential Development Trips
Peak Hour Turning Movements
(PCUs)

Project:	230046	Drawing No:	TIA-08



ARDENT CONSULTING ENGINEERS
AN EMPLOYEE OWNED COMPANY

FIGURE 1
PROPOSED DEVELOPMENT PERCENTAGE TRAFFIC DISTRIBUTION
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



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AN EMPLOYEE OWNED COMPANY

FIGURE 2
ASSIGNED AM PEAK DEVELOPMENT TRAFFIC
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

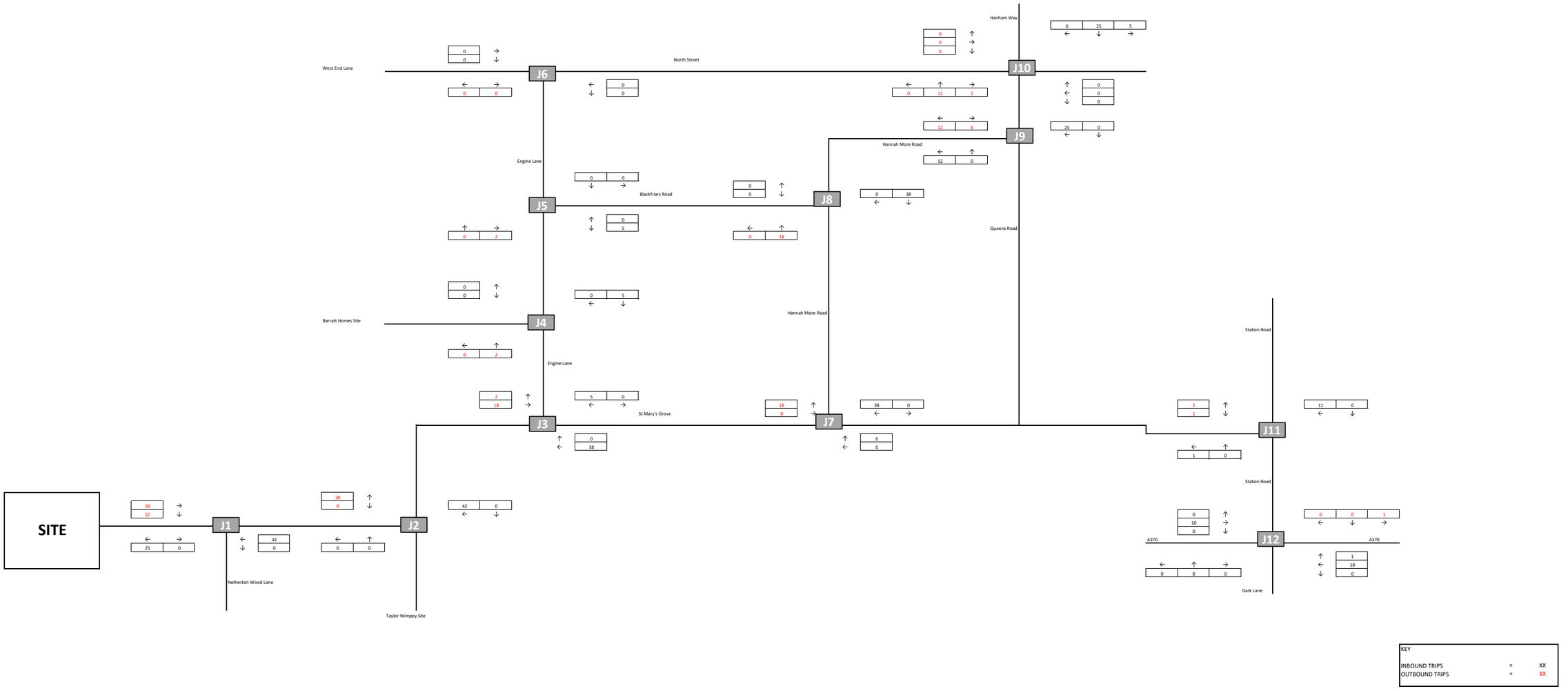

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FIGURE 3
ASSIGNED PM PEAK DEVELOPMENT TRAFFIC
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

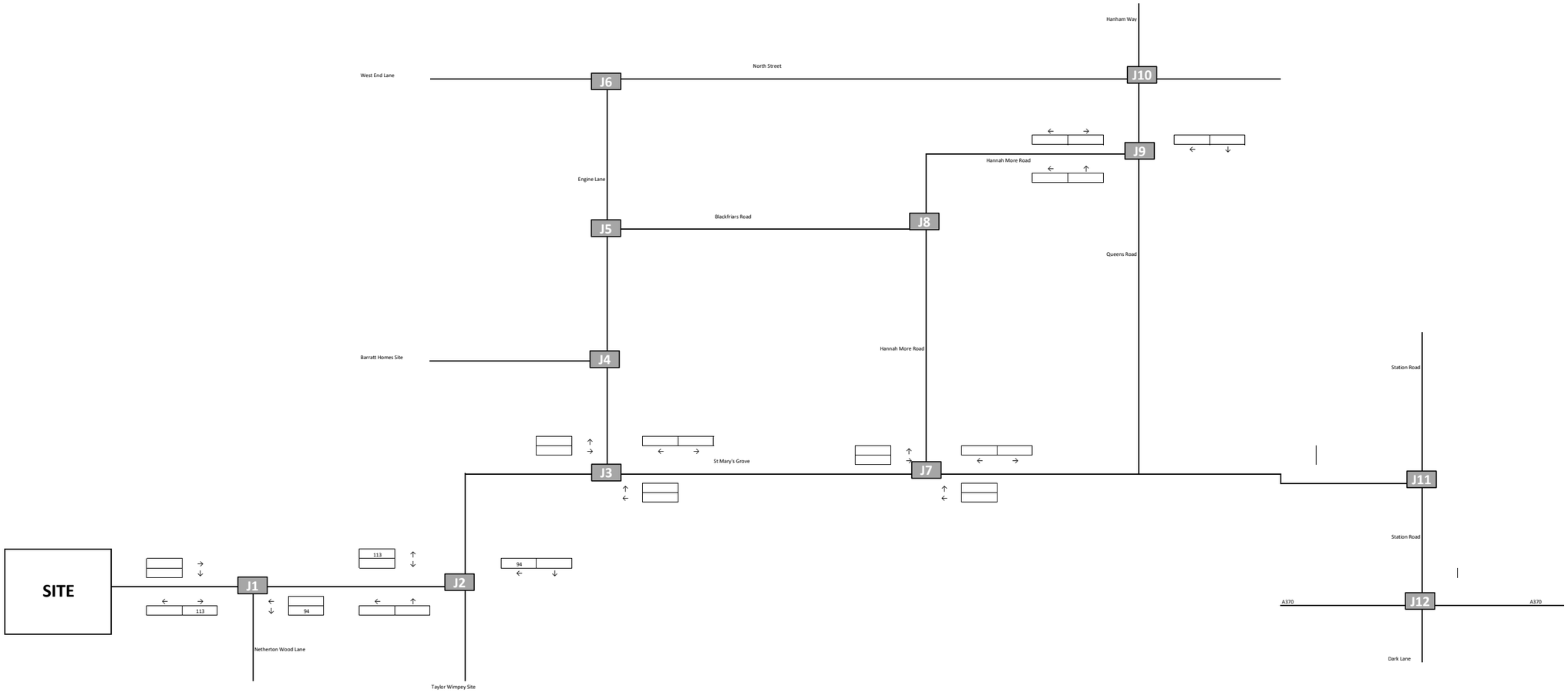

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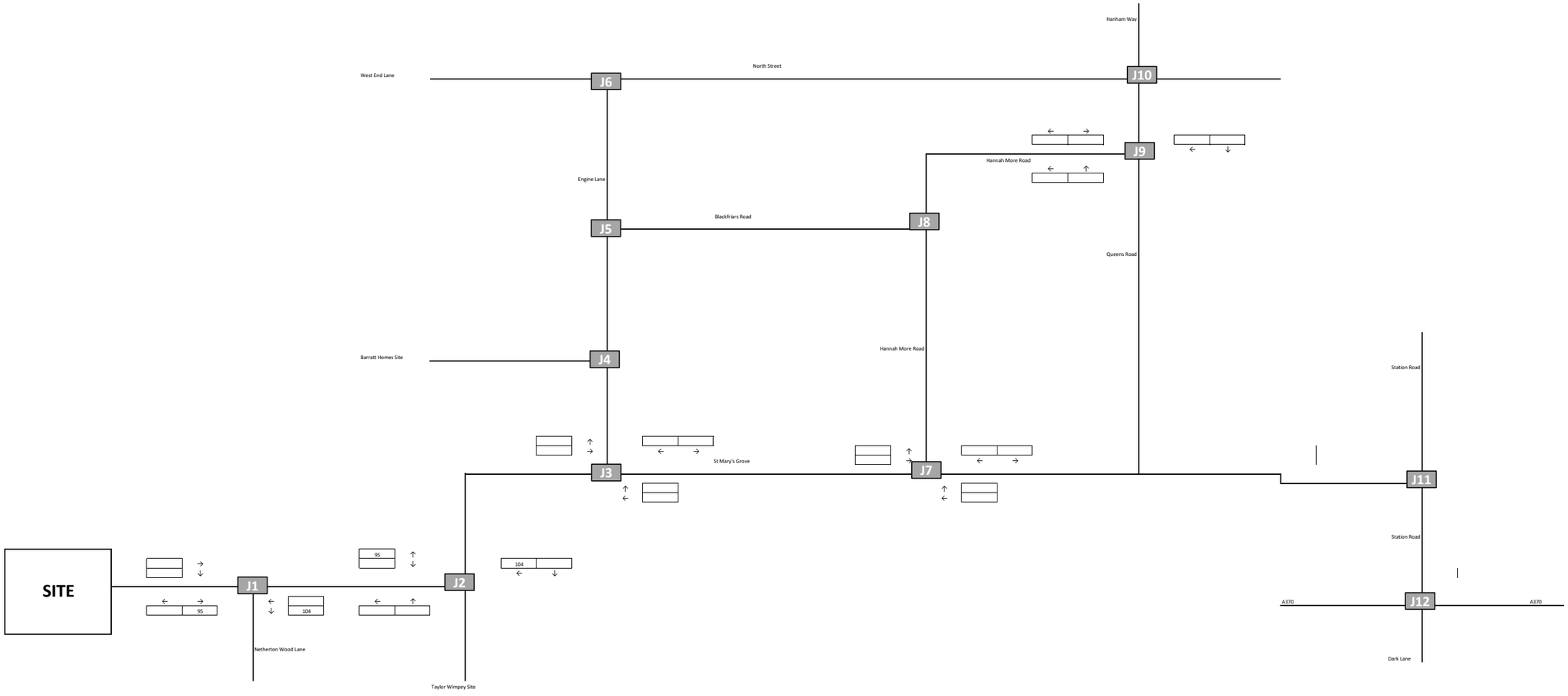
FIGURE 4
BASELINE TRAFFIC FLOWS 2016 (AM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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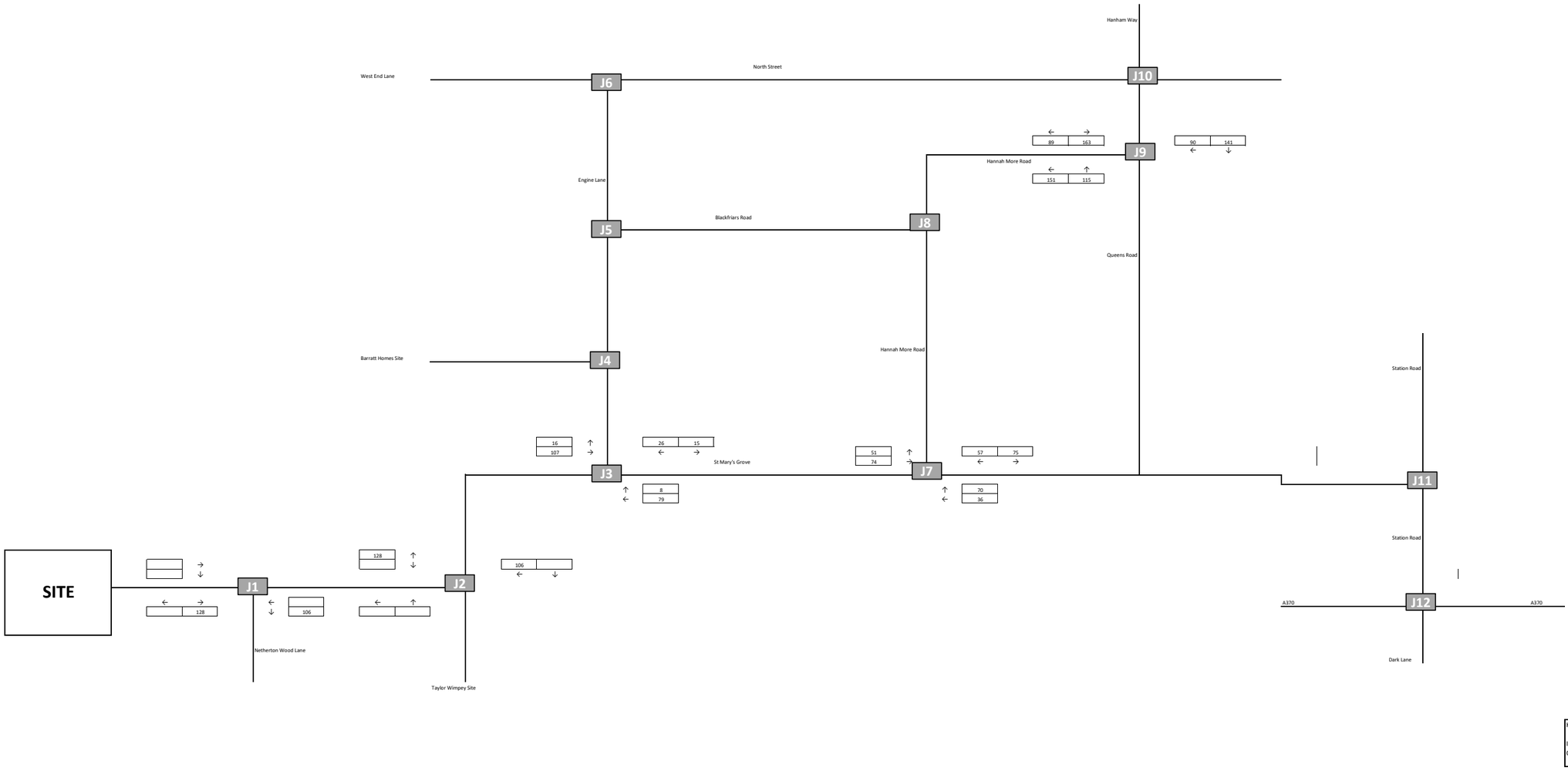
FIGURE 5
BASELINE TRAFFIC FLOWS 2016 (PM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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FIGURE 6
BASELINE 2023 TRAFFIC (AM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

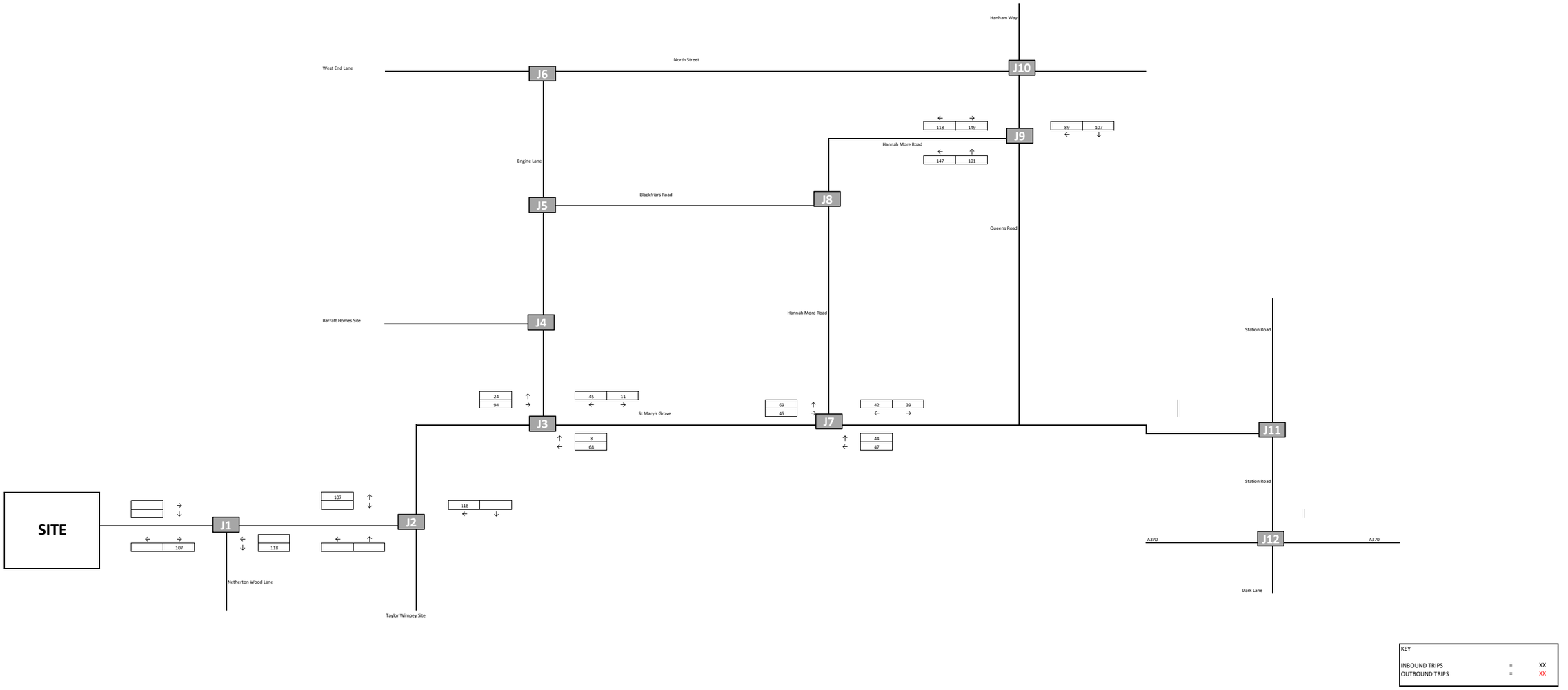

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FIGURE 7
BASELINE 2023 TRAFFIC (PM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

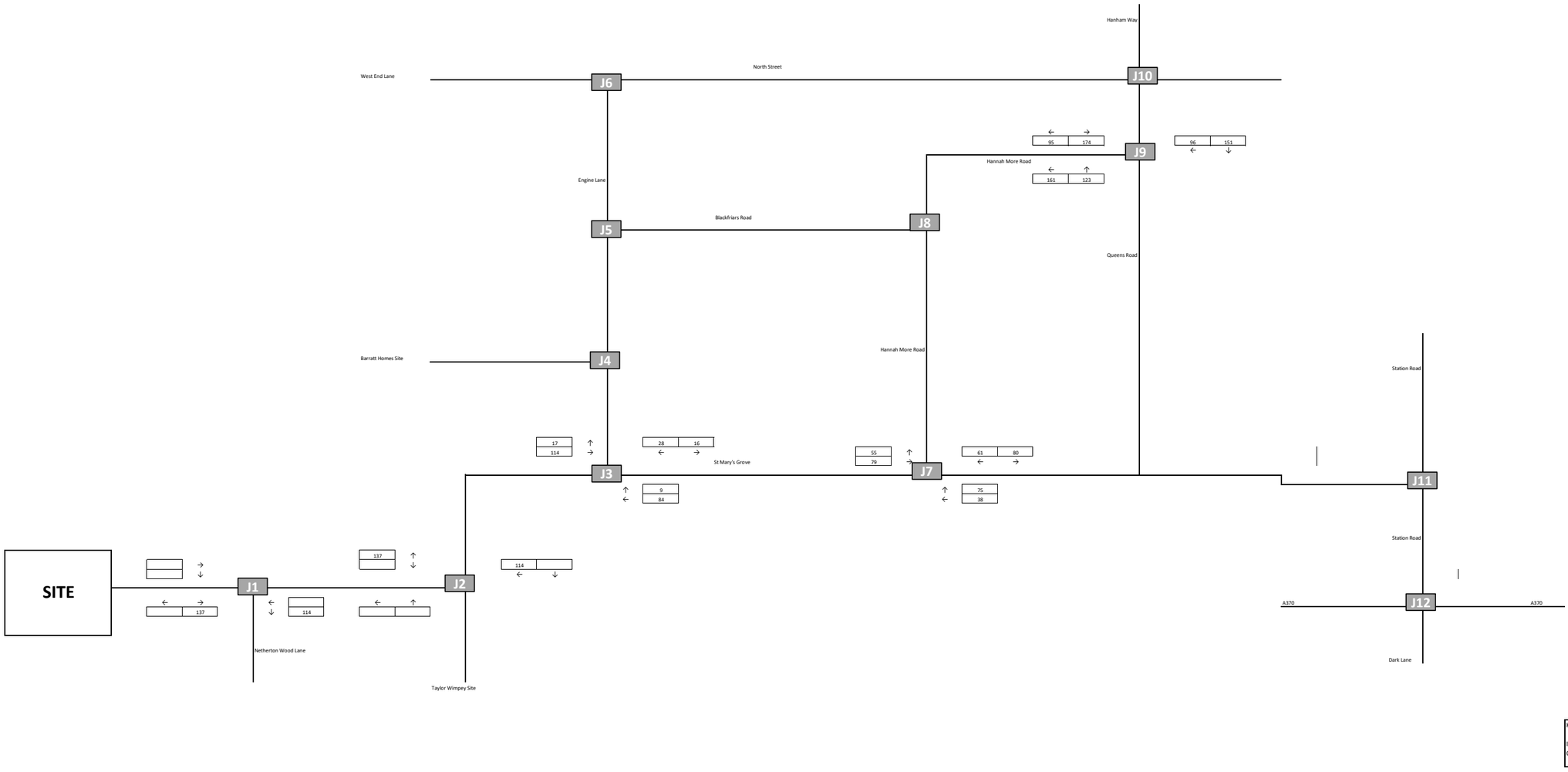

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FIGURE 8
FUTURE YEAR 2028 TRAFFIC FLOWS (AM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

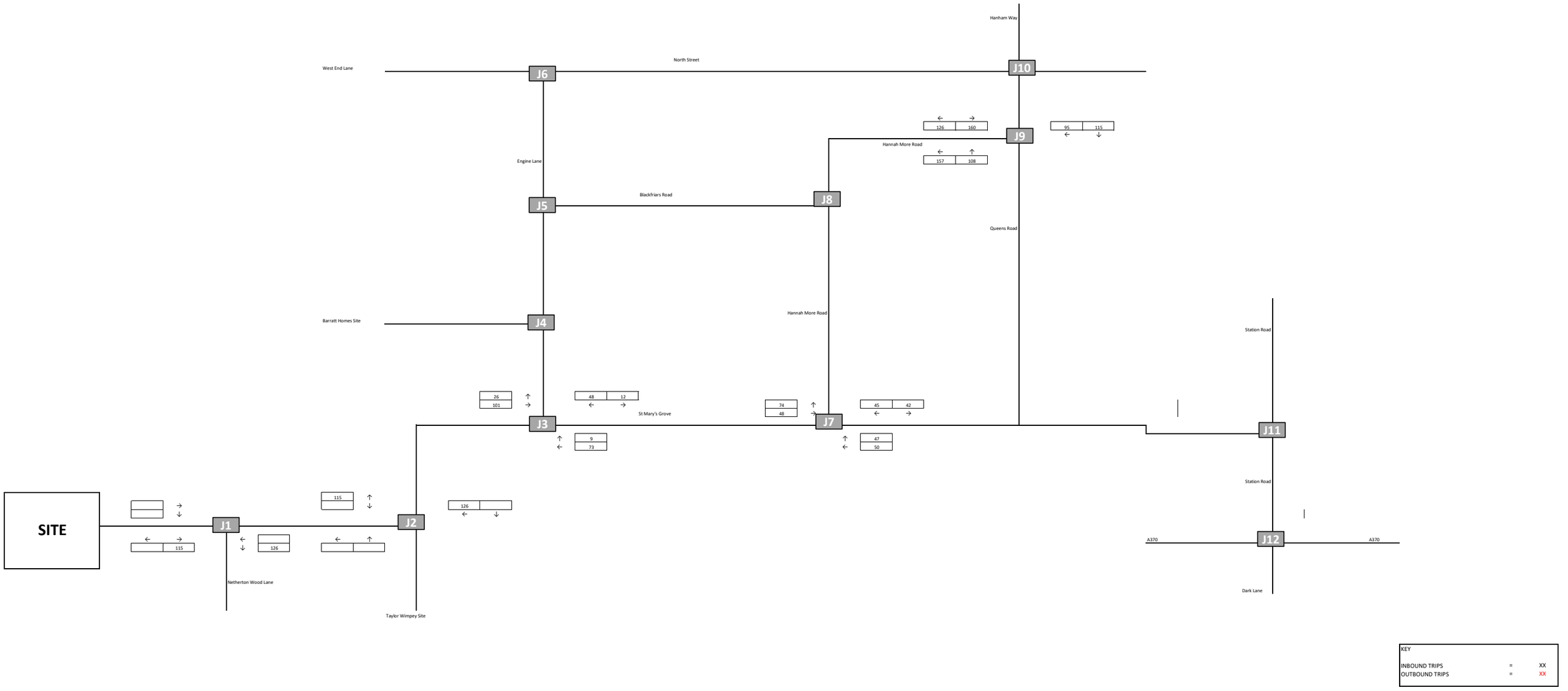

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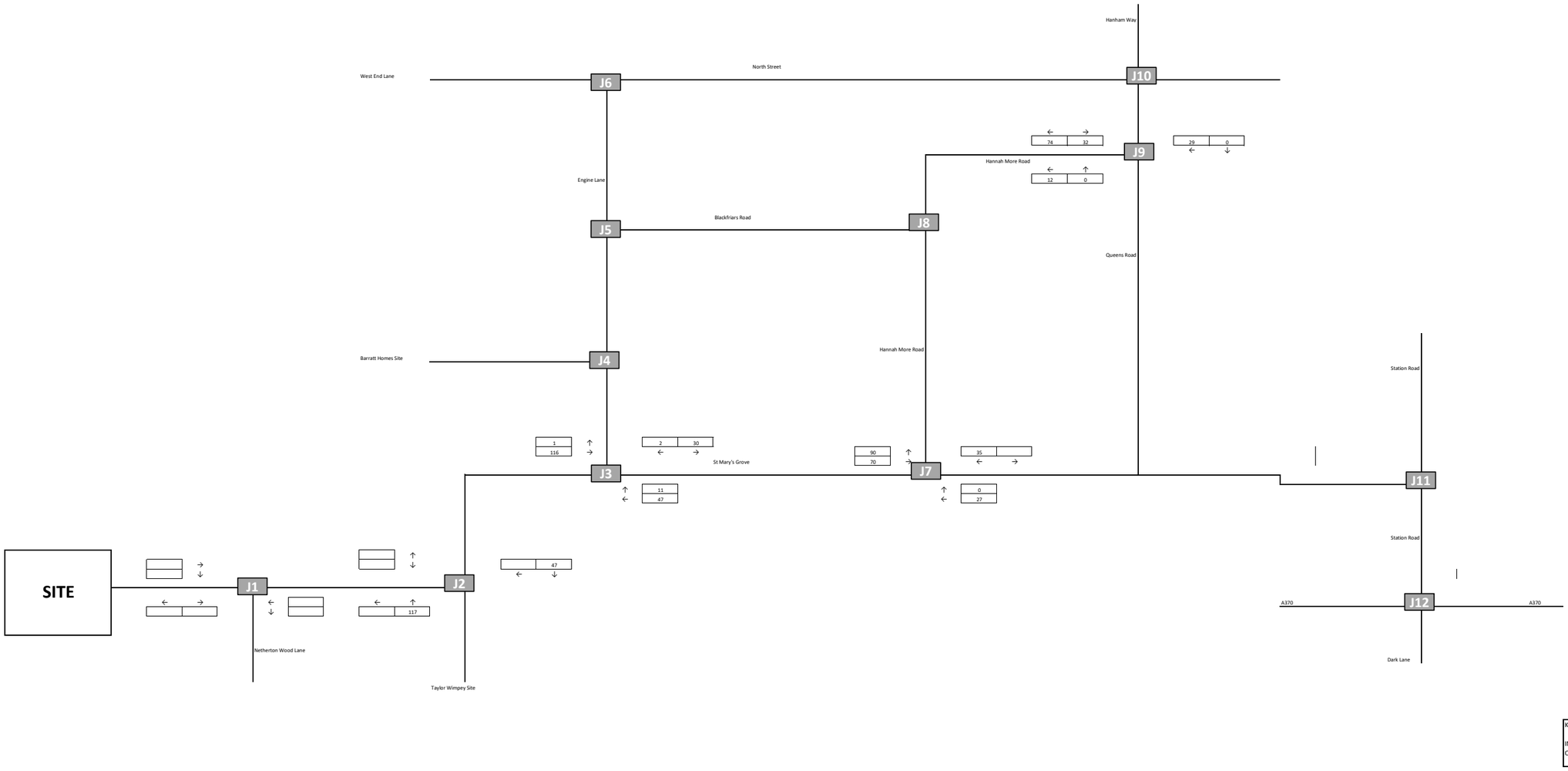
FIGURE 9
FUTURE YEAR 2028 TRAFFIC FLOWS (PM)
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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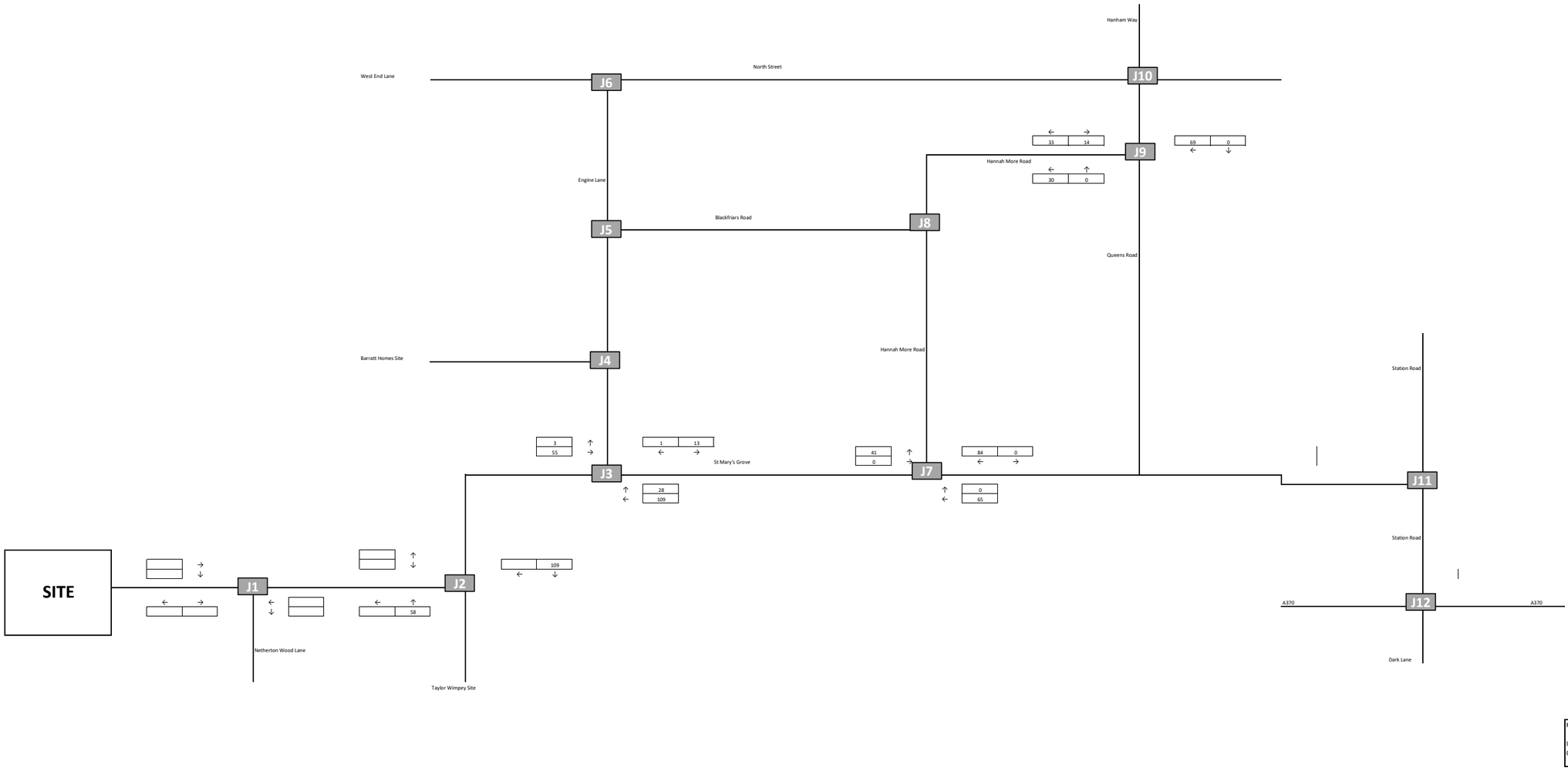
FIGURE 10
COMMITTED DEVELOPMENT TRAFFIC AM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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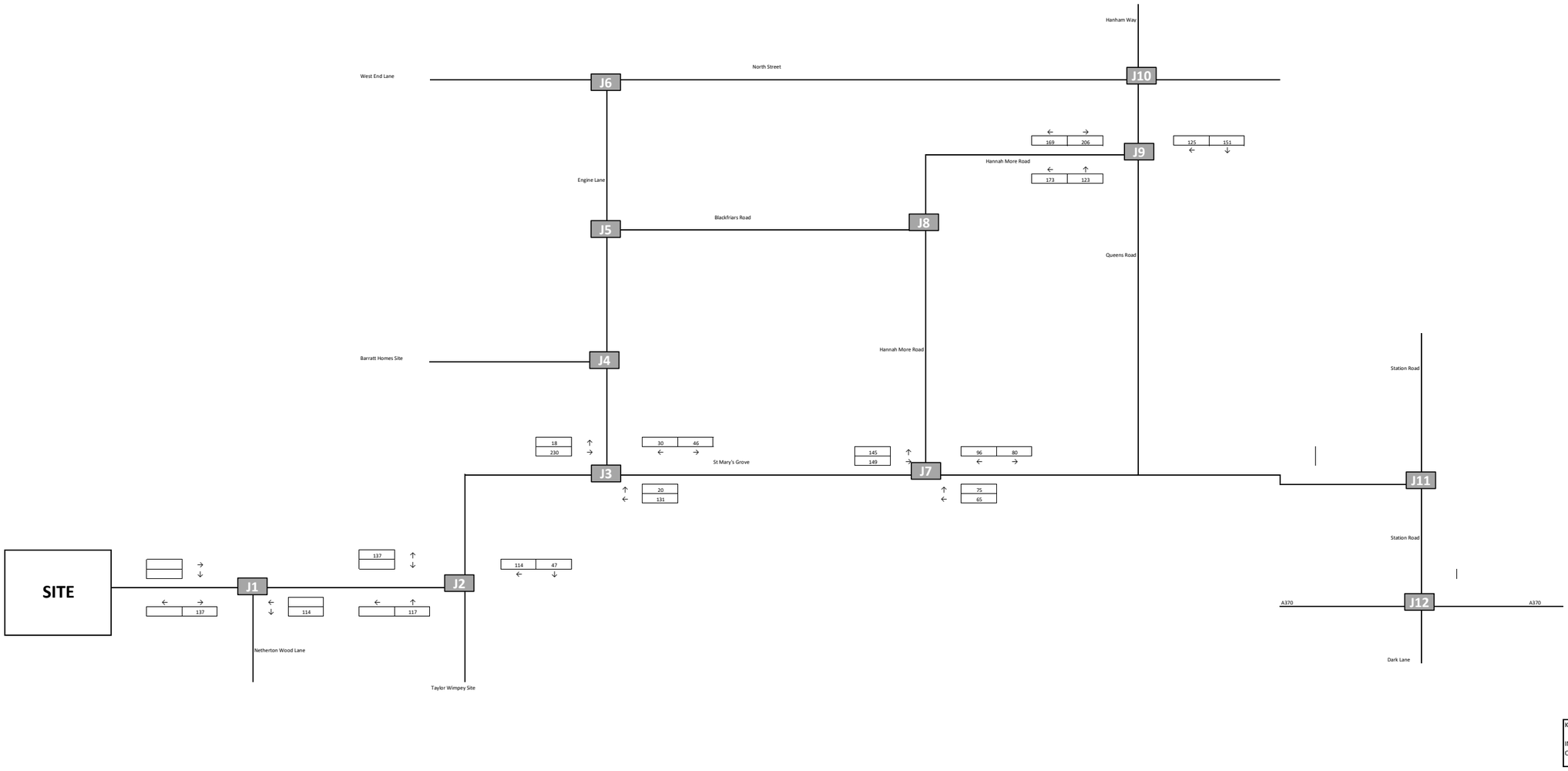
FIGURE 11
COMMITTED DEVELOPMENT TRAFFIC PM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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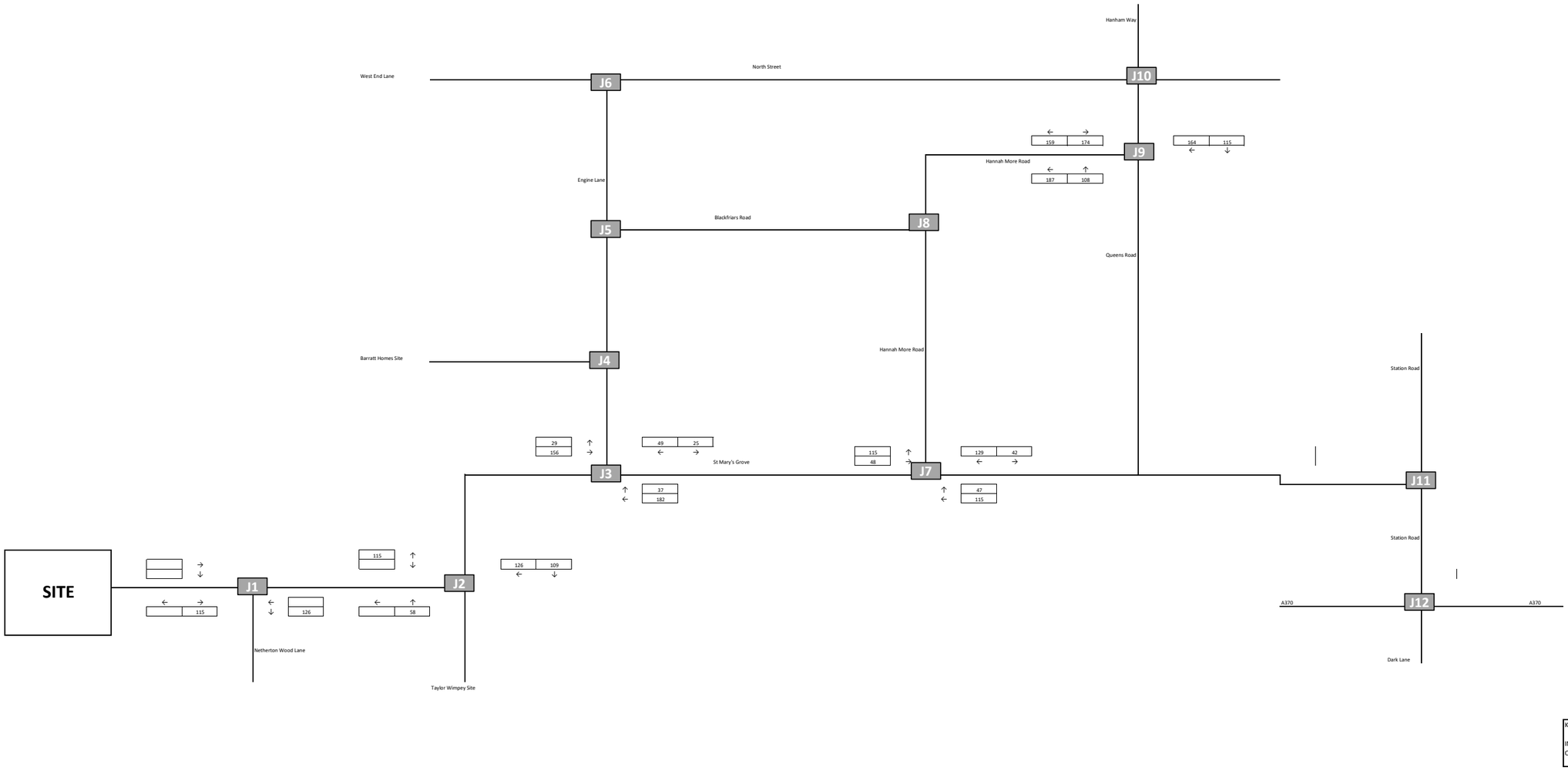
FIGURE 12
FUTURE YEAR 2028 + COMMITTED DEVELOPMENT AM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



KEY		
INBOUND TRIPS	=	XX
OUTBOUND TRIPS	=	XX

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FIGURE 13
FUTURE YEAR 2028 + COMMITTED DEVELOPMENT PM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL

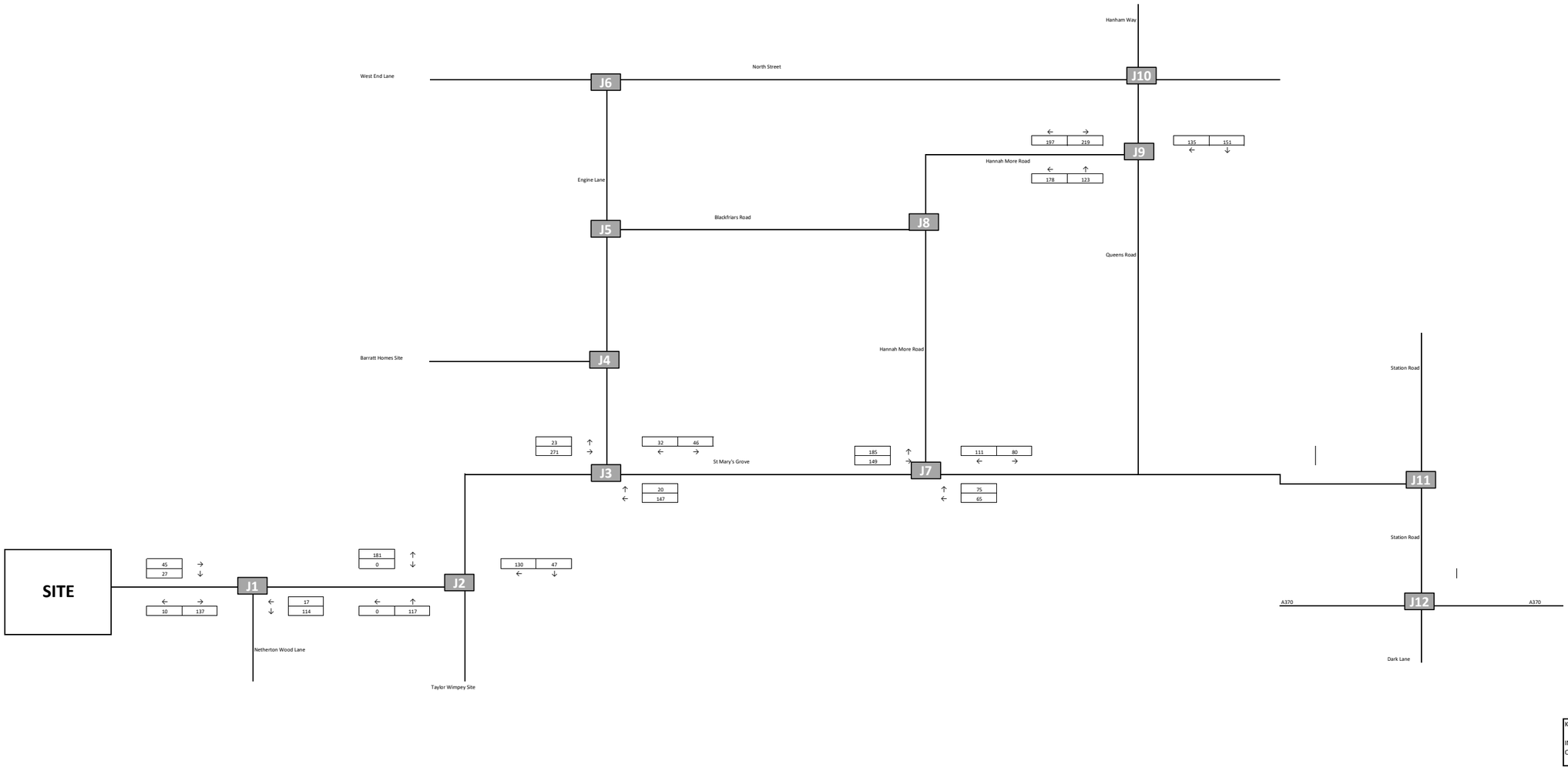

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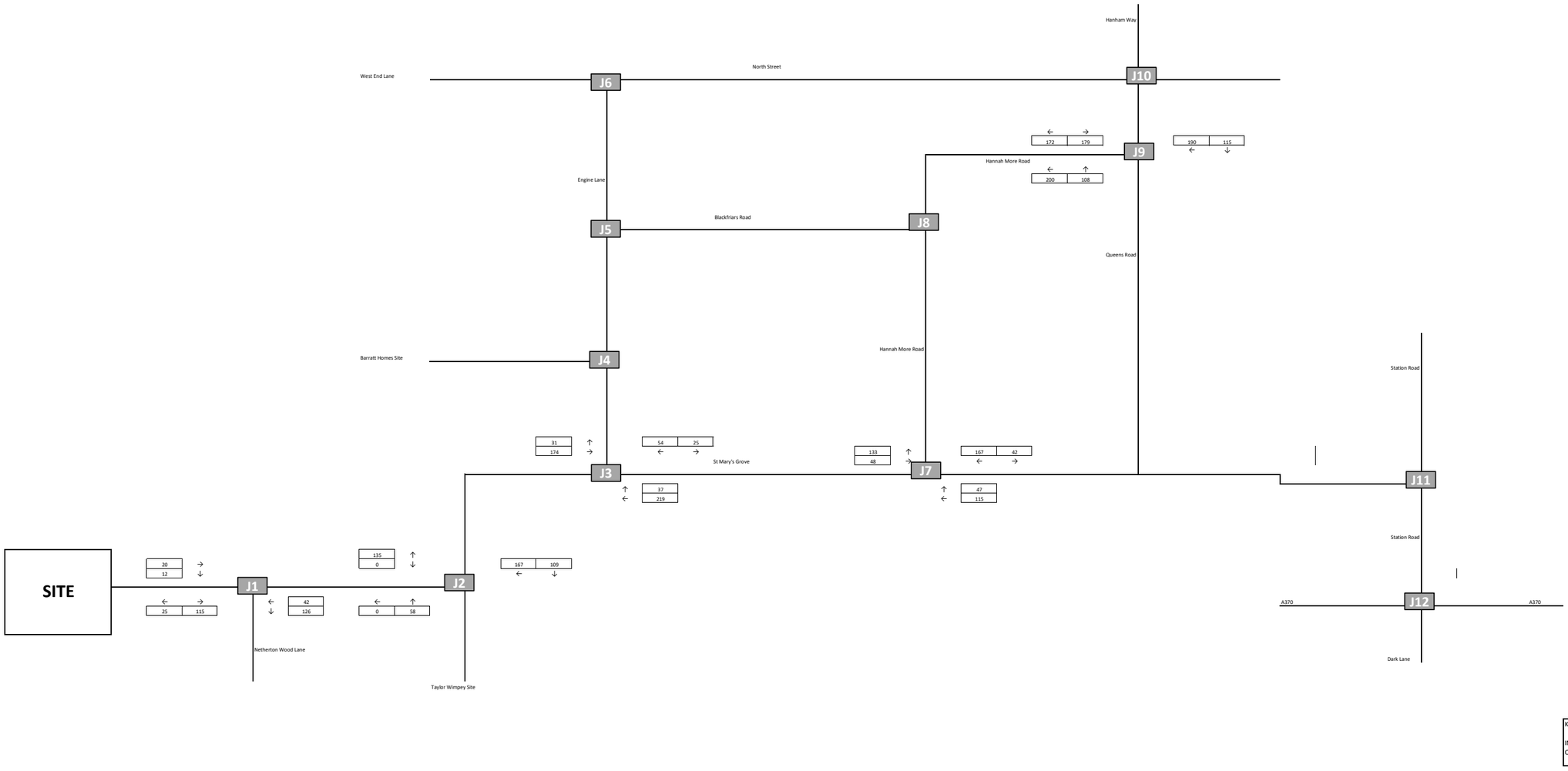
FIGURE 14
FUTURE YEAR 2028 + COMMITTED DEVELOPMENT+ PROPOSED DEVELOPMENT AM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



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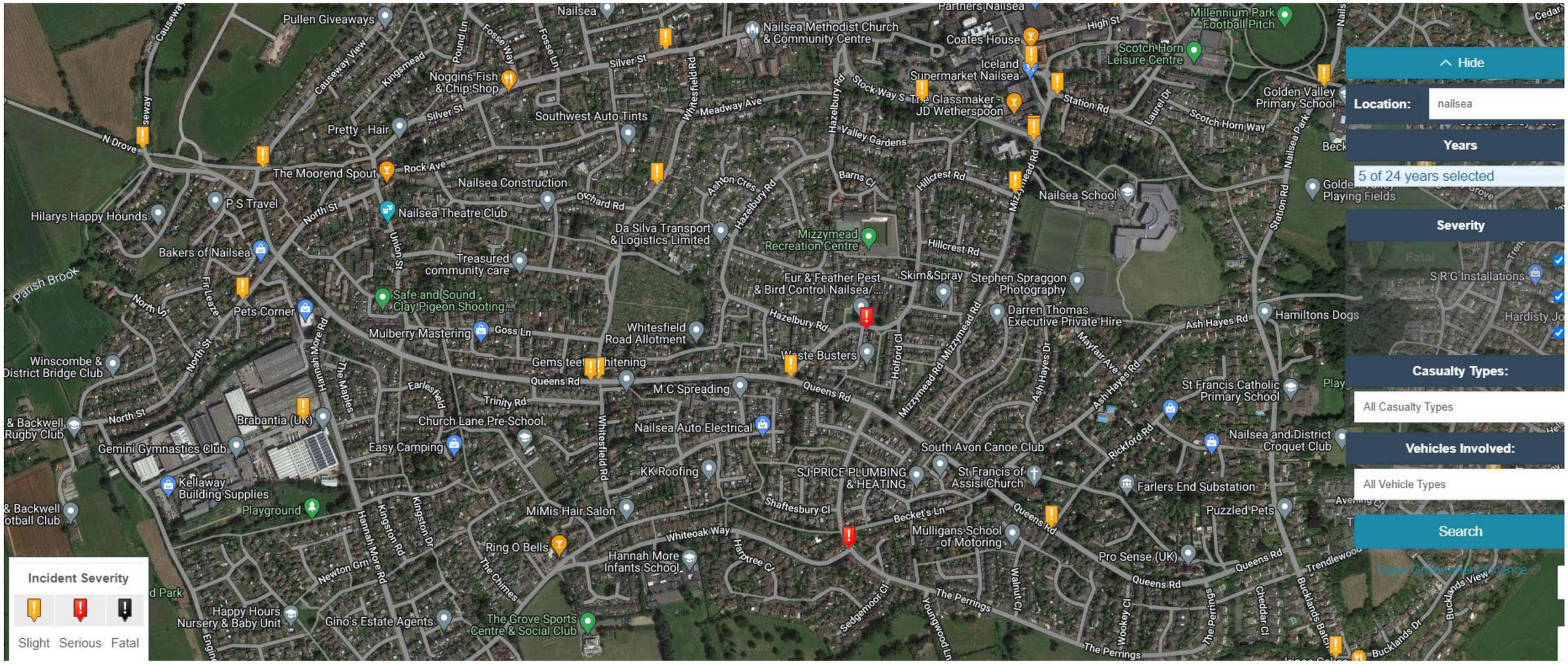
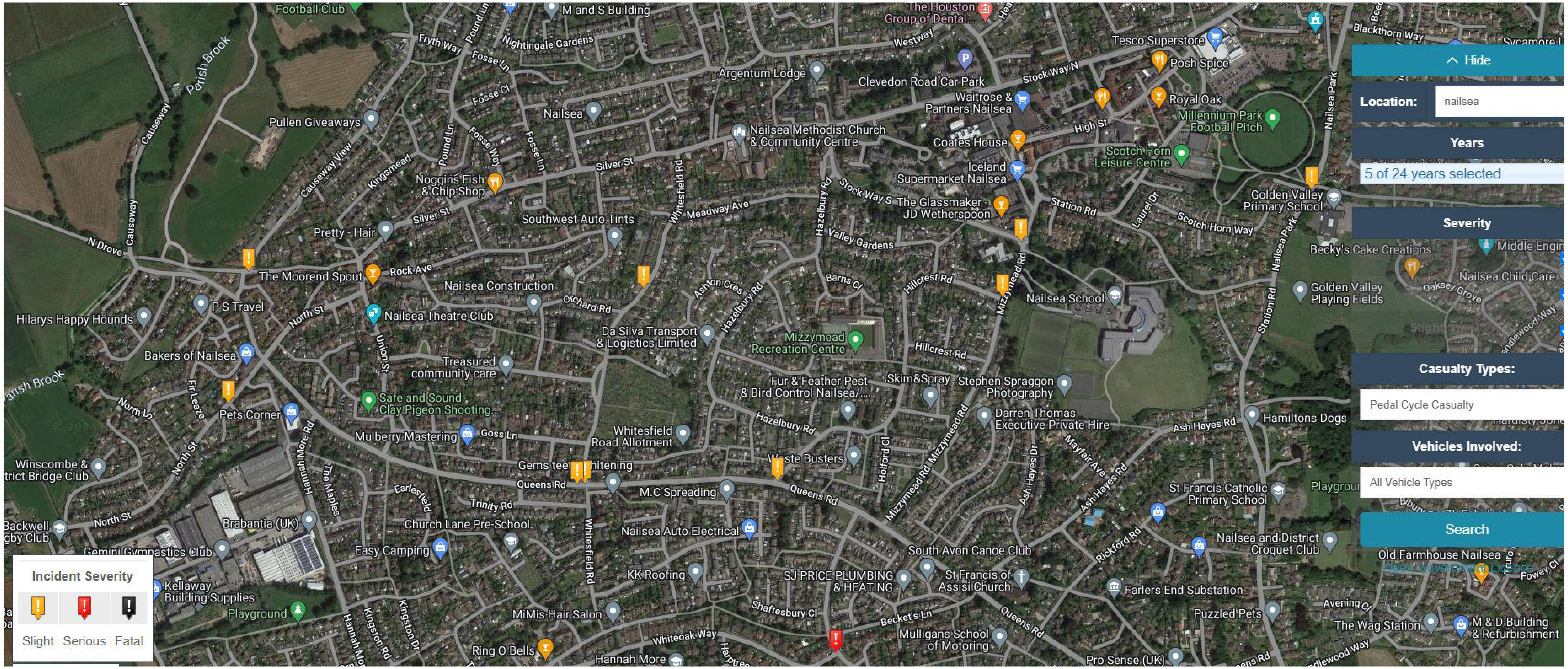
AN EMPLOYEE OWNED COMPANY

FIGURE 15
FUTURE YEAR 2028 + COMMITTED DEVELOPMENT+ PROPOSED DEVELOPMENT PM
LAND OFF NETHERTON WOOD LANE, NAILSEA
JOB NUMBER: 2206820
DRAWN BY: GL



All Vehicle Types

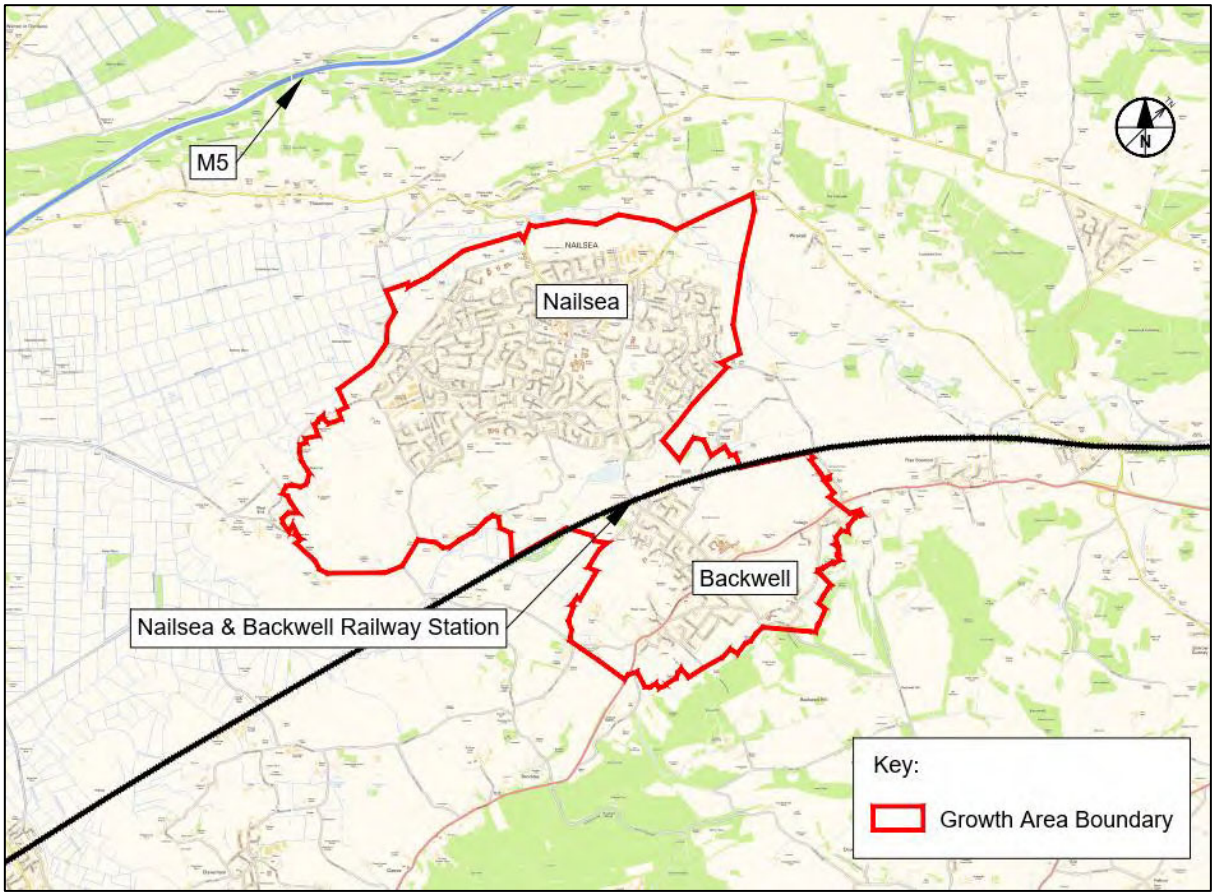

Hide
Location:
nailsea
Years
5 of 24 years selected
Severity
Casualty Types:
Pedal Cycle Casualty
Vehicles Involved:
All Vehicle Types
Search
Incident Severity
Slight
Serious
Fatal
Nailsea
Tesco Superstore
Posh Spice
Royal Oak
Millennium Park Football Pitch
Clevedon Road Car Park
Waitrose & Partners Nailsea
Nailsea Methodist Church & Community Centre
Coates House
Scotch Horn Leisure Centre
Iceland Supermarket Nailsea
The Glassmaker - JD Wetherspoon
Golden Valley Primary School
Argentum Lodge
M and S Building
Pullen Giveaways
Noggins Fish & Chip Shop
Southwest Auto Tints
Pretty - Hair
The Moorend Spout
Nailsea Construction
P S Travel
Hilarys Happy Hounds
Nailsea Theatre Club
Bakers of Nailsea
Treasured community care
Da Silva Transport & Logistics Limited
Mizzymead Recreation Centre
Nailsea School
Golden Valley Playing Fields
Becky's Cake Creations
Nailsea Child Care
Fur & Feather Pest & Bird Control Nailsea/...
Skim&Spray
Stephen Spraggon Photography
Darren Thomas Executive Private Hire
Hamiltons Dogs
Safe and Sound Clay Pigeon Shooting...
Pets Corner
Mulberry Mastering
Whitesfield Road Allotment
Waste Busters
M.C Spreading
Winscombe & District Bridge Club
Brabantia (UK)
Church Lane Pre-School
Nailsea Auto Electrical
St Francis Catholic Primary School
Nailsea and District Croquet Club
South Avon Canoe Club
Easy Camping
Gemini Gymnastics Club
Kellaway Building Supplies
Playground
KK Roofing
SJ PRICE PLUMBING & HEATING
St Francis of Assisi Church
Farlers End Substation
Old Farmhouse Nailsea
MiMis Hair Salon
Puzzled Pets
The Wag Station
M & D Building & Refurbishment
Ring O Bells
Hannah More
Mulligans School of Motoring
Pro Sense (UK)
Queens Rd
Station Rd
High St
Silver St
Stock Way S
Hazelbury Rd
Whitesfield Rd
North St
Ash Hayes Rd

Cyclists

Nailsea and Backwell

3.22 The boundary for the 'Nailsea and Backwell' Growth Area is shown below on **Figure 3-6.**

Figure 3-6: Growth Area – Nailsea and Backwell Area of Search



Summary of Opportunity Areas

3.23 The Opportunity Areas for assessment within the Nailsea and Backwell Growth Area are shown below on **Figure 3-7**. For the purpose of the appraisal exercise, the areas are referred to as follows:

1. Nailsea Northern Extension;
2. West of Station Road / North of Railway Line;
3. East of Station Road / North of Railway Line;
4. West of Station Road / South of Railway Line;
5. East of Station Road / South of Railway Line; and
6. Nailsea Western Extension.

Figure 3-7: Opportunity Areas – Nailsea and Backwell

Issues and Opportunities for Transport Network

3.24 The issues and opportunities in relation to the transport network surrounding the Growth Area and respective Opportunity Areas are summarised in **Table 3-9**.

Table 3-9: Issues and Opportunities – Nailsea and Backwell

Issues	Opportunities
• Backwell Crossroads is a heavily congested, physically constrained junction. • Presence of railway line causes severance between Nailsea and Backwell, and currently has a limited number of vehicular and Active Travel crossing points. • Poor walking facilities on Station Road. • Station Road Rail Bridge can cause congestion due to one-way working, and is a constraint on the bus network due to height restriction precluding double-decker buses.	• A370 public transport corridor. • Rail Station provides access to train services to Bristol, Weston-super-Mare, and further afield. • Potential to improve Active Travel connections to Festival Way cycle route, providing access into Bristol. • Improvement of accessibility to bus services operating between Nailsea and Backwell. • Creation of, or improvement to existing, railway crossing points which prioritise Active Travel modes and reduce severance between Nailsea and Backwell. • Walking improvements planned for Station Road, Clevedon Road and the B3130 as part of LCWIP (Routes W18 & W19). • Cycling improvements planned for Station Road, Festival Way and the B3130 as part of LCWIP (Routes C13 & C14).

Issues	Opportunities
	• Potential to improve facilities at Nailsea and Backwell Railway Station, particularly catered towards Active Travel users.

Appraisal Framework

3.25 This section sets out outcomes of the appraisal framework for each of the candidate sites, based on the methodology detailed in Section 2. For each objective, the RAG score has been presented along with highlighting any key findings from the appraisal framework process. Further details and commentary for each scoring question can be seen in the full Appraisal Framework at **Appendix A**. A copy of the RAG scoring for the Appraisal Framework is shown at

3.26 **Figure** 3-9.

Figure 3-8: Appraisal Framework RAG Scoring

Insufficient information at this stage. | Negative ⟷ Positive

Objective 1: To reduce the need to travel, and the distances that people will need to travel, to access key opportunities, facilities and services including employment, leisure and retail.

		Education			Employ-ment	Local Centre / Retail		
		Proportion of total development within 800m of an existing	Proportion of total development within 2km of an existing secondary	Potential for on-site education provision	Accessibility to on-site employment	Distance by walking or cycling to a town centre / significant centre.	Distance by walking or cycling to a local centre.	Accessibility to on-site retail.
Nailsea & Backwell	1 - Nailsea Northern Extension							
	2 - West of Station Road / North of Railway Line							
	3 - East of Station Road / North of Railway Line							
	4 - West of Station Road / South of Railway Line							
	5 - East of Station Road / South of Railway Line							
	6 - Nailsea Western Extension							

3.27 Some key points from the Appraisal Framework are set out in **Table 3-10**:

Table 3-10: Appraisal Framework Summary – Objective 1, Nailsea and Backwell

All Nailsea & Backwell Sites:

- All sites within proximity of Nailsea School (secondary) and / or Backwell School (secondary)
- Insufficient information available at this stage to inform provision of on-site educational, employment and retail facilities.

1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
• Proximity to Kingshill Church	• Proximity to Hannah More	• Proximity to St Francis Catholic Primary	• Proximity to West Leigh Infants School as	• Proximity to Backwell School as well as	• Not within 800m of primary school.

School (primary) • Good proximity to Nailsea town centre.	Infants School. • Reasonable proximity to Nailsea town centre.	School, Backwell School and West Leigh Infants School. • Reasonable proximity to Nailsea town centre.	well as Backwell School. • Poor proximity to Nailsea town centre, good proximity to Backwell centre.	West Leigh Infants School. • Poor proximity to Nailsea town centre, good proximity to Backwell centre.	• Reasonable proximity to Nailsea town centre, reasonable proximity to Backwell centre.

Objective 2. To maximise opportunities to facilitate travel by walking, cycling and e-bikes or emerging personal transport modes.

		Existing	Future Potential	
		Accessibility to designated active travel routes.	Potential benefit from planned active travel routes.	Potential for creation of new active travel routes.
Nailsea & Backwell	1 - Nailsea Northern Extension			
	2 - West of Station Road / North of Railway Line			
	3 - East of Station Road / North of Railway Line			
	4 - West of Station Road / South of Railway Line			
	5 - East of Station Road / South of Railway Line			
	6 - Nailsea Western Extension			

3.28 Some key points from the Appraisal Framework are set out in **Table 3-11**:

Table 3-11: Appraisal Framework Summary – Objective 2, Nailsea and Backwell

1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
• No planned benefits from LCWIP, Coastal Cycle Network. • Some potential for E-W movements. • Potential for development to make improvements to routes to	• Missing links to Festival Way and Avon Cycleway. • LCWIP ambitions to provide improved walking / cycling link between Nailsea and	• Proximity to Festival Way. • LCWIP ambitions to provide improved walking / cycling link between Nailsea and Backwell centres. • Planned links Avon	• Missing links to Festival Way and Avon Cycleway • LCWIP ambitions to provide improved walking / cycling link between Nailsea and	• Proximity to Festival Way • LCWIP ambitions to provide improved walking / cycling link between Nailsea and Backwell centres.	• Limited accessibility to active travel routes • Existing Avon Cycleway runs adjacent to south of site, but no links to

the town centre from North Nailsea area.	Backwell centres. • Planned links Avon Cycleway to Festival Way (Route 33). • Potential N-S link in conjunction with site 4. • Link via Youngwood Lane to town centre. Potential to provide link to the railway station	Cycleway to Festival Way (Route 33). • Link to Nailsea town centre via existing cycle infrastructure on Station Road. Potential to provide link to railway station.	Backwell centres. • Planned links Avon Cycleway to Festival Way (Route 33). • Potential N-S link in conjunction with site 2.	• Planned links Avon Cycleway to Festival Way (Route 33). • Potential to provide link along south of railway line.	Festival Way.

Objective 3. To deliver access to high quality public transport services, supporting mobility across North Somerset and further afield, which is available to all.

		Existing		Future Potential
		Proximity to existing rail station	Proximity to existing bus routes	Opportunity to benefit from or support public transport improvements
Nailsea & Backwell	1 - Nailsea Northern Extension			
	2 - West of Station Road / North of Railway Line			
	3 - East of Station Road / North of Railway Line			
	4 - West of Station Road / South of Railway Line			
	5 - East of Station Road / South of Railway Line			
	6 - Nailsea Western Extension			

3.29 Some key points from the Appraisal Framework are set out in **Table 3-12**:

Table 3-12: Appraisal Framework Summary – Objective 3, Nailsea and Backwell

1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension

• Reasonably poor accessibility to existing rail facilities. • Some potential to access existing bus routes • Limited potential for public transport improvemen ts.	• Excellent accessibility to existing rail station • Limited accessibility to bus routes. • Excellent potential for public transport improveme nts including benefit from the BSIP A370 route.	• Good accessibility to existing rail facilities. • Limited accessibility to bus routes • Excellent potential for public transport improveme nts including benefit from A370 BSIP route	• Good accessibility to existing bus and rail facilities. • Excellent potential for public transport improveme nts including benefit from A370 BSIP route	• Good accessibility to existing bus and rail facilities. • Excellent potential for public transport improveme nts including benefit from A370 BSIP route	• Poor accessibility to existing bus and rail facilities. • Poor potential for public transport improveme nts including benefit from A370 BSIP route

Objective 4. To reduce the impact of vehicle travel on the highway network, including in terms of congestion, safety and the quality of our natural and built environment.

		Existing	Future Potential	
		Proximity to, and potential impacts (capacity and safety) upon, congestion hotspots	Potential for mitigation measures to address congestion hotspots	Potential to deliver strategic benefits
Nailsea & Backwell	1 - Nailsea Northern Extension			
	2 - West of Station Road / North of Railway Line			
	3 - East of Station Road / North of Railway Line	*Not Modelled*		
	4 - West of Station Road / South of Railway Line			
	5 - East of Station Road / South of Railway Line			
	6 - Nailsea Western Extension			

3.30 Some key points from the Appraisal Framework are set out in **Table 3-13**:

Table 3-13: Appraisal Framework Summary – Objective 4, Nailsea and Backwell

All Nailsea & Backwell Sites:

- Very limited options for changes to Station Road itself, would require significant infrastructure.
- Excellent potential for strategic benefits, particularly a combination of sites 2 to 5.

1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
• Minimal increase at	• Significant impact at	• Not modelled as	• Significant impact on	• Slight increase on	• Significant impact on

All Nailsea & Backwell Sites:

- Very limited options for changes to Station Road itself, would require significant infrastructure.
- Excellent potential for strategic benefits, particularly a combination of sites 2 to 5.

1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
key points including Station Road / Backwell Crossroads , Wraxall Hill, Portbury Lane. Emerging congestion on Brockley Lane in PM peak. • Unlikely that walking and cycling provisions will have much benefit • Minor junction capacity improvements. • A highway link between the B3130 Clevedon Road to the west of the site and the B3130 Clevedon Road to the east of the site would be provide some strategic benefit to allow carriage space reallocation on High Street and Stockway North to active travel	Station Road / Backwell Crossroads AM. • Moderate impact on Station Road / Backwell Crossroads , and A370 between Brockley Lane and Chelvey Road. Slight increase on Wraxall Hill and Portbury Lane in PM peak.	does not form part of proposed allocation in draft local plan. Area is mostly within the flood zone. Reasonable to conclude that impacts would be comparable with Site 2. • Excellent potential for strategic benefits, particularly a combination of sites 3, 4 and 5.	A370 AM and PM. • Slight increase on Station Road / Backwell Crossroads , Wraxhall Lane and Brockley Combe Road in AM peak. • Slight increase on Brockley Combe Road, Portbury Lane. and A370 east of Brockley Lane in PM peak.	A370 west in AM and PM peaks. • Slight increase on Brockley Combe Road and emerging congestion on A370 east of Station Road in PM peak.	A370 west of Station Road in AM peak. • Emerging congestion on A370 east of Station Road and Brockley Lane in PM peak.

Appraisal Framework Summary

3.31 A summary of the Appraisal Framework outcomes is shown below. **Table 3-14** identifies key areas where the Opportunity Areas differ in scoring, and what could be needed to improve performance.

			Nailsea and Backwell Opportunity Areas					
			1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
Objective 1. To reduce the need to travel, and the distances that people will need to travel, to access key opportunities, facilities and services including employment, leisure and retail.	Education	Proximity to existing primary school						
		Proximity to existing secondary school						
		Potential for on-site education provision						
	Employment	Accessibility to on-site employment						
	Local Centre / Retail	Proximity to town / significant centre						
		Proximity to local centre						
		Accessibility to on-site retail						
Objective 2. To maximise opportunities to facilitate travel by walking, cycling and e-bikes or emerging personal transport modes.	Existing	Accessibility to designated active travel routes						
	Future Potential	Potential benefit from planned active travel routes						
		Potential for creation of new active travel routes						
Objective 3. To deliver access to high quality public transport services, supporting mobility across North Somerset and further afield, which is available to all.	Existing	Proximity to existing rail station						
		Proximity to existing bus routes						
	Future Potential	Opportunity to benefit from or support public transport improvements						

			Nailsea and Backwell Opportunity Areas					
			1 - Nailsea Northern Extension	2 - West of Station Road / North of Railway Line	3 - East of Station Road / North of Railway Line	4 - West of Station Road / South of Railway Line	5 - East of Station Road / South of Railway Line	6 - Nailsea Western Extension
Objective 4. To reduce the impact of vehicle travel on the highway network, including in terms of congestion, safety and the quality of our natural and built environment.	Existing	Proximity to, and potential impacts upon congestion hotspots						
	Future Potential	Potential for mitigation measures to address congestion hotspots						
		Potential to deliver strategic benefits						

Table 3-14: Opportunity Area Key Performance Differences and Improvements – Nailsea and Backwell

Key Difference in Appraisal Framework Score	Opportunity Area Comments	Potential Options for Improvement
Proximity to existing education	Site 6 scores very poorly compared to other sites.	• Provision of additional education facilities as part of the Opportunity Area • Ensure active travel and public transport links to any existing facilities are enhanced to increase potential accessibility by sustainable modes
Proximity to Active Travel routes	Sites 3 and 5 (east of Station Road) score higher than sites 2 and 4 (west of Station Road), but with good potential for improvements.	• Provide additional links to connect to Festival Way, as well as good connectivity to local facilities.
Opportunity to benefit from or support public transport improvements	Sites 1 and 6 score lower than sites 2-5	• Sites 2-5 have potential to benefit from BSIP improvements. Site 1 could benefit from enhanced services between Clevedon and Bristol, but would need greater investment and may not be able to achieve comparable service frequency. Site 6 would be significantly more challenging to deliver improvements.
Potential to deliver strategic benefits	Sites 1 and 6 score lower than sites 2-5	• A route across Site 1 connecting the B3130 Clevedon Road could be investigate, but "strategic" benefits are likely to be lower in scale than for Sites 2-5. • None identified for Site 6 – limited scope for strategic benefits, given accessibility and proximity to other sites and active / public transport routes

Access and Movement Parameters

Rail Crossing

3.32 A key determinant towards the Access and Movement Framework will be the location of a proposed railway crossing between Nailsea and Backwell. There is a requirement for the consideration of a new crossing, for the following reasons:

- Limited existing crossing points of the railway line between Nailsea and Backwell.
- Opportunity to reduce walking / cycling distances between residences and facilities in Nailsea and Backwell.
- Opportunity to improve bus services to Nailsea, including facilitating double decker buses.
- Opportunity to improve HGV access and network resilience to Nailsea.

- Potential to reduce traffic flows in sensitive areas such as Station Road and Backwell Crossroads and encourage mode shift. This could enable improvements to Station Road to improve the environment, including for walking and cycling. This is particularly pertinent as a route to the station and bus routes, and heavy usage by school children.
- Opportunity to create new links between development sites to the north and south of the railway line.

3.33 Thus, the potential to provide an additional rail crossing point is being considered as a strategic measure to address the issues above. The following options are under consideration:

- **Do Nothing** – Existing highway network retained, with all development land available.
- **Do Something 1**: East Multi-Modal – Creation of new multi-modal crossing as part of development east of Backwell, forming a north-south link between Station Road and the A370. This is likely to be in the form of an overline bridge, albeit an alternative of an underline bridge is being investigated.
- **Do Something 2**: East Active Travel – Utilises existing crossing at Backwell Common and existing agricultural crossings for Active Travel. No new crossing infrastructure. Development east of Backwell would be vehicular cul-de-sac access from the A370, with through-routes for Active Travel.

What is meant by Multi-Modal and Active Travel?

Multi-Modal: A route designed to accommodate all modes of travel, including bus, car, freight, and active travel.

Active Travel: A route designed to accommodate walkers, cyclists, horse riders and micro-mobility such as e-scooters.

- **Do Something 3**: West Multi-Modal – Creation of new multi-modal crossing (underline bridge) as part of development west of Backwell, forming a north-south link between A370 and Nailsea, likely at Station Road north of the Rail Line.
- **Do Something 4**: West Active Travel – Creation of new Active Travel crossing as part of development west of Backwell, forming a north-south link between A370 and Youngwood Lane / The Perrings.
- **Do Something 5**: Widen existing rail crossing bridge on Station Road.

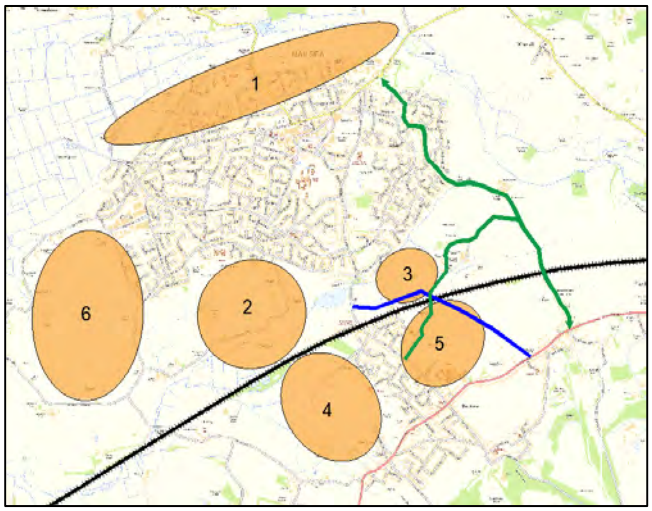
3.34 AECOM has carried out a high-level review of the potential engineering requirements and the transport case. Environmental considerations have been advised by NSC Environmental colleagues, through discussion with AECOM. The engineering feasibility, as well as the transport and environmental case for each option has been reviewed, and is provided as a summary in **Table 3-15**. Options 'Do Something 1' to 'Do Something 4' are shown on

3.35 Figure 3-9.

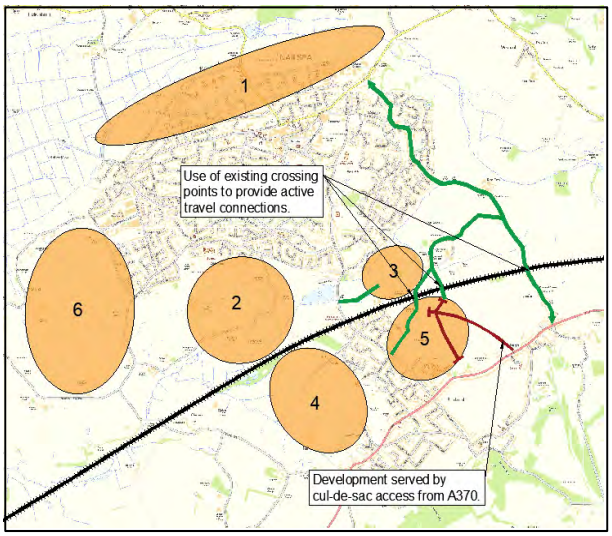
Figure 3-9: Rail Crossing Options

Key: Multi-Modal Link; Active Travel Link; Cul-de-sac; Railway Line

Do Something 1: East Multi-Modal



Do Something 2: East Active Travel



Do Something 3: West Multi-Modal

Do Something 4: West Active Travel

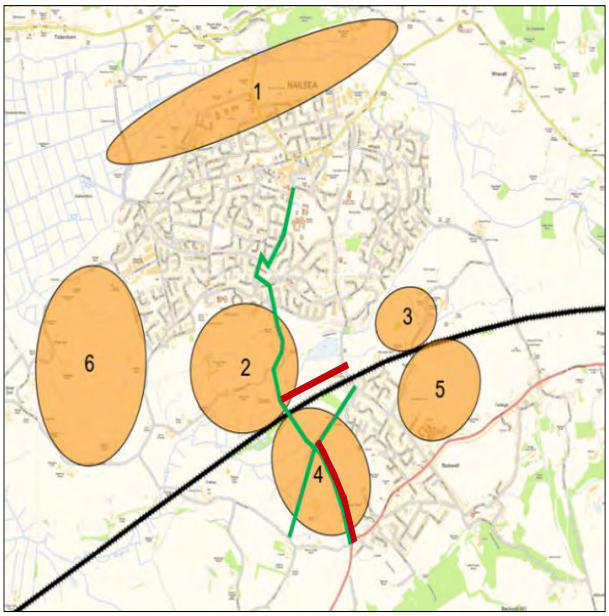


Table 3-15: Review of Rail Crossing Options

Do Nothing

Engineering Case

- No new infrastructure required.

Transport Case

- Increased traffic flows on constrained network with planned growth, with significant impacts.
- No new infrastructure for bus service routeing.
- No new infrastructure targeted towards active travel.

Environmental Case

- No environmental impact.

Do Something 1: East Multi-Modal

Engineering Case

- Eastern crossing would either require a c.12m high structure over the rail line, or a road under which would require a road height of minus 2.5-3m, with substantial drainage issues.
- Principal of overline bridge construction likely to be more favourable to NR than underline (east or west)
- Challenges with height of embankment / substantial ramp structure.
- NSC would need to deliver and maintain,

Transport Case

- Provides alternative route to reduce flows at Station Road / Backwell Crossroads. Best of all options for diverting traffic from Backwell Crossroads.
- Some bus services likely to divert onto new link, bypassing Station Road and Backwell Crossroads, improving journey times. Provides bus linkage between Nailsea and A370
- Development site opportunity to enhance accessibility to Festival Way cycle route.
- Will improve active travel conditions, but not prioritise over car trips.

Environmental Case

- Most visually intrusive option in terms of visual impact.
- Some potential for adverse impact on ecology.
- Located in Green Belt.

- Likely highest carbon construction.
- Outside of flood plain.
- Potential for noise, air quality impacts and contamination.

Do Something 2: East Active Travel

Engineering Case

- Existing crossing points, no new infrastructure required.

Transport Case

- Unlikely to result in significant reductions in traffic flow on Station Road / Backwell crossroads to facilitate the delivery of housing development.
- Potential for mode shift as a result of prioritising north-south active travel connections over vehicles.

Environmental Case

- No new structure, therefore very little environmental impact.

Do Something 3: West Multi-Modal

Engineering Case

- Underline bridge less favourable to NR than overline options
- Engineering likely to be feasible
- Slight lowering of adjacent ground required for road profile – drainage issues and potential effects on the flow of the River Kenn would need further investigation.
- NR to deliver and maintain.
- Likely to require third party land.

Transport Case

- Provides alternative route to Station Road, with reduced flows, albeit less benefit for Backwell Crossroads than DS1
- Opportunity to divert bus services onto new link, with some congestion improvements and journey time benefits, albeit less so than the option to the east. Less of a network improvement than to the east.
  New crossing on west side of Backwell would provide significant active travel benefit over existing situation, suited to north-south desire lines.

Environmental Case

- Located in existing flood zone, with highway drainage unlikely to gravitate to nearest watercourse. Most complex option in terms of drainage and flood risk.
- Some visual impact, as it is likely that a structure will be required alongside the rails.
- Potential for greatest impact in terms of ecology, with proximity to sensitive areas.
- Potential for noise, air quality impacts and contamination.
- Carbon implications, but lower than eastern option.

Do Something 4: West Active Travel

Engineering Case

- As per Do Something 3, with a reduced height & width requirement.
- Likely accommodated within the existing height of the embankment. As a box culvert is unlikely to require structure above the rails.
- Would be built slightly raised to overcome drainage and floor issues, which becomes possible over Do Something 3 due to reduced height requirement.

Transport Case

- Unlikely to provide sufficient congestion relief at Station Road and Backwell Crossroads to facilitate delivery of housing development.
- Potential for mode shift as a result of enhanced north-south active travel connections, albeit unlikely to result in significant reductions in traffic flow.
- New crossing on west side of Backwell would provide significant active travel benefit over existing situation, suited to north-south desire lines.

Environmental Case

- North side of railway in flood zone; second most complex in terms of drainage and flood risk.
- Least visual impact of all structure options.
- Proximity to sensitive species and habitats.

Do Something 5: Widen Existing Rail Crossing

Engineering Case

- NSC has advised land to the south is in their control.
- Engineering feasibility not investigated at this stage.
- Widening may be possible, but providing additional height clearance for double-decker buses is unlikely.

Transport Case

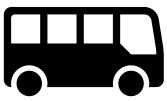
- Would not provide sufficient congestion relief at Station Road and Backwell Crossroads to facilitate delivery of housing development.
- Potential to improve active travel route between Backwell and Nailsea, which is currently served by narrow footway and cycling with traffic.
- Main traffic congestion point is Backwell Cross-roads, so additional capacity at this point may not affect vehicle flow patterns, or result in additional vehicles using Station Road and increasing congestion at Backwell Cross-roads.
- Additional traffic on Station Road would be detrimental to the active travel environment.
- Could improve bus journey times and reliability, but not enable use of double decker buses.

Environmental Case

- Environmental considerations not reviewed at this stage.

3.36 The emerging Access and Movement Framework for the Nailsea and Backwell Growth Area is discussed in **Table 3-16**, and summarised by transport mode. At this stage, the elements listed in the table are set out as strategic transport requirements for Nailsea and Backwell, in order to mitigate the impact of housing development. The intention is that all development sites which come forwards within the growth area will be expected to contribute towards the strategic transport requirements, either through direct delivery or S.106 contributions.

Table 3-16: Access and Movement Parameters – Nailsea and Backwell

Theme	Detail
	• Significant Improvements to active travel routes within and between Nailsea and Backwell, including access to the railway station, use of Youngwood Lane as a north-south connection, and LCWIP schemes. • Management of country lanes to encourage walking, cycling and horse riding, facilitating travel in particular between existing towns and education establishments. • High quality extension of Festival Way active travel route along an east-west alignment between Chapel Hill and Chelvey Road, to serve new development in Backwell and better connect rural lanes to the west of Backwell with the off-road alignment along the railway towards Flax Bourton, without use of the A370 or significant diversion from desire lines.
	• Improvements to bus priority, service frequency, and interchange infrastructure on the A370 High Frequency Bus Corridor. • Improved public transport connections between Nailsea and the A370, enabling interchange. • Access improvements for Nailsea and Backwell Station, and increased provision for cycle parking, bus interchange, and car parking.
	• Package of demand management measures to improve sustainable travel opportunities and reduce car dependency in the area, to alleviate congestion through mode shift. Could include improvements to public transport, personalised travel planning, and investigating car clubs. • Strategic measures designed to alleviate traffic impacts on Station Road, and traffic congestion at the Backwell Cross-Roads. This is likely to include a strategic rail crossing providing an alternative multi-modal route between Nailsea and the A370, and associated measures to discourage traffic from using Station Road, subject to further feasibility review and environmental assessment.

Active Travel

3.37 As outlined in **Table 3-9**, there are opportunities within the Nailsea and Backwell area to improve active travel routes, including access to the town and village centres, access to the secondary schools, connections to the Festival Way cycle route, and consideration of routes C13 and C14 outlined in the West of England LCWIP. **This work is ongoing and will be reported in the Consultation programmed for March 2022**. **Figure 3-10** will present the proposed routes for active travel, alongside the existing alignment of the Festival Way cycle route, and planned LCWIP cycle improvement routes.

Figure 3-10: Nailsea and Backwell – Proposed Cycling Plan

To be included with the material prepared for the public consultation in March 2022.